



ADULT TRANSITIONS LONGITUDINAL STUDY

FINAL REPORT TO THE NELLIE MAE EDUCATION FOUNDATION

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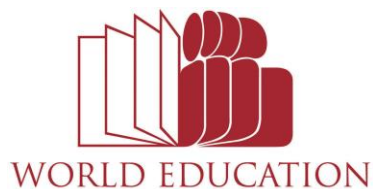


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Massachusetts: Action for Boston Community Development (ABCD), Cape Cod Community College Adult Education Center, X-Cel Education

New Hampshire: Nashua Adult Learning Center, Second Start

Rhode Island: RI Regional Adult Learning (RIRAL)

Vermont: The Tutorial Center

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Executive Summary

The Adult Transitions Longitudinal Study (ATLAS) was a longitudinal study of 227 adult students who entered one of 11 ABE-to-College transition programs in fall 2007 or spring 2008 in order to prepare to enroll, persist and succeed in post-secondary education. This mixed-method study, funded by the Nellie Mae Education Fund and implemented by the University of Massachusetts Amherst, World Education and the New England Literacy Resource Center, used annual questionnaires and interviews over five years to collect data on the educational trajectories and college outcomes of all participants and on the individual, transition program and college factors related to those outcomes.

The research questions driving this study were:

1. *What are the outcomes of participating in the ABE-to-College Transition Program?*
 1. **Educational trajectory:**
 - a. never enrolled; OR
 - b. enrolled but dropped out; OR
 - c. enrolled and either graduated or still enrolled by end of study (includes those who were continuously enrolled or who “stopped out” and re-enrolled)
 2. **Enrollment outcomes:**
 - a. completed at least 3 non-developmental education credits in college
 - b. enrolled within one year of participating in the transition program
 3. **Persistence outcome:** total number of college semesters completed
 4. **Success outcomes:**
 - a. Total number of college credits acquired
 - b. Achieving “Tipping point” momentum: completed at least 30 non-developmental education credits in college
2. *What are the factors that influenced those outcomes?*
 1. **Goals and motivations:** types of motivation, strength of motivation, financial motivation, career and college goals
 2. **Individual characteristics:** cognitive, non-cognitive, demographic factors
 3. **Supports:** people, transition program, college supports
 4. **Obstacles:** health, academic, familial, financial, logistical, college culture, work-related factors

Educational Outcomes

Almost two-thirds of the ATLAS participants enrolled in college at some point after the transition course, and almost half did so within a year of participating in the transition course. Of the 138 participants who ever enrolled in college, 125 of them (91%) earned at

least three non-developmental, transferable college credits. Of those 138 ever-enrolled participants, 24% earned 14 transferable credits or less, 12% earned at least 15 credits, 6% earned at least 30 credits, and 16% earned at least 45 credits. Thus, while over 1/3 of the ATLAS participants never enrolled in college, many of those that did were successful in achieving some credits, and 1/5 (21%) of those who did enter college completed at least 30 credits.

Outcome (Dependent Variable)	Percentage of whole sample (220)	Percentage of those ever enrolled in college (138)	Mean for those ever enrolled in college (138)
Never attended college	37%		
Ever enrolled in college but dropped out	32%		
Ever enrolled in college and enrolled or graduated at end of study (includes “stop outs”)	31%		
Completed at least 3 non-developmental (transferable) credits	57%		
Enrolled in college within one year of the end of the transition course	47%		
Reached “tipping point” momentum (30 transferable credits)	21%	34%	
Mean semesters completed			4.20
Mean credits completed			25.15

For those who did enroll in college within the time frame of our study, they took, on average, two classes per semester. The number of participants who stayed enrolled after the first semester dropped consistently, but the number of classes increased for those who stayed in college. Almost 40% of ATLAS participants (according to their transcripts) did not take any developmental class after enrolling in college, and another 22% took only one developmental education class.

Key Factors Influencing Adult Students’ College Educational Outcomes and Trajectories

The strongest factors in support of better college outcomes for the ATLAS participants include the following, related to different college outcomes:

- Completing the college transition program, rather than dropping out;
- Attending the transition classes for more hours;

- Having a stronger network of peers and teachers from the college transition program;
- Having stronger career planning and goal-setting skills;
- Having leadership experience and outlook;
- Being able to state more specifically one's ideal job and the steps needed to get such a job;
- Attending a transition program that included a mentoring component, that gave grades, that provided a high level of feedback on written work, and that had a student life skills component;
- Being younger, not working full-time, having a family less reliant on one's income, and having a spouse or domestic partner (once one was enrolled in college);
- Increasing one's arithmetic score on the Accuplacer test from beginning of the transition program to the end;
- Having a higher grade point average in college and a larger ratio of earned credits to attempted credits;
- Having a stronger college support network of fellow students and instructors while in college; and
- Have fewer health problems.

Implications

ABE-to-College Transition programs, and the public or private agencies that fund them, should consider:

- Maintaining or increasing funding for college transition programs;
- Funding a case manager to help participants get the support they need to complete the transition program;
- Maintaining or adding a mentoring component and a student life skills component in the transition program;
- Having transition course instructors give grades and regular, fine-grained feedback on transition course participants' assignments and work;
- Experimenting with mechanisms (such as helping participants see growth in their academic skills) for increasing adult students' self-efficacy and confidence to attend college;
- Providing extra support for older adult transition students to apply and enroll in college; and
- Referring adult transition-to-college students to public assistance and other agencies that can help them with counseling and resources aimed at stabilizing their lives so that they can attend and complete the transition program.

Colleges admitting adult and non-traditional students should consider:

- Establishing a consistent course numbering system across all colleges that clearly conveys to students which courses are developmental education and which are credit-bearing;
- Training college advisors to spend time working with new adult students to ensure appropriate class choices in the first semester;
- Setting up mechanisms in colleges for students struggling with crisis or chronic health problems to continue their studies through distance or online learning until they can return to college; and
- Experiment with mechanisms for involving adult students in college activities and strengthen their college support network.

Introduction

Statement of the Problem

The benefits for individuals of attending college are now well documented through numerous studies: median income for a college graduate in 2011 was over \$49,000 per year, compared with only \$28,000 for those with only a high school diploma (U.S. Census Bureau, 2011); “completing an associate’s degree appears to be associated with a 15 to 27 percent increased in annual earnings” (Kane & Rouse, 1999, p. 77). This difference in earnings can equal \$1 million more over the course of one’s working life (Carnevale, 2015).

Research confirms the benefits to the economy when people go to college (Carnevale & Rose, 2015). In turn, an improved economy puts pressure on citizens to gain more education: almost 2/3 of jobs in 2020 will require some post-secondary education (Carnevale, Smith, & Strohl, 2013).

Going to college is a goal of many who drop out of high school and get their GED, who graduate from high school but wait for some time before enrolling in college, and who immigrate to the U.S. as adults. Yet statistics show that very few GED recipients actually transition to college; only 27% of GED participants were enrolled in college three years after receiving their GED (Kroll 1995). Even fewer persist in college; one study showed that traditional high school graduates completed 2.85 years of post-secondary education while GED holders completed only .41 years (Murnane, Willet and Tyler, 2000).

Adult immigrants fare better but still face hurdles in making it through college:

Five years after entering college in 1995, 27 percent of all immigrant students and 32 percent of permanent residents had attained an associate’s degree or certificate, compared with 23 percent of all undergraduates. However, only 23 percent of all immigrant students and 19 percent of permanent residents had earned a bachelor’s degree, compared with 30 percent of all undergraduates (Erisman & Looney, 2007, p. 26)

Researchers now want to understand what prevents such “non-traditional” college students¹ from succeeding in college. To what extent do cognitive factors, such as better academic or higher literacy skills, contribute to enrolling, persisting and succeeding in college? To what extent do non-cognitive factors, such as those outlined by Sedlacek to

¹ The term “non-traditional college student” was first coined by Patricia Cross in 1981. Choy (2002) and others identify non-traditional college students as having the following characteristics: entry to college delayed by at least one year following high school, having dependents, being a single parent, working full time, being financially independent, attending college part time, and not having a traditional high school diploma

include college knowledge and self-efficacy, contribute to completing college? What role do demographic factors, such as age and family composition, play in college success? What about situational factors, such as poor health, full-time employment, or limited income? Are there institutional factors, such as the college supports students access, like counseling and student groups, that make a difference? What is the relative role of each of these factors in supporting different types of adult students?

Over the past 15 years, adult education practitioners, policy makers, and funders—including foundations such as Nellie Mae Education Foundation, Gates, and Lumina—have begun to pilot new programs to increase the number of adult basic education students who enter and succeed in college. These strategies include reconfiguring college to make it easier, such as career pathway programs and “stackable credentials”, where adults can acquire college credits through tailored short-term modules that together equal a college credential.

One strategy that may play a role for non-traditional adult students bound for college are short-term bridging or “transition” courses that provide adult students with training to build their cognitive and non-cognitive skills for college, such as math and academic writing skills, study skills, career planning, “college knowledge” like how to apply for financial aid, and life skills such as time management. The New England Literacy Resource Center, with funding from NMEF in 2000, began funding ABE-to-College transition model developed and managed by the New England Literacy Resource Center at World Education. ABE programs in New England to offer a 15-week transition course for adults who had their GED (whether born in U.S. or immigrated to the U.S.) or adults who had graduated from high school but had not immediately enrolled in college.

The ABE-to-College transition course model included 15-weeks, usually 6-10 hours per week of (1) Academic Subjects: reading, writing, grammar, arithmetic and beginning algebra; (2) Personal Skills: time management, study skills, note-taking skills, counseling, personal support, career advising, computer skills; and (3) College Skills: financial aid, college culture awareness and vocabulary.

An evaluation indicated that these “ABE-to-College Transition” courses were being helpful but real data was difficult to obtain because ABE programs lacked the resources to follow participants for a longer period of time (Gittleman, 2005). In fact, one of Gittleman’s recommendations in that report was to:

Implement a longitudinal study using five to eight programs from the New England ABE-to-College Transition Project to focus on students attending postsecondary education. Focus data gathering on assessment testing, college level course enrollment, and college persistence for five years post enrollment in a postsecondary institution (p. 9).

Recent research using large data sets (Wachen, Jenkins, Belfield, & Van Noy, 2012; Washington State Board for Community and Technical Colleges, 2005) shows that it takes non-traditional students, because they typically have families and other responsibilities or need skill remediation, longer to start and finish college. However, findings from these large data sets, while revealing, don't provide the depth of understanding about individual, program and college factors that support or hinder students who attend ABE-to-College transition courses to transition to and succeed in college. For a more nuanced understanding of what supports and hinders GED dropouts, immigrants, and other non-traditional adult students to enroll, persist and succeed in college, we need studies that will follow such students over time.

Goal of this study

This study provides such data about 227 adults, followed yearly over four years, to determine how they fared and what made it easier or harder to go to college. This mixed-method study was funded by the Nellie Mae Education Foundation, and implemented by the University of Massachusetts Amherst and World Education, to collect data from ABE-to-College Transition course participants from fall 2007 and spring 2008 courses in 11 programs in New England. This report—the first of two—will present information about and findings from the study's quantitative findings and methodology. The second report will present findings from the qualitative data and integrate the findings from both sets of data in order to put forth implications for practice, policy and future research.

Significance of this study

Practitioners can use the findings from this study to consider the best ways to fund programs in adult basic education programs or in colleges that will support adult students to enroll and succeed in college. The study's findings can lead to decisions about “malleable factors”—changes to transition, bridge course, or college pathway program design—that will better prepare adult students for post-secondary education. In addition, the ATLAS study findings will contribute to debate in our field about the value of providing support to motivated adults who otherwise would find higher education daunting.

Design and Methods

Introduction

The Adult Transitions Longitudinal Study (ATLAS) was a five+-year research project that tracked an initial panel of 227 adults who enrolled in an Adult Basic Education-to-College Transition course in the fall of 2007 or the spring or summer of 2008. Situated throughout New England, three of these programs were located in Maine (Rockland, Sumner, and Belfast), one program took place in Rhode Island (RIRAL), one in Vermont (Tutorial), two were in New Hampshire (Nashua and Second Start), three were in Massachusetts (ABCD, X-CEL, and Cape Cod), and one was in Connecticut (Vernon). Although the transition programs differed on a variety of curricular aspects, they were unified by a common goal: to prepare and enable adults who already had their high school diploma or GED to acquire the skills and knowledge needed to enroll in and succeed in college.

Thus, the primary purpose of the ATLAS study was to measure the educational and economic outcomes of its participant sample. Specifically, researchers were interested in whether adults enrolled in college after participating in the transition program and if so, whether or not they persisted in college or dropped out. In addition, we were interested in the degree of success that participants had while enrolled in college (if they enrolled).

Research Questions

1. *What are the outcomes of participating in the ABE-to-College Transition Program?*
 1. **Educational trajectory:**
 - a. never enrolled; OR
 - b. enrolled but dropped out; OR
 - c. enrolled and either graduated or still enrolled by end of study (includes those who were continuously enrolled or who “stopped out” and re-enrolled)
 2. **Enrollment outcomes:**
 - a. completed at least 3 non-developmental education credits in college
 - b. enrolled within one year of participating in the transition program
 3. **Persistence outcome:** total number of college semesters completed
 4. **Success outcomes:**
 - a. Total number of college credits acquired
 - b. Achieving “Tipping point” momentum: completed at least 30 non-developmental education credits in college
2. *What are the factors that influenced those outcomes?*
 1. **Goals and motivations:** types of motivation, strength of motivation, financial motivation, career and college goals

2. **Individual characteristics:** cognitive, non-cognitive, demographic factors
3. **Supports:** people, transition program, college supports
4. **Obstacles:** health, academic, familial, financial, logistical, college culture, work-related factors

Conceptual Framework

Based on existing knowledge in the field about the factors influencing enrollment, persistence and success among adults in this population, we developed hypotheses to drive our analysis in four areas:

1. **Goals and Motivations:** types of motivation, strength of motivation, financial motivation, career and college goals
2. **Individual characteristics:** cognitive factors, non-cognitive factors, demographic factors (including college participation variables)
3. **Supports:** people, transition program, college
4. **Obstacles:** health, academic, familial, financial, logistical, work, college culture

Figure 1 below provides more information about the hypotheses used to frame our analysis.

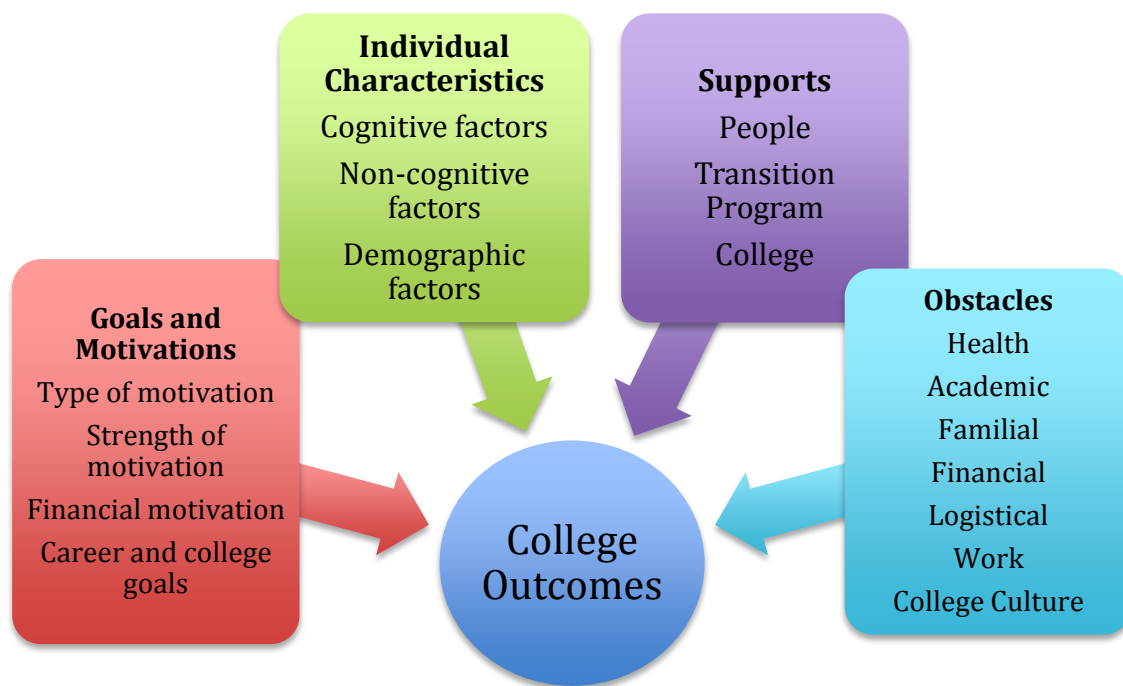


Figure 1: Hypothesized Factors Influencing College Outcomes

For the *type of goal or motivation* hypotheses, we investigated the nature and influence of participants' goals, including whether their goal was:

1. **Material** goal (desire for higher pay, house, car, etc.)
2. **Fulfillment** goal (an *internal* goal—desire for a job one likes, desire for stability—or an *external* goal—desire to be a model for others, desire to help others)
3. **Identity** goal (desire to be someone else, to be like someone else, to be an educated person—"possible selves" goal)

For the *strength of goal or motivation* hypothesis, we investigated the strength of a participant's goal (the level of challenge in attaining his/her goal, or the size of the goal). We also investigated financial motivation as well as career and college goals.

For *individual characteristic* hypotheses, we investigated the following factors:

1. **Demographic** variables (age, marital status, country of birth, etc.)
2. **Cognitive** variables (academic skills)
3. **Non-cognitive** variables (leadership, time management, planning abilities, etc.)

For *supports* hypotheses, we investigated the following factors:

1. **People** supports (*passive support*—encouragement, approval—and *active support*—financial help, help with responsibilities—from family and friends, transition program staff, "sponsors", employers)
2. **Transition Program supports** (support network, program components, completing the program)
3. **College** supports (financial, support network, engagement in college activities)

For *obstacles* hypotheses, we investigated the following factors:

1. **Health obstacles**
2. **Academic obstacles**
3. **Familial obstacles**
4. **Financial obstacles**
5. **Logistical obstacles**
6. **Work obstacles**
7. **College culture obstacles**

In addition to these hypotheses, we also report on non-hypothesized factors that emerged from the data analysis as significant factors in either hindering or supporting ATLAS participants to enroll, persist or succeed in college.

Design and Methods

In this section, we will explain the data sources, description of variables, sampling, data collection, data analysis, and limitations of the ATLAS study.

Data Sources

Table 1 below shows the methods of data collection and the number of respondents (ABE-to-College transition program participants from the original sample of 227) who participated in each.

Table 1: Sources of Data for the ATLAS study

Source of Data	# of Repetitions	Respondents
1. ATLAS Survey	4	227 (Year 1) 148 (Year 2) 189 (Year 3) 208 (Year 4)
2. Test of Adult Literacy Skills (TALS)	2	216 (TALS ² first administration); 143 (TALS second administration)
3. Sub-sample interview	4	24
4. Educational biography interview	1	13
5. Staff and Teacher Interviews	1	33
6. Transition Program Documents, Intake and Exit Forms	1	~150
7. College Transcripts	1	139

We present details of each data source in the sections below.

Surveys

The primary source of information was a yearly survey conducted with the entire ATLAS sample. There were four rounds—or “waves”—of surveys, which ranged in length from 20

² TALS stands for Test of Adult Literacy Skills, the commercial form of the literacy test used in the National Adult Literacy Survey of 1992 and the National Assessment of Adult Literacy in 2003.

minutes (usually for participants who had never enrolled in college) to 120 minutes (usually for those participants in the final wave who had attended college and thus had more questions to answer). The surveys provided large amounts of quantitative data as well as some qualitative data on multiple facets of the participants' lives, including educational status and experience, family life and responsibilities, work and leisure routines, and transition program experiences. The main topics touched upon in one or more surveys year are listed in Table 2 below.

Table 2: Data Collected in Yearly ATLAS Surveys

Survey Topic	Year 1	Year 2	Year 3	Year 4
Demographics and background	X			
High school educational background	X			
Family background	X			
Social network	X			
Past participation in alternative education or higher education	X			
Major household events over past year		X	X	X
Relationship status and background of partner	X	X	X	X
Parenting engagement and responsibilities	X	X	X	X
Educational goals for and participation in children's education	X	X	X	X
Family's college background or participation	X	X	X	X
Family life and responsibilities	X	X	X	X
Personal and household financial situation	X	X	household	X
Health history both past and present	X	present	present	present
Work history both past and present	X	present	present	X
Career goals and plans	X	X	X	X
Personal goals and plans			X	X
Daily literacy activities	X	X		X
Social activities, hobbies, and technology use	X	X		X
Independent learning and/or job training activities	X	X		X
Vocational training or further adult basic education participation	X	X	X	X
Personal characteristics (e.g., leadership, planning ability, etc.)	X	X	X	X
Engagement in one's community	X	X		X
Transition program impression and experiences	X	X	X	
Transition program social network	X	X	X	

Survey Topic	Year 1	Year 2	Year 3	Year 4
Supports and obstacles to attending transition program	X	X	X	
College application, enrollment, engagement, and experiences	X	X	X	X
College social network		X	X	X
Supports and obstacles to attending or enrolling in college		X	X	X

The Year 1 survey gathered the majority of demographic information on participants, their families, and on their families' backgrounds. We asked demographic questions (e.g., country of origin, first language, parents' level of education, etc.) only once since answers do not change over time.

The Year 3 survey was the most abbreviated survey administered, to prevent and reduce participants' survey "fatigue"; that year's survey gathered continued college data for all college-bound or enrolled participants as well as information on participants' transition program experiences for those who did not complete the Year 2 survey.

The Year 4 survey was the most comprehensive survey. As the final survey, we repeated questions from all previous years, asked for increased detail on some questions, and gathered new information and opinions on questions spanning many different topics. In Year 4, we also created an alternate, abbreviated version of the full survey for participants who were extremely reluctant to be interviewed. The full version took anywhere from 60 to 120 minutes to administer, with an average completion time of 80 minutes. The short version took approximately 20 to 30 minutes, limited to the most essential questions in each category covered by the full survey, with a focus on major household events, college experiences and outcomes, supports and obstacles to attending college, current employment and financial status, and career goals and plans.

We strongly encouraged all participants to complete all four surveys. However, due to the nature of a large-scale longitudinal study, we could not obtain 100% participation for any of the follow-up surveys (Year 2, 3, or 4). The lowest survey completion rate was in Year 2, when we had not yet perfected the art of effectively tracking participants and/or successfully obtaining their involvement. We had 227 participants in our original survey sample (Year 1). By the second year, only 149 participants completed the Year 2 survey, with another five who had partially responded to the survey, completing between 15 and 90 questions of the 133-question survey. Sadly, one of our participants passed away during the second year of the study, leaving 226 participants with whom we could follow-up; therefore the completion rate for Year 2 was 65.9 percent. After improving our tracking methods and the way in which we solicited participation, we had much higher completion rates for the Year 3 survey with 189 participants (83.6 percent) and the Year 4 survey with

208 completed (92.0 percent). Out of those final surveys, 16 people (7.7 %) elected to take the short version instead of the full version.

Overall, 133 participants completed all four surveys, and 195 participants completed at least three surveys. Eight participants completed the Year 3 survey in 2010 but not the Year 4 survey in 2011; therefore, we have follow-up survey data from 2010 or later from 216 out of 226 participants in total. Thus, for 95.6% of our participants, we have surveys providing details about many aspects of their lives for at least three years since they first began attending the college transition program.

Tests of Skills

The second source of data was information about the participants' cognitive skills (literacy and math). In the first and the fourth year, we asked each participant to take a 40-minute TALS document literacy test, as a gauge of their literacy skills. In addition, the transition programs provided us with data from participants' intake and exit Accuplacer³ tests.

Interviews (audiotaped)

A third source of data was provided through supplementary 20 to 60-minute yearly interviews with a small subset of participants. These participants were chosen at the beginning of the study, when researchers helped participants in each program to randomly select one to two people from each transition program class to compose the sub-sample interview pool. This group, made up of 24 participants in all, provided more in-depth, detailed descriptions of any educational and personal experiences that had occurred during the past year.

Educational biographies (videotaped)

A fourth source of participant data came from hour-long educational biography interviews that were videotaped with a second subset of the main sample, consisting of 13 participants. The majority of the interview focused on gathering a comprehensive educational history for the participant before and after the transition program, as well as the educational experiences of the participants' parents. Occasionally the participant also provided insight during the video recording regarding their experience in the transition program that gave useful information for the transition program profiles.

³ Accuplacer is a test that many community colleges use to assess potential applicants' skills in reading, writing and math.

Staff and Teacher Interviews

The fifth source of data was interviews with transition program staff members. At the beginning of the study in 2007, the 11 cooperating transition-to-college programs were asked to make all of their staff members available for individual interviews with an ATLAS researcher. These interviews lasted for approximately one hour and were conducted using an interview protocol in a 1:1 setting. The interviewer (an ATLAS researcher) delved into a wide range of questions, beginning with demographic data and progressing to more in-depth subjects such as the types of educational materials used by the teacher or the directing practices of the staff member. These interviews were recorded and subsequently transcribed. In addition, ATLAS researchers observed some classes in session; however, due to the time constraints of trying to collect initial data from all participants within the first three weeks of their transition course, the widespread distances between the University of Massachusetts and the 11 programs—from Providence, Rhode Island to Belfast, Maine—and the cost in time and expense travelling to all of these programs within about a six-week time span, we were not able to observe all of the classes, and so the data that we do have from observations is qualitative and limited, and thus did not play a big role as a data source, other than background knowledge.

Transition Program Documents and Data

Finally, each program was asked to submit any and all program documents and materials. The documents submitted varied widely by program and included any of the following items: class hand-outs, syllabi, recruitment materials, schedules, mid-term evaluations, student records, intake and exit forms, lesson plans, and written summaries. Some programs provided extensive records and materials but a few others submitted very little documentation of their program's curriculum and structure.

College Transcripts

The seventh source of data was college transcripts themselves. We made a tremendous effort to collect the college transcripts for every single participant who reported having attended college at any point. We also collected every single transcript obtainable for participants who reported attending a vocational program, collecting a diverse set of records for everything from a bartending course, to beauty school, to truck driving.

At the beginning of the study, in addition to the main [IRB approved] permission language on study participation, participants were asked to voluntarily give their permission to for ATLAS researchers to request any transcripts or other relevant information using their social security number. There was no extra payment or incentive offered for signing that

part of the permission form. Approximately 80 percent of participants gave their permission for transcript release at the beginning of the study.

We waited until the final survey was complete to begin requesting transcripts, since there were more than 55 institutions to which approximately 150 participants reporting attending. The information on which colleges they were attending was gathered in surveys in Year 2, Year 3, and Year 4. As noted previously, we had 216 out of 226 participants for whom we had follow-up data on college attendance from 2010 or later. This allowed us to be fairly accurate with requesting transcripts from the correct colleges, even if they did not complete the Year 4 survey. Furthermore, there were several more participants who reported attending college in Year 2, but did not complete our surveys in later years; as a result of the information provided, we were able to obtain transcripts for some of those participants that spanned much further into our study than the survey data we had for them.

In compiling these records for the 80 percent of participants who had given permission, we noticed many disturbing disparities between self-reported college outcomes and actual college outcomes. Some participants were accurate in reporting the exact number of credits they had already earned in college; others were off by huge figures such as 70 credits or more. Participants were regularly unaware of whether the courses they took were remedial/developmental education courses or were actual credit-bearing courses, a problem that other studies have identified⁴. We hypothesized that these inconsistencies may have been due to the limited college knowledge of some participants, an erroneous belief that previous college credits had transferred even when they did not, and a lack of detailed awareness of their progress through their chosen higher education trajectory.

Finding these incongruities spurred us on even further in our attempts to gather participants' transcripts. We contacted every participant who had not given their permission for transcript release, and asked them if they would be willing to either mail us a copy of their transcript or sign their schools' transcript release form so that we could obtain a copy directly. Just as with the yearly survey administration, this turned into quite a lengthy process of trying to find everyone and earn their cooperation; nonetheless, in the end we were able to obtain transcripts for all but four participants. Two of those four participants looked up their records online and reported to us the exact number of credits they had earned through the cut-off period we set, and the number of semesters they had successfully completed. We also asked them how many developmental credits they had participated in, and whether or not they were counting those credits in their total credit report to us. For the remaining two participants, we were forced to accept their self-

⁴ Research on college remediation found that, when students reported the number of developmental education courses they had taken, such numbers did not align with documented dev ed courses: "Estimates based on student self-reports are substantially lower, potentially because students do not realize the courses are remedial" (Scott-Clayton, Crosta, & Belfield, 2014, p. 390)

reported figures on their final Year 4 survey for the number of credits earned and the number of semesters completed as accurate submissions.

Aside from those specific transcript details mentioned here, which were used for the three college dependent variables analyzed (number of semesters, number of credits, and momentum to tipping point), we eliminated all other self-reported college enrollment and attainment figures for independent variable analyses and only used verifiable transcript data. In order to make the period of time following transition program participation equal for all participants, we set two different cut-off periods for the transcript data recording: fall participants' college attainment and enrollment status was counted through September 1, 2011, whereas spring participants' college data was counted through December 31, 2011. All transcripts were requested in 2012, so this data was equally available for all transcripts gathered. We provided every institution of record with a transcript request. For example, if we saw that a participant had 6 credits on their transcript that were transferred from 1984 from Holyoke Community College, we then submitted a request to Holyoke CC to get the full record for this participant. In this manner, we were able to compile the most complete, detailed set of records possible. As for the two participants for whom we only had self-reported data, one confirmed that she had not been enrolled in college at all during the past year; the other was still enrolled in college. Since in our comparisons we found that self-reported college data was inflated compared to actual college transcript data, we felt that it was appropriate to leave that participant's semester and credit attainment figures as reported and not account for the potential extra semester's worth of college data in hopes that the discrepancy would even out.

As a whole, we found the collection of the participants' transcript data to be extremely valuable. By conducting a careful review and comparison of all of the transcript data collected, we discovered a number of inconsistencies in participants' self-reported college experience and achievement, such as a frequent pattern of inflated self-report college credit attainment in comparison to actual transcript data. Despite a concerted effort on the part of our interviewers to probe as thoroughly as possible into participants' description of where they went to college and what type of institution it was, once we had the transcript data in hand we identified a number of confused participants who reported having attended college but who actually attended a vocational program. We manually corrected the college trajectory data for any participants for whom we discovered such errors, transcribing any relevant information over, question by question, for the different components of the relevant survey section.

Participants were particularly confused by the idea of college certificate programs, which are typically a 30-credit program consisting of a predefined set of coursework related to a specific vocational area. These programs are often in the same general fields as those offered as associate programs but the qualification earned is lower, and thus provides the student with a more limited range of job opportunities. A few examples of such programs

(from among many such programs) are the gerontology health care certificate, medical records certificate, hospitality fundamentals certificate, and certain types of EMT certification programs. Depending on the student's geographic location, he or she might be able to choose the type of program that fit best with his or her educational or career goals: enrolling in a certificate program through college or attending a stand-alone vocational school.

However, the choice to enroll in a vocational program instead of college does not necessarily indicate a lesser qualification, as vocational programs vary tremendously from one institution to the next. In fact, after we collected all of the vocational transcripts and researched the institutions that participants attended, we encountered one participant who had completed a lengthy, intensive Licensed Practical Nursing (LPN) vocational program that had an equivalent certificate program offered through college. When we gathered her records from the technical institute and saw her coursework, we followed up with the school further to assess the amount of class time and work load required. We worked to ascertain whether the school qualified as a college (it did not) and to better understand what type of work opportunities could stem from earning this vocational certificate. The LPN vocational degree at this particular school consisted of a 15-month, full-time program. Graduates of this program might be able to transfer some of their credits earned towards a college Associate Degree program somewhere, but that would depend on what credits would be deemed transferable by the accepting institution; there are no guarantees. Nonetheless, the intensity of the coursework required at this accredited technical institute closely matched the one-year LPN certificate program that many colleges offered. Therefore, for this participant, we returned to her college trajectory survey data and gave her credit for having completed a college certificate program, because the qualification she had obtained was exactly the same as that which she would have earned through a traditional college. Aside from this one case, we did not find any other vocational programs that matched the intensity and depth of a college certificate program.

Description of Dependent Variables

We chose six separate dependent variables to represent the various college outcomes for participants in enrollment, persistence, and success.

Enrollment was represented in two ways: first, by whether or not participants were ever able to attain at least three non-developmental college credits, not including any credits accrued through participation in the college transition program. Second, by whether or not the participant enrolled in college within one year of the conclusion of the transition program in which he or she participated.

The next dependent variable simultaneously examines both persistence and enrollment at the same time. This multi-faceted variable is the participants' college trajectory over the arc

of the entire study, and has three possible levels: 1) never enrolled in college; 2) enrolled in college but dropped out, and; 3) enrolled in college and either graduated or was still enrolled in college at the conclusion of the study.

Two more dependent variables were analyzed solely amongst college-enrollees, excluding participants who never attended college after participating in the transition-to-college program: those looking at persistence, defined as the number of semesters completed, and success, defined as the number of transferrable college credits attained. College participation prior to the transition program did not count toward gains in either of those variables.

Lastly, one dependent variable examined participants' college success, but did not exclude participants who never enrolled in college. That variable, which we refer to as the *momentum to tipping point*, was defined as whether or not participants earned thirty credits or more over the course of the study⁵. Participants who never enrolled in college were grouped together with those who earned 29 credits or less over the course of the study. As with all other dependent variables, previous college credits earned did not contribute toward this variable.

In this first report, we will be presenting the quantitative data and findings that we were able to draw from all of the data sources except the subsample audio interviews and the videotaped educational biography interviews, which are qualitative in nature. The qualitative data, along with an integration and discussion of all the findings, will be presented in the second report.

Sampling

The population from which we drew the sample of ABE-to-College transition course participants for this study included all enrolled participants in the 11 Nellie Mae Education Foundation-funded programs across New England that were funded in 2007-2008. We visited each program within three weeks of the start of transition course. There, we conducted a short presentation about the study and asked all participants present that day to participate; most accepted, few declined (most common reason: undocumented immigrants). After visiting each program, we ended up with 227 participants, with whom we started the study in 2007-2008, from whom we collected baseline (Wave 1) data. We ended with either 2, 3 or 4 waves of data for 220 out of the original 227 participants. One

⁵ We used this variable based on the "Tipping Point" research from the Washington State Board for Technical and Community Colleges (2005), which indicates that non-traditional students who earned at least 30 college credits (usually the equivalent of one year's full-time college work) and earn at least one credential were more likely to earn higher wages in the job market and to continue on to graduate from college. We thus use the term "momentum" to tipping point, since 30 credits may not be enough in some degree paths to earn a credential but may signal significant progress and "momentum" to earn more credits.

participant died within the first year, and another six participants either refused to participate further or could not be found after year 1.

Data Collection

The Year 1 survey was conducted in-person for all participants, in individual sessions with an ATLAS researcher. During Year 1, we visited each program, enlisted participants and conducted informed consent process, administered TALS document test to whole group; we conducted face-to-face survey interview in private with participants at program site over next three days with as many participants as possible. We then conducted subsample interviews in person at the same time, if possible; if not, we followed up by phone over the next two months. We used SNAP software to design our CAPI⁶ survey; skip patterns allowed us to skip over questions that were not applicable to participants (e.g., “how old are your children” was skipped if participant stated they had no children, etc.)

During Year 2, we reconfigured the survey for online access, knowing that we did not have the resources to conduct each interview face-to-face or on the phone. Therefore, we changed some of the questions to be more self-explanatory to participants who were reading and answering the questions online on their own, without the benefit of a research team member to explain the question. We piloted this with our original pilot participants and asked them which questions were not self-explanatory. Then, we sent out a notice by e-mail and repeated letters to all participants with the link to the online survey. Participants had the ability to take the survey all the way through in one sitting, or to stop and return to the survey later, without losing data they had already entered. We also offered to conduct the survey by phone for any participant who wanted to or did not have easy access to a computer or the Internet. We then followed up with door-to-door visits to participants across New England who had not started or finished the survey. Through this process, we completed 148 surveys in year two.

In Year 3, we again offered the survey to participants to take either online by themselves or over the phone with a research team member. We used the same process as year 2: we opened the survey online, offered to do phone interviews for those who wished, and then followed up with phone interviews for those who wished. In year three, we completed 189 surveys, a significant increase in completed survey from year two, but still less than the total sample.

The Year 2 and 3 surveys were primarily conducted either over the phone with an ATLAS researcher or self-completed online by the participant. A small number of Years 2 and 3 surveys were conducted in person: less than 10 percent for Year 2, and only one percent for Year 3. We completed over 2/3 of the Year 3 surveys by phone with an ATLAS

⁶ Computer-assisted personal interviewing

researcher. Upon review, we found that this data was of a much higher quality than were the surveys that participants had completed on their own online.

Therefore, when designing the Year 4 survey, we decided that every effort should be made to complete the final survey with participants over the phone in order to ensure gathering the best data possible. Thus, the Year 4 survey was conducted almost exclusively over the phone with an ATLAS researcher, with only 1.5 percent of participants completing the survey on their own online. Since Year 4 was our final data collection, and because we needed participants to retake the TALS literacy test, which needed to be completed in person and under supervision, we took a different approach to data collection. First, we held reunions or multiple drop-in testing sessions, with help from the ABE-to-College transition programs, in order to conduct the TALS test with groups of participants. Also, this year as in year 1, we conducted as many face-to-face surveys as possible with people who showed up for reunions/drop-ins. In order to get the best quality and highest number of completed surveys, we sought to conduct every survey by phone or in person. We devised an abbreviated version of the survey⁷ for those participants who refused to complete a survey, and we offered this option at the very end just in order to get at least some of the most basic data we needed. We also held out the option of completing the survey online for those who refused to be interviewed in person or over the phone. Finally, we went door to door across New England to pick up as many of the remaining participants as possible. Through these efforts, we completed 208 surveys in total; 189 full surveys (60-90 minutes) were completed by phone or in person, three surveys were completed independently by participants online, and 16 participants opted to take an abbreviated version of the survey over the phone.

Also, in Year 4, using participants' written permission, we collected college transcripts for 138 out of the 144 participants who reported attending college. We also collected 20 vocational transcripts from participants who reported going to college but had actually gone to a vocational program, such as massage therapy or beauty school.

Finally, in Year 4, we attempted to collect unemployment insurance (UI) data about all participants from the six state Departments of Labor, but no state gave us access to any workforce data, even with written permission from the participants. Thus, we were not able to conduct one analysis we proposed in the initial proposal, which was to see whether and how educational trajectory influenced employment stability or wages. While we have self-reports from the participants about their weekly wages and annual household income, as well as some information about whether they changed jobs each year, we do not have independent, corroborative evidence from UI records.

⁷ The abbreviated version took approximately 30 minutes, or about half as long as the whole survey.

Data Analysis

We coded and entered all data for each participant across all four waves, including survey data, literacy test data, and data from program intake and exit forms, including participants' attendance and self ratings about their readiness for college, as well as staff ratings of participants' readiness. We created composite variables for each hypothesis, using all data from each wave related to each one. We then triangulated self-report data from participants about college enrollment and course completion with college transcripts and used this data to create six dependent variables:

1. Whether participants had completed 3 non-developmental credits at any time by the end of the study
2. Number of semesters completed in college by the end of study (a college-only variable⁸)
3. Number of transferrable college credits (a college-only variable)
4. Trajectory of participants:
 - never enrolled in college,
 - enrolled but dropped out of college, or
 - continuously enrolled, or re-enrolled, or graduated at the end of the study
5. Whether participants had reached "tipping point momentum" by accumulating at least 30 transferrable college credits by the end of the study
6. Whether participant had enrolled in college within one year of participating in the ABE-to-College Transition course.

Table 3 summarizes the statistical tests used for each of the six dependent variables:

Table 3: Analysis Type by Dependent Variable

Dependent Variables	Type of Variable	Analysis Type
Earned 3 college credits	Categorical	Binary Logistic Regression
Enroll in college within 1 year	Categorical	Binary Logistic Regression
College Trajectory Status	Ordinal	Ordinal Logistic Regression
# of Semesters, college only	Continuous	Linear Regression
# of Credits, college only	Continuous	Linear Regression
Tipping Point Momentum	Categorical	Binary Logistic Regression

In order to conduct these analyses, we first reviewed the literature to determine which independent variables might be important covariate factors for each of these analyses. The

⁸ *College-only variables* are variables that are only available for those ATLAS participants who ever enrolled in and attended at least some college during the course of our study. Participants who never attended college at any point during the study were not included in these analyses, for obvious reasons.

next section outlines our Statistical Analysis Plan, with a description of each independent variables and a summary of which variables we controlled for in each of the above analyses.

Statistical Analysis Plan

Use of Baseline vs. All Years Data

Careful consideration of the study's structure and of our hypotheses about how each different variable might impact students' enrollment, persistence and success in college led us to divide the analysis into two parts for each independent variable: 1) examining the impact of the year 1 data alone; 2) examining the data gathered across all years of the survey combined. Our conclusion was based upon the idea that while persistence and success are ongoing issues, impacted by multiple years of college participation and life circumstances, enrollment on the other hand is a simpler concept that may potentially take place over a shorter, discrete period of time. One of our dependent variables designed to examine enrollment was whether or not participants enrolled in college within a year after the transition program concluded. We felt the most uniform, reliable way to analyze that dependent variable would be to use independent variables drawn from Year 1 data only (henceforth referred to as baseline data). Doing so enabled us to posit questions about the participants' personal situation and setting at the time of the transition program's initiation, to see whether those factors set them up to successfully enroll in college within a certain time-period following the program.

We also used baseline data only in the analysis of one other dependent variable based on enrollment, that of whether or not participants were able to attain three non-developmental credits over the course of the study. In fact, we analyzed that particular dependent variable twice: once with baseline data (from Year 1 only) and once with data drawn from all five years of the study. This plan allowed us to consider two separate but related issues for each independent variable. For example, for the variable job satisfaction, this allowed us to posit two questions: firstly, were participants who were unsatisfied in their jobs at the beginning of the study more likely to enroll in college and attain three transferrable credits? Secondly, were participants who were more unsatisfied in their jobs throughout the course of the study more likely to enroll in college and attain three transferrable credits? Both are valid questions.

In the first case, using baseline variables makes sense, because the goals, supports, and obstacles of a participant in Year 1 were part of the environment that made him or her decide to participate in the transition program and attempt to go on to college at that particular time in his or her life. Therefore, using the baseline data helps us to piece together which factors were the strongest factors in helping him or her succeed in attaining that first goal of getting through the door. On the other hand, looking at the data drawn

from all five years of the study makes sense, too. Not all of our participants enrolled within one year of completing the transition course; out of the 136 participants who enrolled in college at some point over the course of the study, 32 did not enroll in college within a year of the transition course's end (23.5 percent). Furthermore, although the majority of participants who ultimately did go on to college did enroll within a year, this does not mean that they were able to complete at least one semester and attain three credits within that period of time; to do so would have mean enrolling within approximately six months after completing transitions. Therefore, factors impacting participants' lives in Year 2 (for students from the fall 2007 transition program session) and in Year 3 (for students from the spring or summer 2008 transition program sessions) may well have also hindered or sustained participants in their attempts to successfully complete at least three non-developmental credits. For this reason, we felt that constructing our independent variables in two ways would better answer our questions about students' college enrollment outcomes, albeit not for our questions about persistence and success outcomes.

Each hypothesis variable was adapted to baseline data as well as data gathered from across all five years of the study, including surveys Years 1-4. For the variables that were created using data from multiple surveys, participants who did not respond to a particular survey was not penalized for a lack of response. In other words, if a participant could have earned up to three points for a particular question drawn from a Year 4 survey, but that participant did not take the Year 4 survey, then their total possible score reflected that fact. The way that we achieved this was to painstakingly tally the possible denominator for every individual participant, for each question (based on whether the participant took the relevant survey and if so, whether that survey question was applicable to him or her). In this way, the numerator (total score across all relevant survey questions) could be held in proportion to the total possible points for that participant and create a final score (numerator/denominator) comparable across all participants, no matter how many surveys each person may have completed.

Analytic Framework

Based on previous research about the factors that may influence adult or non-traditional student enrollment, persistence and success in post-secondary education, we developed a list of covariates for each analysis. These covariates, and the theoretical reasons for controlling for them in the analyses, are described below.

For hypothesis testing of factors against **enrollment outcomes**, we controlled for:

- **Literacy skills** as gauged by the baseline TALS document literacy assessment, since poor academic skills can account for feeling unprepared to enroll in college or for poor performance once in college;

- **Completion of the transition program course of study**, since attending the full program constitutes the equivalent of getting the “dosage” in a medical study; we surmised that completing the transition course would either prepare adult students’ for college, make them feel that they were prepared, or represent an ability to manage one’s life throughout the transition course in the same way that one needs to manage one’s life while in college;
- **Being a single parent**, since the responsibility of taking care of or finding child care for one’s children can constitute a significant barrier to finding the time to attend college;
- **Support factors**, since greater amounts and types of encouragement or help of people, institutions or resources may make it significantly easier for adults to attend college;
- **Hindering factors**, since greater amounts and types of barriers can make it harder for adults to attend college;
- **Age**, since previous research indicates that younger adults find it easier to attend college than older adults;
- **Parents’ (ever) college attendance**, since research shows that parents’ own experiences can be a significant supportive factor in understanding and navigating college; and
- **Type of high school diploma earned** (GED or high school), since there may be some actual or perceived disadvantage in entering college with a high school equivalency rather than a traditional high school diploma.

For hypothesis testing of factors against **persistence or success outcomes**, we drew on the theory of non-traditional adult students (Choy, 2002) and we controlled for:

- **Completion of the transition program**, since the type and amount of preparation acquired during the transition program may make a difference to enrollment, persistence and success, or at least in participants’ perception of their ability to attend college;
- **Having no or older children**, since younger children require more attention as well as child care when one is attending classes;
- **Marital status**, since having a spouse or partner may provide more resources (passive or active) than being a single adult;

- **Supports**, since having more or different types of support from people, institutions or resources may make it easier to attend college;
- **Obstacles**, since having more or different types of obstacles may make it harder to attend college;
- **Age**, since previous research shows that older adults find it more difficult to attend college;
- **Country of birth**, since previous research shows that immigrants may persist longer in college; and
- **Type of high school diploma**, since there may be some real or perceived disadvantage to having a high school equivalency vs. a traditional high school diploma.

We will provide more detail about each independent variable when we present findings of the hypothesis testing in the Findings section below.

Limitations of the study

Although the study would have been significantly stronger had it been a randomized control trial, it was not possible to do. The 11 participants transition-to-college programs did not, at that time, attract sufficient numbers of potential participants to allow for random assignment of students to control or intervention group. It is thus impossible to compare this group of ATLAS participants with similar adults to determine definitively whether participating in the transition course made a significant difference in educational outcomes. Although it seems that the ATLAS participants might be compared to other GED recipients or non-traditional adult students also wanting to go to college, there is one big difference that negates any possibility of comparison: self-selection to attend a transition-to-college program. In other words, the motivation to join a transition program may, in and of itself, explain the differences in college enrollment, persistence and success outcomes. Thus, although we can present statistics about the college completion rates of non-traditional adult students, such comparisons should be taken with a very large grain of salt, since the ATLAS participants' initial motivation to enroll in a transition course may partially or completely also explain their motivation to enter, stay in, and complete college.

Similarly, it is tempting to compare ATLAS participants who dropped out of the transition course with those who completed the course, and we will do so. However, completing the transition course doesn't help us understand whether it was the course itself that influenced college outcomes, or the students' own ability to manage their lives in such a way that allowed them to complete both the transition course and do well in college, or students' sense of self-efficacy from completing the transition course (rather than the skills

and knowledge they gained in the course) that contributed to post-secondary participation, or any number of other unobservable characteristics that may have made the difference.

Another limitation, common to longitudinal studies that track participants over time, is missing data from one or more of the surveys conducted over the years. Even with considerable success in tracking down and completing surveys with a remarkable number of participants in Year 4, participants still had the prerogative to skip any question they chose not to answer, or even to decline to complete any year's survey. Thus, the number in the sample by year and over the span of the study, as well as the number answering any particular question, varies considerably in the data.

Finally, the ATLAS study is the first longitudinal study of the post-secondary educational trajectories of low-skilled, non-traditional adult students, and therefore some of our questions just did not work to collect the type of rigorous data we hoped for. An example of this is the questions we used to gauge individual participants' motivation to attend college; it is extremely difficult to capture such psychological information through surveys and even through qualitative interviews. Therefore, certain hypotheses were hard to test because of the nature and quality of the information we collected, and we note that in the study where we believe the problem lay with the method and question.

Findings

In this section, we provide an overview of the ATLAS sample, followed by descriptive data about their educational outcomes, narrative profiles of the educational trajectories of some of the ATLAS participants, and then the findings about factors influencing their educational outcomes, by hypothesis.

Characteristics of the ATLAS Sample

The majority of ATLAS participants shared these characteristics: native-born, native English-speaking females with a child or children under the age of 16. However, they were a somewhat diverse group, considering the New England setting, with over 40% identifying themselves as people of color or multi-ethnicities. Table 4 provides information about the characteristics of the original sample.

Table 4: Characteristics and Demographics of ATLAS Sample (from baseline data)

Characteristic	% of whole sample	N
Sex		227
Female	81%	
Male	19%	
Country of birth		227
U.S.	80%	
Other	20%	
First language		227
English	81%	
Other:	19%	
Spanish 4%; Portuguese 5%; Haitian-Creole 3%; Other 7%		
Race		225
European-American	56%	
African-American	13%	
Hispanic or Latino/a	8%	
Asian	2%	
West Indian	2%	
American Indian or Alaska native	1%	
Cape Verde, Mauritius or Barbados	1%	
Identified multi-ethnicity	16%	
Marital Status		227

Characteristic	% of whole sample	N
Single	44%	
Married	34%	
Divorced	12%	
Domestic partnership	10%	
Number of children		225
Young children	79%	
No or teenage children	21%	
As a child, lived primarily with....		225
Natural mother and father	49%	
Mother only	23%	
Mother and other adult	11%	
Father and other adult	3%	
Other guardian or relatives	8%	
Personal income (net, weekly)		220
Less than \$250	52%	
\$250 to \$499	35%	
\$500 to \$749	9%	
\$750 to \$999	3%	
Combined household income (net, yearly)		227
Less than \$4,999	7%	
\$5,000 to \$19,999	24%	
\$20,000 to \$29,999	18%	
\$30,000 to \$39,999	13%	
Over \$40,000	29%	
Don't know	9%	

The average age of participants at the start of the study was 36, with a range from 21 to 62 years of age, and a median age of 34. Of the 19% of participants who did not speak English as their first language, 49% reported writing their first language “very well”, 28% reported writing their first language “pretty well”, and 12% each reported writing their first language “somewhat” or “not at all”, respectively. The average hours that participants worked per week (n=227) was 21.66 (s.d.=19.38), with a range of 0 to 72 hours.

Overall, if one could characterize a “typical” ATLAS participant, she would look like this: a U.S.-born female in her mid-thirties who speaks English as her first language, of European-American descent, who has young children and is relatively poor, bringing home only between \$1000 and \$2000 a month, with a combined household income of less than

\$30,000. The high incidence of females in the sample is representative of many who return to college; research shows that “female GED holders [were] consistently more likely to enroll in college than their male counterparts” (Sum, Khatiwada, Trubsky, Palma, & McHugh, 2012, p. 5)

The educational backgrounds of our participants were varied. Almost half had received their GED, rather than a traditional high school diploma. Over one quarter (27.5%, or 38 of 138 participants for whom we have this data) reported having attended some college before participating in the 2007-2008 ABE-to-College transition program where we found them. The majority wanted to obtain an Associate’s Degree, and most did not change this goal during the course of the study. Surprisingly, the majority of the college-going ATLAS participants did not take a developmental class—although we do not know whether this is because they weren’t required to take one or just opted not to take one, if they had a choice. Table 5 provides data related to the educational participation of ATLAS participants:

Table 5: ATLAS Participant Educational Information

Characteristic	#	%
Type of secondary degree completed (as stated in Yr1, n=227)		
GED	105	46%
Traditional high school diploma	84	37%
Alternative high school diploma	38	17%
Type of degree or certificate studying towards (as stated in Yr1, n=142)		
Associates degree	87	61%
Bachelor’s degree	25	18%
Professional certificate	23	16%
Graduate degree	7	5%
Changed goal degree type during course of our study (n=97)		
No	61	63%
Yes	36	37%

Thus, the “typical” ATLAS participant had a GED with a goal of getting an associate’s degree.

Descriptive Data on Educational Outcomes for Participants

Descriptive data on our six dependent variables demonstrated that almost 2/3 of the ATLAS participants enrolled in college at some point after the transition course, and almost half did so within a year of participating in the transition course. Of the 138 participants

who ever enrolled in college, 125 of them (91%) earned at least three non-developmental, transferable college credits. Of those 138 ever-enrolled participants, 24% earned 14 transferable credits or less, 12% earned at least 15 credits, 6% earned at least 30 credits, and 16% earned at least 45 credits. Thus, while over 1/3 of the ATLAS participants never enrolled in college, many of those that did were successful in achieving some credits, and 1/5 (21%) of those who did enter college completed at least 30 credits.

The table below summarizes the key outcomes for ATLAS participants by the end of our study:

Table 6: Key Educational Outcomes for ATLAS Participants

Outcome (Dependent Variable)	Percentage of whole sample (220)	Percentage of those ever enrolled in college (138)	Mean for those ever enrolled in college (138)
Never attended college	37%		
Ever enrolled in college but dropped out	32%		
Ever enrolled in college and enrolled or graduated at end of study (includes “stop outs”)	31%		
Completed at least 3 non-developmental (transferable) credits	57%		
Enrolled in college within one year of the end of the transition course	47%		
Reached “tipping point” momentum (30 transferable credits)	21%	34%	
Mean semesters completed			4.20
Mean credits completed			25.15

For those who did enroll in college within the time frame of our study, they took, on average, two classes per semester. The number of participants who stayed enrolled after the first semester dropped consistently, but the number of classes increased for those who stayed in college. Almost 40% of ATLAS participants (according to their transcripts) did not take any developmental class after enrolling in college, and another 22% took only one developmental education class. Table 7 below presents information about number of classes by semester and number of developmental education classes for those ATLAS participants who ever enrolled in college.

Table 7: Enrollment Information, ATLAS Participants Ever Enrolled in College

Characteristic	Mean	s.d.
Mean number of classes enrolled in first semester (n=127)	2.36	1.14
Mean number of classes enrolled in second semester (n=103)	2.40	1.29
Mean number of classes enrolled in third semester (n=86)	2.55	1.34
Mean number of classes failed, withdrawn from, or repeated (range: 0 to 16 classes) (n=129)	2.66	3.32
Mean number of developmental classes taken (range: 0 to 12 classes) (n=128)	1.39	1.78
Mean number of Reading or English language developmental classes (range: 0 to 5 classes) (n=128)	.55	.88
Mean number of Math developmental classes (range: 0 to 5 classes) (n=128)	.79	1.07

Of those ATLAS participants who enrolled in college after the transition course, **the majority took one or no developmental education classes**; 40% took no developmental education classes. This is actually much better than the outcome for all college entrants: one study found that “half of all undergraduates will take one or more remedial courses while enrolled; among those who take any, the average is 2.6 remedial courses” (Scott-Clayton, Crosta, & Belfield, 2014, p. 371). Another study found that 52% of all college entrants to two-year colleges started in developmental education classes. Considering that this includes traditional high school graduates as well, ATLAS participants, who are non-traditional (older, self-supporting, have children, work full-time), are doing well (Complete College America, 2012). Table 8 below shows the numbers of developmental education courses ATLAS participants took.

Table 8: Number of Developmental Education Classes amongst ATLAS Participants

Number of developmental classes taken (n=128, range: 0=12)		
0	51	39.8%
1	28	21.9%
2	25	19.5%
3	14	10.9%
4 or more	10	7.8%

However, that leaves not quite 40% of ATLAS college-going participants who took two or more developmental education classes at some point. Twenty-seven percent of the 128 college-going participants for whom we have data had to take at least one English or English language developmental education class, whereas 28% had to take at least one math developmental education class. Only 6% were required to take 2 English developmental education classes, while 14% were required to take two math

developmental education classes (although we counted as a “class” even classes where participants were repeating the course, if they had previously dropped out or failed the course.)

We did find a significant and positive correlation between number of developmental classes taken and number of total credits earned. Thus, it is likely that some of those who dropped out would have taken more developmental credits had they stayed in college longer, since many students who did stay enrolled did not take all of their developmental credits in the beginning semesters of their college careers but rather “sprinkled” them throughout their semesters in college.

In the sections below, we provide more detailed information about the outcomes for participants, by our three educational outcome measures: (1) enrollment, (2) persistence, and (3) success.

Measures of Enrollment

1. College Trajectory:

Initially, in each of the three follow-up annual surveys (Wave 2, Wave 3, and Wave 4), we asked each participant to tell us their college status over the past year. Compiling that information across all waves, we end up with the trajectory information presented in the table below:

Table 9: College Enrollment, Compiled Across All Waves of Data (n=220)

Trajectory	N	%
Never applied to college	61	27.7
Applied but not accepted	2	.9
Applied and accepted but didn’t enroll or start class	19	8.6
Enrolled but dropped out	71	32.3
Currently enrolled but have not been continuously enrolled (stopped out then returned)	17	7.7
Currently enrolled and have been continuously enrolled since first semester	39	17.7
Earned an Associate’s Degree	7	3.2
Graduated from a vocational or college certificate program that was at least 1 year in duration⁹	4	1.8

Thirty-nine participants who participated in the ABE-to-College Transition course enrolled in and stayed in college continuously, although some of these may have only started college one or two semesters before the end of the study and thus might eventually drop out or stop out. Finally, no one earned a bachelor's degree within the time period of our study but many may be on the road to do so, and only a small fraction earned an Associate's Degree within the time frame of our study.

In order to better ascertain the factors that might affect enrollment, persistence and success, we then merged these 8 categories into just three main trajectories: (1) never enrolled in college, (2) enrolled but dropped out of college, or (3) continuously enrolled, or re-enrolled, or graduated at the end of the study. Using this streamlined dependent variable, we found that the majority of ATLAS participants did end up enrolling in college, even if some later dropped out or stopped out. By the data collection cut-off point¹⁰, out of 220 participants for whom we had this data, 82 participants (37%) had never applied, applied but weren't accepted, or were accepted but never enrolled in college. Another 71 participants (32%) had enrolled and attended but then dropped out and had not returned to college by the time we last spoke with them. Almost as many, 67 participants (31%), had enrolled in college and either graduated, were continuously enrolled or had "stopped out" but re-enrolled by the last time we spoke with them. Thus, **almost 2/3 of ATLAS participants had enrolled in college at some point following their participation in the transition program.**

2. Participant enrolled in college within one year of participating in the ABE-to-College Transition course

Although the purpose of a longitudinal study is to capture information about transition course participants who may not, for one reason or another, be able to enroll in college immediately following the course, we still wanted to see—as a measure of enrollment—the numbers of participants who enrolled in college within one year after the course. We found that, **out of the original 220 participants for whom we have follow-up data, 116**

⁹ In this category, we counted only those who graduated from a vocational or college certificate program that was "college comparable"; i.e., mimicking the academic rigor of college, such as a medical assistant program rather than a practical skills training, such as beauty school.

¹⁰ Since we had two cohorts of ATLAS participants—125 who had attended the college transition program in Fall 2007 and 102 who had attended in Spring 2008—we needed a different cut-off point for gauging college enrollment outcomes that was uniformly fair and wouldn't disadvantage the 2008 cohort, whose first date of college enrollment could have been six months after the 2007 spring cohort. In addition, since our fourth wave of data collection spanned several months in 2011, it would not have been fair to make the cut-off point the last time we interviewed them; rather, we needed a definite deadline by which we counted college enrollment. Thus, we decided to set this cut-off point as September 1, 2011 for Fall 2007 cohort and December 31, 2011 for Spring 2008 cohort. Then, we contacted colleges in 2012 to double check whether any additional participants had enrolled by this cut-off, regardless of the timing of their final interview/survey completion.

(53%) did not enroll within the first year after the course, while 104 (47%) did enroll within that first year. However, since almost 2/3 of participants did enroll at some point during the four years, this is an indication that gauging enrollment with short-term follow-up may miss those participants who do end up enrolling later than a year after the course.

3. Participant completed 3 non-developmental credits

This dependent variable is based on the question: *Did the participant ever attain at least three non-developmental college credits over the course of the study, not including any credits accrued through involvement in the college transition program?* This variable was created in order to examine the college outcome of enrollment.

We established this stricter benchmark for enrollment since, although many ATLAS participants enrolled in college and then dropped out before completing these three credits, we felt that this standard for enrollment represented what most stakeholders hope for: that adults will not only enroll but achieve at least some credits that are not only developmental in nature (i.e., credits that “count” towards a final diploma).

At first glance, it may seem counterintuitive that we chose to analyze whether or not the participant ever successfully completed three credits of college-level coursework instead of simply whether or not the participant signed up for college. The chief reason for this decision is that some of the transition-to-college programs had participants apply to college as part of their classwork in the program. Such staff members walked their students through the entire process, from obtaining an application to applying for financial aid. Participants were accepted to college while they were still enrolled in their transition course, and their teachers frequently helped them to make their initial class selection. The reason for this step-by-step assistance was two-fold. First of all, many participants found the college application process to be extremely confusing, or they were daunted by the procedures required to solicit financial aid. Staff members likely felt that the more help they could offer to students, the easier it would be for them to go to college.

However, there was a second reason that may have influenced transition programs’ policy on helping students apply; Nellie Mae, a contributing funder to all 11 programs at the time of the study’s inception, collected data on how many of the transition courses’ participants enrolled in college after taking part in the program. Therefore, if most of the class enrolled in college courses before concluding the transition program, the staff members could report in good faith that they had high rates of college enrollment for their program. Transition programs were asked to report how many students who signed up for the course at the beginning of the term had completed the program, how many students had dropped out of the program, and how many students had enrolled in college. Programs were also asked to submit the intake and graduate survey forms previously discussed,

which would also have contained information about students' perceptions of the program and the number of hours they attended the program; however, evidence suggests that there was less insistence on obtaining those forms if they were not readily offered.

It was problematic that transition courses' policies on helping students apply and enroll in college varied considerably between programs. Moreover, we could not be sure that participants who enrolled in college as part of their transition class were not simply following instructions so that they would not disappoint their teachers, without really ever intending on attending college the following term.

Therefore, we felt compelled to set a higher standard by which to measure students' enrollment outcomes than looking at paperwork alone. The goal of the transition-to-college program is to sufficiently prepare and assist students to *successfully* enroll in college, not just to enroll in college and then leave during the first two-week add/drop period. For a short time, we considered setting the bar for measuring enrollment at whether or not the participant ever went on to complete at least one college course. This would have allowed students who completed a developmental college course after the transition program to be considered successful enrollees. Yet, a major objective of the transition-to-college program is to help students be sufficiently prepared academically for college coursework. The college transition program functions in part as remedial math and English courses designed to bring students' abilities up to par. The benefit of the program in comparison to an actual college remedial course is that the transition program is free and offers additional assistance, such as regarding college awareness, to its participants. However, there is certainly a substantial focus on reading, writing, arithmetic, and basic algebra that is offered across every single transition program studied.

Therefore, when we considered the overall goal of the transition program, to prepare students to successfully enroll in college, we concluded that the most basic measure of this objective was to see whether participants were able to complete at least one non-remedial college course during the next four years. Anything less would indicate a failure to meet that minimum goal. Thus, participants were sorted into two categories for this variable, based on whether they earned at least three transferrable college credits: *yes* or *#*. We analyzed this variable using binary logistic regression, a method that allowed us to compare these two groups of participants with both continuous and categorical independent variables.

For the 220 out of the original 227 ATLAS participants for whom we have this data, predominantly from transcripts, **we found that 95 participants (43%) never attained at least three non-developmental (remedial) college credits, while 125 (57%) did achieve this.** Thus, well over half of all ATLAS participants actually completed at least one transferable credit-bearing course within the four years after participating in the transition course.

Measures of Persistence

4. Number of semesters completed in college:

Of the 220 participants for whom we have data, 88 participants (40%) did not complete one semester in college, although 82 of these never enrolled or attended at all, so only 6 of the ATLAS participants that ever enrolled in college did not complete even one semester. Another 22 (10%) completed only one semester, meaning that half of the participants completed one or no semesters of college. The mean number of semesters completed for all 220 ATLAS participants (which included those who never enrolled in college) was 2.64 semesters (s.d.=3.003), while the mean number of semesters for the 138 participants who ever enrolled in college was 4.20. The table below shows the percentage of ever-attending college ATLAS participants who completed one or more semesters (finished at least some credits, developmental or transferable):

Table 10: Semesters Completed, ATLAS participants ever attended college

Number of semesters completed	N = 138	%
1	22	15.9
2-4	51	37.0
5-9	56	40.6
10 or 11	3	2.1

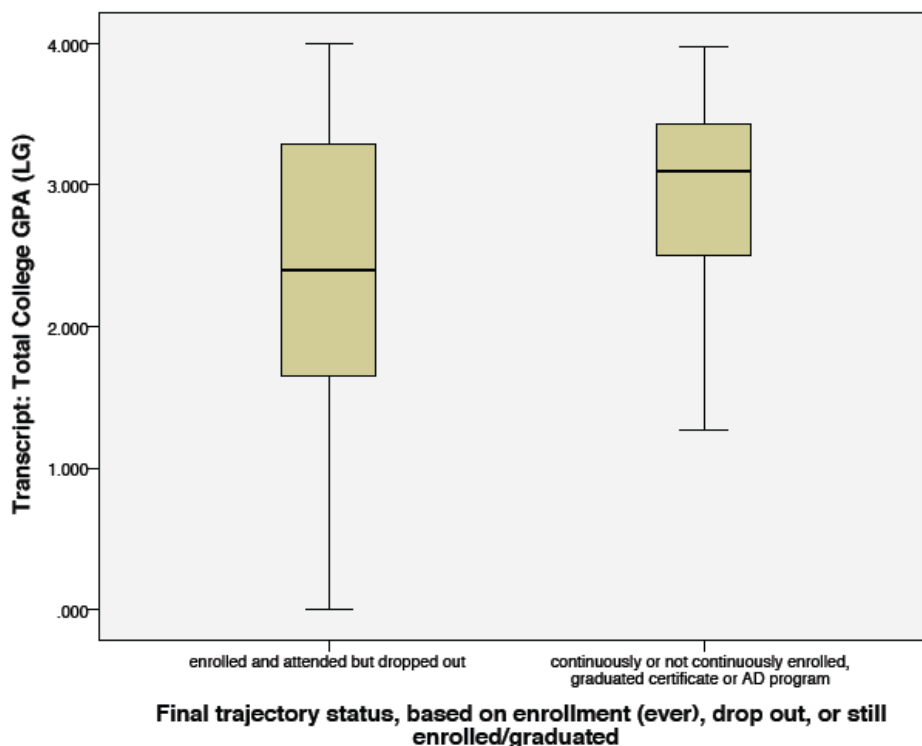
For the 135 participants for whom we have college attendance (transcript) data, we found that years of attendance (counting two continuous semesters (or three, if including summer) as a year) was diverse: 41 (30%) never completed one full year, while 37 (27%) completed one full year, 28 (21%) completed two full years, and 29 (22%) completed three full years by the end of our study.¹¹ The mean amount of time was 1.33 years completed for those who ever attended college.

We also looked at whether there was a relationship between persistence in college—whether a participant who enrolled in college and stayed in college vs. dropping out—and grade point average (GPA). Participants who stayed in college did indeed have a higher GPA on average than participants who dropped out, an indication that one reason for dropping out may be doing poorly in classes. Figure 2 demonstrates this relationship; the box and line on the left indicate the range (lowest to highest GPA), the mean (the line in the middle of the box), and the 25% percentile (bottom of the box) and the 75% percentile (top of the

¹¹ Reminder: To be fair between the cohort who attended the transition course in fall 2007 and the cohort who attended in spring 2008, we cut off data for the 2007 cohort at 9/1/11 and for the 2008 cohort at 12/31/11.

box) of those who ever enrolled by dropped out: the GPA ranged from 0 to 4.0; their GPA mean was below 2.5; and the 25% percentile was about 1.8 and 75% percentile around 3.3. The box on the right, representing those participants who enrolled in college and either stayed in college or stopped out and returned by the end of the study, indicates a GPA range from 2.5 to 4.0; a GPA mean of around 3.0; and the 25% percentile was 2.5 and 75% percentile around 3.5.)

Figure 2: Relationship between GPA and Persistence in College (n=126)



Measures of Success

Participant reached “tipping point momentum” (accumulated at least 30 transferrable college credits): Here we are counting just the college credits earned after participating in the ABE-to-College transition course. Out of the 220 participants for whom we have data, 47 (21.4%) actually achieved this “tipping point momentum” by September or December of 2011. **Thus, out of the 138 participants who ever attended college at any point during the study, one third (34%) of college-attending participants acquired 30 transferable college credits).** Of the 47 participants who attained at least 30 college credits, 34 of them actually earned at least 45 credits.

However, over 1/3 of our participants had already attended some college and dropped out, before attending the ABE-to-College Transition Course in fall 2007 or spring 2008. Out of the 138 ATLAS participants who ever attended college after the transition program (2007 or 2008), 38 (27.5%) had acquired previous college credits that were transferred to their new post-transition course college. The largest majority—22 out of the 38—transferred only 3 credits, indicating that most had only attended college long enough to minimal credits. However, at least three participants had acquired more than 20 college credits from before they took the transition course, leading one to wonder what they had hoped to get out of the transition course, if they already had successfully completed 5 or more college classes. Nevertheless, when we factor in information on previous college credit earned and transferred to the participants’ post-transition course college transcripts, we found that the number of ATLAS participants who reached the tipping point momentum actually climbs from 47 to 51; the number who completed 14 or less climbs from 52 to 55 but the number who completed between 15 and 29 dropped from 26 to 22.

Total number of transferrable college credits acquired¹²: Out of the 220 participants for whom we have data, **95 (43%) never attained any transferable (non-developmental) college credits; this includes 13 who enrolled in college but never acquired even 3 transferrable credits.** The mean for the ATLAS participants as a whole (n=220) was 15.78 (s.d.=22.9), with the range from 0 credits to 106 total credits.

Of the 138 participants who ever attended college, the mean number of credits attained was 25.15 (s.d.=24.5). The mean number of credits attempted (n=132) was 34.5, an indication of the dropout rate from courses (about 1/3 of courses attempted, on average, resulted in dropping out). The mean number of credits attained to credits attempted was .64, meaning that, overall, ATLAS participants who ever enrolled achieved not quite 2/3 of a credit for every credit they attempted.

¹² Again, remember that these are college credits that ATLAS participants earned AFTER participating in the fall 2007 or spring 2008 ABE-to-College Transition course. In other words, these figures do NOT include any college credit that some participants may have acquired from attending college previous to participating in the transition course in 2007 or 2008, when we first met them.

Of the 125 who did achieve some credit, 52 (23%) earned 14 credits or less; 26 (12%) earned between 15 and 29 credits; 13 (6%) earned between 30 and 44 credits; and 34 (16%) earned at least 45 credits.

Educational Trajectories

It is the goal of ABE-to-College transition programs to help participants gain the academic skills they need to skip altogether or reduce the number of developmental courses they need to take in college. There is increasing concern in the college transition field that students—especially non-traditional students—are getting “stuck” in developmental education courses, where they receive no credit, and then dropping out of college having acquired few or no for-credit courses. Not all community colleges (where most of the ABE-to-College students first enroll) require students to actually take the developmental course(s) to which they are referred, but at some college, students are required to do so. Bailey, Jeong, & Cho (2010), in a study of over 250,000 community college students, found that only half of the students referred to a series (sequence) of remedial courses in college actually completed the sequence. In addition, “only 20% of those referred to math and 40% of those referred to reading [developmental education courses] complete a gatekeeper¹³ course within three years of initial enrollment” (p. 267). However, many students in the sample ignored the requirement or advice to take a developmental education class in math or reading, and 72% of those who took a “gatekeeper” course directly actually passed the course, compared with only 27% of those who took a developmental education in that subject first. In other words, according to Bailey, Jeong and Cho, “the developmental education obstacle course creates barriers to student progress that outweigh the benefits of the additional learning that might accrue to those who enroll in remediation (2010, p. 261).

In order for the reader to better understand the diverse nature of our participants’ educational trajectories, we chose a subset of our overall sample for whom to create visual depictions of their paths through college. We primarily made this selection by drawing on our two subsample groups: those who participated in either the yearly qualitative audio interview or the one-time educational life history. There were 13 life history participants and 21 audio subsample participants who completed the full Year 4 survey. Out of that group, 15 people never enrolled in college at any point during the study. One more participant did not release her college transcript to us. This left us with 18 individuals who had participated in some additional qualitative component of the ATLAS study. After reviewing the different educational details of those students, we decided to depict the college trajectories of three additional participants. This selection was not made randomly;

¹³ A gatekeeper course is a credit-bearing class required for either math or reading before one can graduate.

rather, it was done with the express purpose of representing those trajectories that had not yet been portrayed by anyone in the subsample population. The three participants who were not part of either subsample group will be denoted below.

The following visual depictions of participants' educational trajectories use the key below:

Key:		Completed at least one class
	N/A	Not applicable: summer session
		Dropped out before semester ended

One aspect of the visual depictions that should be noted is that they are designed to represent **participants' enrollment and persistence in college, not their success in college**. We do provide some details on the participants' success in school, such as their credits attained and their overall GPA. However, the main focus here is on their attendance. The solid dark grey box indicates that the participant was enrolled in school and completed at least one class (or, if regarding the transition program, that they completed that program). This does not mean that they earned any college credits; it simply means that the participant was still attending school at the conclusion of the semester. It is possible that a student completed a semester but earned all F's, thereby earning zero credits. However, we distinguished between a participant who dropped out of all classes prior to the semester's end (denoted with the black and white dotted box) and who therefore received a W (withdrew) or an L (left) for all classes and one who continued attending classes but failed to earn a passing grade. The latter participant persisted in college even if he or she did not succeed. The lighter grey box marked with N/A is meant to show that the participant did not attend college for this term; it was a summer session and we therefore did not count this absence as non-continuous attendance. Some participants never attended summer classes whereas others attended many summer terms; however, we considered that enrollment during this period was a bonus semester and did not consider it mandatory for the participant to be seen as having been continuously enrolled in college. Therefore, we did not want the reader to interpret such gaps as evidence of sporadic college enrollment.

There are two differences between the visual educational trajectories and the way we used participants' data for analysis. First, in the data analysis, we cut off the data collection for college attainment at 9/1/2011 for participants who attended the transition-to-college program in the fall of 2007 (see *Methodology* section for further details). Nonetheless, we chose to include participants' college enrollment during this final semester here, for illustrative purposes only. Second, in the charts below, we provide participants' credit attainment by semester so that the reader has an idea of the students' course load and of

their ultimate success in passing those classes (with a D- or higher) each term. However, it should not be assumed that those non-developmental credits depicted may be added up to provide the students' overall college credit total. In fact, some students repeated coursework, either in order to improve their overall GPA or to better learn the class material before moving on to a subsequent course. In the data analysis, we accounted for those repeated classes and therefore certain students attained lower credit totals than they actually earned on a semester-by-semester basis.

The details for each participant may be seen in the pages below:

A

GPA: 2.357	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college			N/A	12/13	9/9	N/A	3/3	3/3	N/A	3/3			
Credit-bearing courses in college			N/A		4/4	N/A	9/9	9/9	N/A	9/9	12/12	N/A	12/12

As seen in the chart above, **A** attended her transition-to-college program in the spring of 2008 and then enrolled in college at the University of Maine, Orono (UM) in the fall of 2008. She was continuously enrolled in college throughout the remainder of the study, with a cumulative GPA of 2.357. Although she only ever failed one class, LC repeated four additional classes. **A** took a large number of developmental courses; in fact, she participated in a special program at UM called *Onward*¹⁴ that helps students to effectively transition into college so that they may go on to successfully attain a four-year degree. We had several other participants who also participated in this program. **A** was still enrolled in college by the end of our study, working towards a degree in history with 49 credits and 7 semesters completed so far.

¹⁴ <http://umaine.edu/onward>

B

GPA: 3.809	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college			N/A	13/13	11/15	7/7	14/14	17/17	3/6	12/12	17/17	3/3	

B attended her transition program in the spring of 2008. She then enrolled in college at the University of Maine, Augusta in the fall of 2008. **B** was continuously enrolled in college until the fall of 2011, when she withdrew from all six of her classes. In fact, **B** returned to school in the spring 2012, but since we had to cut-off the data collection for all participants at an equal point, she would technically be considered a college dropout for the purposes of the college trajectory variable. However, she was a high scorer for the persistence and success variables, and having completed 9 semesters and 97 credits by the end of the study, she is well on her way towards attaining her BA in Animal and Veterinary Sciences. Although she withdrew from a number of classes, **B** maintained the very high cumulative GPA of 3.809, never earning lower than a B- on any course.

C

GPA: 3.891	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college									3/3	4/4	4/4		

C enrolled in her transition program in the spring of 2008 and, although she did not enter college until the summer of 2010, this was primarily due to circumstances beyond her control. Soon after the transition course ended, she and her husband lost everything in a fire in their apartment building. Unluckily, they did not have renter's insurance and so were left with very few possessions. However, both **C** and her husband took on extra hours at work and were ultimately able to invest in a building that was in foreclosure. They are now the landlords of several different properties, all fully occupied, which they have repaired

and improved before putting on the market. Once she got her life back together, **C** enrolled in college at Manchester Community College in New Hampshire, earning 11 credits with a 3.891 GPA. She then took a break to give birth to her first child. Although for the purposes of our study we had to count her college trajectory as having dropped out of school, in fact **C** applied to a competitive nursing program at Nashua Community College and was accepted there on her first attempt. She enrolled there in the summer of 2012 and was still attending school the last time we spoke to her.

D

D GPA: 2.0	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college				6/6	3/6	N/A	3/6						

D completed her transition course in the fall of 2007. Nine months later, she enrolled in college at the University of Maine, Augusta (UMA), hoping to attain an associate's degree in Mental Health and Human Services. Although she performed well in the classes she completed, earning all A's and B's, she stopped attending several courses but failed to officially withdraw. Therefore, she received an L for those classes, including during her final semester in the spring of 2010, a mark equivalent to an F (0.0) that brought down her overall GPA. She later confessed to having relapsed in her struggle with substance abuse problems, a difficulty that ultimately landed her in prison for the second time in her life. At our last contact, she was serving a one-year sentence but feeling very optimistic about her ability to turn her life around once released. **D** had completed a total of 3 semesters and 12 credits, with a cumulative GPA of 2.0.

E

E GPA: 3.286	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college							3/3	3/3					
Credit-bearing courses in college									N/A	6/6	3/6	N/A	6/6

E attended her transition program in the fall of 2007, but she dropped out of the course before it ended. She then waited several years to enroll in college, because she had two young children and could not afford childcare for both of them. Once her oldest child entered kindergarten, she enrolled in college at the University of Maine, Augusta (UMA) with the goal of becoming a nurse. She began her coursework with two developmental math courses and then moved on to taking for-credit courses in liberal arts and pre-requisite nursing courses. At last contact, **E** had earned 9 credits over the course of five semesters, with a cumulative GPA of 3.286. She was still enrolled in college, hoping to be taken off the waitlist for the nursing program, which at UMA often takes three years or longer.

F

F GPA: 2.929	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college		3/3	N/A	3/3	3/3	3/3				3/3			
Credit-bearing courses in college			N/A	3/3	3/3	3/3	6/6		3/3		3/3		4/4

F completed the college transition program in the fall of 2007 and then began attending Manchester Community College (in Connecticut) the following semester, enrolling in a developmental reading and writing course. After taking the summer off, she enrolled in both developmental and credit-bearing courses for the next three semesters. She continued advancing, taking credit-bearing courses only beginning in the fall of 2009. **F** did return to developmental education in the fall semester of 2010 in order to re-take one class in which she had received a low mark. Unfortunately, she received an even lower grade during her second attempt. In addition to repeating a few classes due to unsatisfactory (but not failing) grades, she also withdrew from two classes: one in spring 2010 and the other in summer 2011. However, **F** was persistent in her college effort, completing 9 semesters and earning 21 credits with a GPA of 2.929 by the end of our study. By taking one or two classes each term, **F** hoped to successfully complete the math and medical prerequisite courses and be accepted into the nursing program; if she failed in this attempt, she planned to earn a degree in surgical technology instead.

G

GPA: 1.00	Fall 200 7	Spr 200 8	Sum 200 8	Fall 200 8	Spr 200 9	Sum 200 9	Fall 200 9	Spr 201 0	Sum 201 0	Fall 201 0	Spr 201 1	Sum 201 1	Fall 201 1
Transition program													
Development al education in college													
Credit- bearing courses in college							3/6						

G dropped out of the transition course in which he had enrolled in the fall of 2007 due to employment and logistical difficulties. He had lost his job as a dishwasher and could not afford transportation to class. Then, he moved out of state in an attempt to find work. He took a long break from his academic pursuits as he struggled to obtain employment. Eventually, he enrolled in Indian River State College, hoping that a degree would help put him on the path to finding a good job. Sadly, **G** struggled considerably in the two classes he enrolled in, withdrawing from one and earning a D in the other. He reported that as he could not afford to buy the books for classes, he had checked them out of the library. Unfortunately, the primary book used for his accounting class proved to be an earlier edition than the one assigned by the instructor, and so **G** performed poorly on the tests and quizzes. He realized the difference in the book early on in the term, but could not seem to remedy the situation. Furthermore, **G** was struggling with ongoing depression since losing his job in 2007. His difficulty in school seemed to exacerbate the situation, and he withdrew from college at the conclusion of the semester, having earned a total of three credits with a cumulative GPA of 1.0. Although he passed the majority of the years of the ATLAS study without finding work, in the last survey, **G** said that he had found a few short-term odd jobs. He reported that he was saving up money so that he could return to college one day in the future.

H

GPA: 2.910	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college		6/9	3/3	9/9	9/9	3/3	3/9		3/3	6/6			6/6

H completed the transition-to-college course in the fall of 2007 and then enrolled at Manchester Community College (in Connecticut) in the spring of 2008. She never took any developmental classes, diving right into coursework in criminal justice and for-credit prerequisites. **H** was not continuously enrolled in college; she took off the spring 2010, spring 2011, and summer 2011 semesters. For several years during our study, **H** held an excellent job as a full-time clerk in the local public defender's office, which she attained at the beginning of her college career. Unfortunately, in the spring of 2011 she was laid off from this position. This impacted her ability to go to school, and although she completed two classes in the fall of 2011, she was not enrolled in any courses in the spring of 2012 when her transcript was solicited. Nevertheless, **H** was very successful in her college efforts during the time period of our study, earning 48 college credits with a GPA of 2.910. It seems probable that she will in fact finish her degree, possibly as soon as her employment situation was worked out.

I

GPA: 2.583	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college		3/3	N/A	3/3									
Credit-bearing courses in college		3/3	N/A	3/3									

I attended and completed the transition program in the fall of 2007. Subsequently, he enrolled in school at Manchester Community College (in Connecticut) and completed two semesters in 2008. Since he took one developmental course and one for-credit course each semester, he earned a total of six credits with a cumulative GPA of 2.583 before dropping

out of college. **I** explained that while attending college was still a goal for him, he had to put his own education on the backburner in order to support his family's needs. His high-school aged children had decided to switch to night classes and **I** had to drive them to and from classes every evening in addition to working full-time during the day. Therefore, he stated in his final ATLAS survey that he was hoping to re-enroll in college after his kids finished their own schooling.

J

GPA: 3.136	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college										6/9	10/10		3/6

J dropped out of the transition program in the fall of 2007 for a variety of reasons, including the fact that she felt that the course was too easy and not as useful as she had hoped it would be. After taking a break from further schooling due to family problems, she enrolled in the Year Up¹⁵ program at the end of the second year of our study. She reported that this program was extremely helpful to her and credited it with making a big difference in her life. After completing the one-year program, she enrolled at the University of Massachusetts Boston as a management major in the fall of 2010. By the end of our study, she had earned a total of 16 credits with a cumulative GPA of 3.136 and was still enrolled. In addition to furthering her educational goals and providing her with a valuable mentorship program, Year Up helped **J** to obtain a lucrative job as a fund accountant, which she had held for over two years by the conclusion of our study.

¹⁵ <http://www.yearup.org/about/main.php?page=program>

K

GPA: 1.066	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college				9/12									

K attended a transition-to-college program in the fall of 2007 and began attending college one year later. She enrolled in classes through the Hutchinson Center, part of the University of Maine system that allowed her to complete classes through several different campuses. She took some courses from the University of Maine, Augusta (UMA) and others from the University of Maine, Orono (UM). **K** completed nine credits during the fall semester in 2008, with a cumulative GPA of 1.066. Although she attended classes during the following semester, she dropped out before the term ended due to familial problems and personal issues, including substance abuse. In her final ATLAS survey, **K** stated that one day she would like return to college; however, she also explained that first she needed to find a job, get out of debt, and become more financially stable.

L

GPA: 3.580	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college		3/3	N/A	3/3									
Credit-bearing courses in college			N/A	3/3	9/9	N/A	6/6	6/6	N/A	6/6*			6/9

*Certificate Degree received on 6/4/11 in Medical Office Information Management

L completed the transition course in the fall of 2007 and enrolled in classes the following semester at Bunker Hill Community College. During her initial semesters in college, she took one math and then one writing developmental course; afterwards, **L** took only for-credit classes. She never enrolled in summer college classes, but we consider those terms optional since not all schools offer summer classes in all degree programs. Thus, **L** was

considered to have been continuously enrolled in college until she earned her certificate degree in Medical Office Information Management (30 credits). After taking an eight-month break from college, she re-enrolled at Bunker Hill in the fall of 2011. Her goal was to attain an Associate's Degree in the same field, and she was still successfully enrolled in college at last contact. **L** had completed seven semesters and attained 39 credits, with a cumulative GPA of 3.580. In addition to her college achievements, **L** had been enrolled in a bible study program for the past year and a half; her ultimate goal was to become a preacher, which is what she feels she was born to do.

M

GPA: 3.560	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college		6/6	3/3	11/11									

M completed the transition course in the fall of 2007 and enrolled in the speech language pathology assistant program at Nashua Community College the following semester. Despite facing some major health challenges during her third semester in college, she successfully completed all of the classes in which she enrolled. She earned a total of 20 credits in three semesters, with a cumulative GPA of 3.560. During the last several years, **M** had taken a break from college in order to raise three small children, two of whom were born since 2008. She was definite about wanting to re-enroll in college as soon as possible but felt she must wait until her youngest enrolls in kindergarten because she could not afford to pay for childcare.

N

GPA: 3.430	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college	TP(3)	3/3											
Credit-bearing courses in college		9/9	3/3	6/13	3/3	N/A	3/7						

N participated in Riral's transition program in Rhode Island in the fall of 2007. Part of this program's requirements entailed the entire class enrolling in a developmental reading course through the Community College of Rhode Island (CCRI), for which students received 3 non-transferrable college credits upon passing. **N** did well in this class, and then continued on at CCRI for a number of semesters, earning 3.430 GPA. She withdrew from a few classes due to being overwhelmed by her work, family, and school responsibilities, but doing so allowed her to maintain a high GPA. She then took a break from school for one year and re-enrolled at CCRI in the spring of 2011. Unfortunately, **N** had to withdraw from her class that term and had not yet returned to college when we last talked with her, although she was determined to do so eventually. During the period of our study, she went through a divorce and was caring for her son alone, while working full-time, without any family members or friends to support her.

O

GPA: 1.825	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college	TP									3/3	0/3	N/A	3/3
Credit-bearing courses in college		3/3			3/6	N/A	3/6			3/3	3/3	N/A	3/3

O successfully completed the transition program in the fall of 2007 and simultaneously completed a remedial reading course held through the Community College of Rhode Island (CCRI). This class was part of the transition program's curriculum, and therefore all of **O**'s classmates in the reading class were also enrolled with him in the transition course. Subsequently, **O** enrolled at CCRI in the spring of 2008, taking one developmental math class and one for-credit class. He withdrew from the developmental course before the semester ended but completed the other course and earned three credits that semester. He took the rest of the year off, but re-enrolled at CCRI in the spring of 2009 and attended for one year, passing some classes and withdrawing from or flunking the rest. Then, in 2010, **O** moved to Massachusetts and after a short time, he enrolled at Bunker Hill Community College in the fall of 2010. Although he failed one developmental math course again, his performance at Bunker Hill was much more consistent overall. At last contact, **O** had attained 18 credits and completed six semesters, with a cumulative GPA of 1.825. In his final survey, **O** discussed his hope of getting into the radiology technician program at Bunker Hill after he finished his prerequisite courses. He also described his goal of becoming a truck driver in order to earn a better living while he worked through college.

He was still enrolled in college when we last spoke to him; in that semester, he was working his way through another attempt at passing developmental algebra.

P

GPA: 1.880	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college								0/3					
Credit-bearing courses in college	TP							5/5					

P participated in the transition program in 2007 and, as part of the transition program's curriculum, he simultaneously enrolled (along with his transition class) in a three-credit computer course at Cape Cod Community College (CCCC). He performed well in the program, successfully completing it and earning an A in the computer course. **P** did not immediately enroll in college; he reported difficulty obtaining financial aid, and he did not have the means to enroll in classes without this assistance. However, he was able to work through these problems with the help of transitions staff members, and he enrolled in two classes at CCCC in the spring of 2010: an emergency medicine technician (EMT) course and a developmental course. Although his overall GPA was lowered due to his poor performance in his remedial coursework, he earned good marks in his EMT class, resulting in a final total of five credits earned and a cumulative GPA of 1.880. Unfortunately, after completing the EMT course, **P** failed to find any work as an emergency medical technician, even after trying his luck in a new, larger city. Ultimately, he gave up on that career plan altogether. In his final ATLAS survey, **P** reported that he intended to return to school to seek a degree in computer network administration, a field in which he hoped to have more success finding a job.

Q

GPA: 4.00	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college		3/3	N/A	3/6									
Credit-bearing courses in college	TP	3/3	N/A										

Q attended the Cape Cod Community College (CCCC) transition program in 2007, in which students simultaneously enrolled (as a class) in a three-credit computer course as part of the transition program's curriculum. She did well in both, and subsequently enrolled in several other classes at CCCC beginning in the spring of 2008. She performed well in the majority of the classes she completed, but in the spring of 2009 she withdrew from all four of the classes in which she was enrolled. **Q** reported that, at the time, she was facing health challenges related to her pregnancy for which the college refused to accommodate her. Before she left, **Q** had attained three credits with a cumulative GPA of 4.0, however, she failed one developmental course that did not count towards her total GPA due to the peculiarities of the CCCC system. She hoped to return to college once her child was older in order to obtain a degree as a nurse or medical technician.

R

GPA: 3.0	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college		6/6											
Credit-bearing courses in college													

R enrolled in her transition program in fall 2008, and after completing the course she enrolled in two developmental education classes at Nashua Community College in the spring of 2008. She reported thoroughly enjoying school and earned a cumulative 3.0 GPA, successfully completing one semester at college; nevertheless, since the only classes she took were remedial, **R** was considered to have earned zero transferrable college credits.

Although she had to drop out of college due to a combination of health, family, and financial reasons, she still ardently hopes to be able to re-enroll in college someday soon. At last contact, she was residing in her home country of Canada where, because of government benefits, she would receive a free college education once she was ready to enroll in classes.

S

GPA: 2.604	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college				3/3	6/6	N/A	3/6	3/3	N/A				
Credit-bearing courses in college				3/3	6/6	N/A	7/7	6/9	N/A	9/9			

S is one of the three individuals included in this section who was not a subsample or life history participant. We elected to display her trajectory because she dropped out of her transition program in the spring of 2008 but chose to repeat the course later. In fact, **S** was pregnant during the first transition course and felt unable to fully participate midway through the term. After speaking with her teachers, she agreed to continue attending classes but did not complete any homework or tests for the remainder of the semester. After her baby was born, she re-enrolled in the same program in the summer of 2008 and this time successfully completed the course, after which she enrolled at the University of Maine, Augusta (UMA) in the fall of 2008. **S** took a mix of developmental and for-credit college courses during the majority of her time at UMA, earning a 2.604 GPA with a mix of B's, C's, and D's. Ultimately, she withdrew from all three classes in which she was enrolled in the spring of 2011, perhaps in part due to working 50+ hours per week, and had not returned to school by the last time we spoke with her. She had earned 31 credits to-date and hoped to complete a degree in Business Administration sometime in the future.

T

GPA: 3.021	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program			N/A										
Developmental education in college										3/3			
Credit-bearing courses in college								15/15	9/9	12/15	6/9	N/A	3/6

T is the second individual included in this section who was not a subsample or life history participant. We chose to display her trajectory because, although she completed her transition course in the spring of 2008, she elected to return to the program the following term it was offered, in the fall of 2008. She did so because she felt that her academic skills were not up to par and that she could benefit from continued developmental level academic courses. She may have made a wise choice, because after enrolling at Central Maine Community College in the spring of 2010, she only ever took one remedial course, Algebra I, in which she performed well. *T* was still enrolled in college when we last spoke with her, with 48 credits earned to-date towards her Associate Degree in Business and Computer Applications; she had a GPA of 3.021.

U

GPA: 3.980	Fall 2007	Spr 2008	Sum 2008	Fall 2008	Spr 2009	Sum 2009	Fall 2009	Spr 2010	Sum 2010	Fall 2010	Spr 2011	Sum 2011	Fall 2011
Transition program													
Developmental education in college													
Credit-bearing courses in college		16/16	N/A	16/16	13/13	3/3	12/12	13/13*	N/A	15/15	15/15	3/3	15/15

*Associate Degree received on 5/27/10, with double major in Foodservice Management and Hotel Tourism Management; graduated Summa Cum Laude.

U is the final participant included in this section who was not in either the subsample or life history group. We included her visual educational trajectory because she graduated from an Associate's Degree program before continuing on to a four-year college to pursue her Bachelor's Degree. *U* completed the transition program in the fall of 2007, and enrolled in college at Manchester Community College (in CT) the following semester. She never took

any developmental classes, instead plunging into full-time, for-credit coursework immediately upon enrollment. **U** did not take summer classes at MCC during her first summer there in 2008, but she did take one class during the summer of 2009. Since we consider the summer term to be an optional one, we consider **U** to have been continuously enrolled throughout her college career. **U** graduated from MCC in May 2010 with a cumulative GPA of 3.98, having earned 73 credits in just 6 terms. She graduated with honors as a double major in foodservice management and hotel tourism management. She enrolled the next fall in the University of Hartford's Barney School of Business as an accounting major. She was currently still enrolled in college when we last spoke to her but was close to graduating with a Bachelor's degree, as she already had 114 credits. She still had a cumulative GPA of 3.98.

Analysis of Trajectories

From these trajectory "profiles", we can see a wide range of pathways into and through college, and these fall into four categories:

1. **Credit-course students:** Participants who enrolled in college and took no developmental education courses;
2. **Transitioners from developmental education to credit-course students:** Those who started with developmental education classes and then transitioned into only credit courses.
3. **Mixed credit and developmental education students:** Participants who enrolled in college and took several developmental education classes periodically while also taking credit-bearing courses;
4. **Predominantly developmental education students:** Participants who enrolled in college and took multiple developmental education courses.

Since the first two trajectories are the goal of ABE-to-College transition programs, it is heartening to see that seven out of the 21 profiled participants (**B, C, D, H, M, T, and U**) started college by taking credit-bearing courses, and all of these participants completed the transition program. Another three (**G, J, and K**), however, took the same path but did not fare as well, acquiring some credits but also failing courses and sometimes dropping out of a semester; two of these three did not complete the transition course. Three participants (**E, L, and N**) transitioned from developmental education courses into credit-bearing courses after a short time, also a good outcome. Two participants (**Q and R**) took mostly developmental education courses and ended up dropping out of college (although both indicated family or health reasons). These are the pathways that practitioners either hope or fear that many non-traditional students will take.

It is interesting to see, however, that six of our 21 profiled participants (**A, I, F, O, P, and S**) followed a mixed developmental education and credit-bearing course path once enrolled in

college. These participants took developmental education while also taking credit-bearing courses over one or more semesters, sometimes coming back to take only a developmental education course and then a credit-bearing course. In other words, they acquired some college credits while concurrently taking developmental education class as well. Some persisted using this pattern, while others dropped out. Although this is qualitative data with a small sample, we feel this sheds new light on the trajectories of non-traditional students, in that not all those who attend a transition course succeed in reaching the credit-bearing phase of college, and that some who attend end up taking a mix of credit- and non-credit bearing courses, sometimes over many semesters.

However, it is important to note that taking a mix of developmental education and credit-bearing college courses may not have, in some cases, been intentional: there is evidence from interviews with participants that at some proportion of ATLAS participants were not aware of whether the courses they were taking were developmental education or not. Thus, a “mix” of developmental education and credit-bearing courses could have been a mistake, either through lack of knowledge about the nature of the courses they were taking or through inadequate advising from college personnel. It is possible that some ATLAS participants did not know until finishing their classes, and sometimes not even then, that they had taken a developmental education class. All we know is that there is a group of participants who do take a mix of courses either at the beginning or throughout their time in college.

Without a control group, we cannot say whether the transition course “made a difference” in these trajectories. Indeed, 18 of the 21 profiled participants completed the course, and they fall across all four trajectory categories. However, from the regression analyses, we know that completing the transition course was significantly and positively related to enrollment-related college outcomes, including earning three college credits, enrolling within one year, and overall college trajectory, yet completing the transition course was not significantly related to success or persistence outcomes once in college.

Factors affecting enrollment, persistence and success

We established a set of hypotheses, based on the existing research in 2007 and on the professional wisdom of transition program staff and technical assistants (e.g., World Education staff members), about the **factors** that would play a role in whether adult students (after participating in the transition course) would enroll, persist and succeed in college.

The specific hypotheses related to factors influence enrollment, persistence and success outcomes include:

1. Participants' goals and motivations: type of motivation, strength of motivation, financial motivation, college and career goals;
2. Participants' individual characteristics—cognitive, non-cognitive and demographic;
3. Supports in participants' lives—people, transition program, and college; and
4. Obstacles in participants' lives—health, academic, familial, financial, logistical, college culture, work-related.

The full set of hypotheses are presented in Table 11 on the next three pages:

Table 11: Specific Hypotheses Tested in the ATLAS Study

Hypothesized Factor	Category	Hypotheses
Goals and Motivation	Type of Motivation	<ul style="list-style-type: none"> Participants with material motivations for college will be more likely to enroll, persist, and succeed in college.
	Strength of Motivation	<ul style="list-style-type: none"> Participants with stronger overall motivation will be more likely to enroll, persist and succeed in college.
	Financial Motivation	<ul style="list-style-type: none"> Participants with experience in lower-paying jobs at the beginning of the study will be more likely to enroll, persist, and succeed in college. Participants who are the major “breadwinner” in household—where the participant feels the family relies more on his/her income—will be more likely to enroll, persist, and succeed in college.
	College and Career Goals	<ul style="list-style-type: none"> Participants who are unsatisfied in their jobs will be more likely to enroll, persist and succeed in college Participants whose career goals are easier to achieve relative to their current employment experience will be more likely to enroll, persist and succeed in college. Participants who college degree goals are easier to achieve (shorter time to graduation) will be more likely to enroll, persist and succeed in college.
Individual characteristics	Cognitive factors	<ul style="list-style-type: none"> Participants with higher literacy or academic skills will be more likely to enroll, persist and succeed in college Participants with an academic learning disability will be less likely to enroll, persist and succeed in college
	Non-cognitive factors	<ul style="list-style-type: none"> Participants who are more hopeful and positive (according to the Hope Herth index) will be more likely to enroll, persist and succeed in college. Participants with greater general self-efficacy (as gauged by the New General Self-Efficacy scale) will be more likely to enroll, persist and succeed in college. Participants who get less easily discouraged, who feel more confident, and who feel more capable of leadership will be more likely to enroll, persist and succeed in college. Participants who can list more goals with greater specificity and who more clearly describe strategies to attain their goals will be more likely to enroll, persist and succeed in college. Participants with better time management or planning tendencies/skills will be more likely to enroll, persist and succeed in college Participants with knowledge of careers and planning abilities to obtain those careers will be more likely to enroll, persist and succeed in college

Hypothesized Factor	Category	Hypotheses
	Demographic factors	<ul style="list-style-type: none"> • Participants who are younger will be more likely to enroll, persist and succeed in college. • Participants who immigrated to the United States from another country will be more likely to enroll, persist, and succeed in college • Participants with either older children or no children will be more likely to enroll, persist and succeed in college. • Participants whose household income is higher will be more likely to enroll, persist, and succeed in college.
Supports	Support from People	<ul style="list-style-type: none"> • Participants with a greater breadth of people who provide support (family and friends, college transitions students and/or staff, work colleagues, neighbors and community members, college instructors or colleagues) will be more likely to enroll, persist and succeed in college. • Participants who have an overall greater number of people in their lives to support them will be more likely to enroll, persist and succeed in college. • Participants who get assistance with a greater number of tasks will be more likely to enroll, persist and succeed in college. • Participants who get assistance with a greater number and breadth of support types (logistical, emotional, academic, financial, and informational or connectional) will be more likely to enroll, persist and succeed in college. • Participants who receive more active support (help with material, money, time, energy) than passive support will be more likely to enroll, persist, and succeed in college, and participants who receive more passive support (encouragement, moral support) will be more likely to enroll, persist and succeed in college than participants who receive no support at all. • Participants whose parents attended college will be more likely to enroll, persist and succeed in college. • Participants with stronger social capital will be more likely to enroll, persist, and succeed in college. • Participants who receive more support specifically related to or while in college will be more likely to persist and succeed in college. • Participants who are more actively engaged in college or academic activities while in college will be more likely to enroll, persist and succeed in college. • Participants who receive financial aid to help with college costs will be more likely to enroll, persist and succeed.
	Support from Transition Program	<ul style="list-style-type: none"> • Participants who attended ABE-to-College transition programs that provide a career exploration component will be more likely to enroll, persist and succeed in college. • Participants who attended ABE-to-College transition programs that

Hypothesized Factor	Category	Hypotheses
Supports		<p>have a closer connection with (i.e., being housed in) a community college will be more likely to enroll, persist and succeed in college.</p> <ul style="list-style-type: none"> Participants who attended ABE-to-College transition programs with higher completion rates (ratio of completers to dropouts was higher) will be more likely to enroll, persist and succeed in college. Participants who attended the transition program for more hours and completed the program will be more likely to enroll, persist and succeed in college.
	Support from College	<ul style="list-style-type: none"> Participants who receive financial aid to help with college costs will be more likely to enroll, persist and succeed. Participants who receive more support specifically related to or while in college will be more likely to persist and succeed in college. Participants who are more actively engaged in college or academic activities while in college will be more likely to enroll, persist and succeed in college.
Obstacles	Overall	<ul style="list-style-type: none"> Participants who report fewer obstacles (overall) will be more likely to enroll, persist, and succeed in college.
	Health	<ul style="list-style-type: none"> Participants who report fewer health obstacles beginning year 1 and during the course of the study will be more likely to enroll, persist, and succeed in college.
	Academic	<ul style="list-style-type: none"> Participants who report fewer academic obstacles beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.
	Familial	<ul style="list-style-type: none"> Participants who report fewer family-related obstacles beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.
	Financial	<ul style="list-style-type: none"> Participants who report fewer financial obstacles for self or family beginning year 1 and continuing throughout the study will be more likely to enroll persist and succeed in college.
	Logistical	<ul style="list-style-type: none"> Participants who report fewer logistical obstacles (transportation, moving, scheduling, etc.) beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college
	College Culture	<ul style="list-style-type: none"> Participants who report fewer obstacles to understanding or fitting into college beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.
	Work-related	<ul style="list-style-type: none"> Participants who report fewer obstacles managing job schedules and work demands beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college. Participants who do not work full-time will be more likely to enroll, persist, and succeed in college.

As a reminder of our statistical analysis plan, we controlled for the following variables in the analyses, based on existing previous research on the importance of particular factors in adult students' enrollment, persistence and success in post-secondary education.

For hypothesis testing of factors against **enrollment outcomes**, we controlled for:

- a. Literacy skills as gauged by the TALS document literacy assessment;
- b. Completion of the transition program;
- c. Being a single parent;
- d. Composite score for Support factors;
- e. Composite score for Obstacle factors;
- f. Age;
- g. Parents' enrollment in college; and
- h. Type of high school diploma earned (GED or high school)

For hypothesis testing of factors against **persistence or success outcomes**, we controlled for:

- a. Completion of the transition program;
- b. Having children;
- c. Marital status;
- d. Support factors;
- e. Hindering factors;
- f. Age;
- g. Country of birth; and
- h. Type of high school diploma.

Thus, the reader should remember that, when considering the statistical findings in the sections below, each hypothesis has been tested while controlling for the above covariates, depending on the type of dependent variable against which the hypothesis was tested.

With this information as background, we now present the data and findings related to each of these hypotheses below, followed by presentation of other significant factors that emerged strongly as predictors of college enrollment, persistence and success.

Hypotheses related to Goals and Motivations

Table 12 below shows the independent variables we used in the analyses to test hypotheses related to motivations and goals. Unless specifically noted as otherwise, we designed all variables to be tested with both a baseline version and an All Years version.

Table 12: Variables Related to Motivations and Goals

	Independent Variable	Range
Motivation	Motivation	composite score
	Part of composite: "My own motivation" is a help, Year 1	Yes or No
	Part of composite: Participated in self-study prior to Year 1	Yes or No
	Part of composite: Participated in reading/writing study on own prior to Year 1	Yes or No
	Material Motivation	primary motivation
		not primary motivation
	Identity Motivation	not primary motivation
		primary motivation
	Internal Fulfillment Motivation	not primary motivation
		primary motivation
	External Fulfillment Motivation	not primary motivation
		primary motivation
Material Goals	Lower paid job, in year 1	1=Less than \$250, 7=\$1500 or more
	Personal Income (All Years)	continuous (average)
	Hours working per week	continuous
	Job Satisfaction	composite score
	Part of composite: Job satisfaction	1=Very unsatisfied, 4=Very satisfied
	Part of composite: Opportunities for promotion or raise	Yes or No/Don't Know
	Part of composite: Ability to find a new job	1=Very unlikely, 4=Very likely
	Household Income	1= Less than \$5000, 7= Over 80,000
	Family reliance on income	1= Very little, 5=Very much
Career Goals	Career Planning Composite	composite score
	Difference between current job & ideal job hierarchy codes (Year 1)	continuous

	Independent Variable	Range
	Difference between current job & ideal job hierarchy codes, (All Years)	continuous
	Difference between current job Year 1 & ideal job Year 4 hierarchy codes	continuous
	Ideal job hierarchy code (All Years)	continuous

In the sections below, we present the description of each variable and the results of the analysis.

Type of Motivation

Hypothesis: Type of Motivation

Participants with material motivations for college will be more likely to enroll, persist, and succeed in college.

Description of the variables *Material Motivation*, *Identity Motivation*, and

***External/Internal Fulfillment Motivation*:** After the first two waves of data collection, we decided to add a specific question aimed uncovering participants' own assessment of their motivation to go to college. The data that we used to code participants' motivation type was drawn from three questions, all from the Year 3 survey:

1. When you joined the Transition program, which ONE of the following best described your motivation to go to or be in college?
2. NOW, which ONE of the following best describes your motivation to go to or be in college?
3. Which ONE of the following best expresses why you want to get that [ideal] job?

Answers such as "make more money," or "earn a better salary" were coded as *Material Motivation*. The variable *Identity Motivation* was drawn from answers like: "wanted to be a college graduate," or "it's who I see myself as being." Answers along the lines of "wanted to prove to myself that I could do it," or "get a job/career that I would like to do or is my passion" composed the *Internal Fulfillment Motivation* construct. Finally, *External Fulfillment Motivation* was made up of answers such as "be a role model for others," or "others would like me to get that job."

Since participants only had three opportunities to make statements about their underlying motivation type, we identified participants' strongest motivation type by seeing if they had at least two points assigned to a given construct. These motivation type variables were then analyzed individually (rather than contrasted against each other) to see which type of motivation was most strongly related to college outcomes. The reason for this analysis strategy is that we were interested in whether any of the motivation types were related to

college outcomes, not in whether one motivation type drove participants to be more motivated overall than another type. Moreover, even if we had been interested in the latter question, we did not feel that we had sufficient breadth in our data collection for these variables to properly contrast them.

Table 13: Results for Participants' Main Motivation for College

Motivation Classification for participants	N = 189	%
Internal Fulfillment Motivation	117	61.9
Motivation was spread across multiple constructs	31	16.4
Material Motivation	24	12.7
Identity Motivation	10	5.3
External Fulfillment Motivation	7	3.7

The majority of participants for whom we had information identified as being primarily motivated by a need for internal fulfillment. This type of motivation was not found to be statistically significant for any college outcome tested.

Only 24 out of 189 participants were classified as being primarily motivated by material factors (according to their answers); this type of motivation was also not statistically significant for any college outcome tested.

External fulfillment as a primary motivator was limited to only 7 out of 189 participants and was not statistically significant for any college outcome tested.

Students who were primarily motivated by an identity goal—wanting to be an educated person or seeing themselves as a college graduate (10 out of 189 participants)—were more likely to have earned **fewer credits** by the conclusion of the study ($b = -22.808$, $p = .024$; partial $r = -.213$, $n = 138$). Participants who answered in the affirmative to at least two of three identity motivation questions ultimately earned between 0-24 credits by the conclusion of the study, with a mean of 11.29 and a median of 12 credits, whereas the remaining college-bound participants earned credits ranging from 0-106 with a mean of 28.3 and a median of 21 credits.

Although the directionality of this outcome is a surprising finding, it is dangerous to infer much from this result due to the extremely small sample of participants who identified identity factors as their primary motivator ($n = 10$). Furthermore, since participants were not asked about their motivation types until Year 3 of the study, it is possible that there had already been a shift in motivation between those who had already begun attending college and those who were yet to do so.

Overall, we were unimpressed with the outcome of these analyses. Asking these questions, and defining them in the way we did, was an experiment, and so therefore it may just be that this question, in a survey, was not sufficient to get at individual motivation type, or that we did not have a sufficient amount of data collected to accurately identify participants' primary motivation to go to college.

Strength of Motivation

Hypothesis: Strength of motivation

Participants with stronger overall motivation will be more likely to enroll, persist and succeed in college.

Description of the variable *Motivation (Goal Strength)*: Crafting the *Motivation* variable was extremely problematic, as it is a subjective idea that is difficult to quantify. If one asks Person A and Person B to rate their motivation level on a scale of 1 to 5 and they choose the same number, does this actually mean that their motivation is the same? It is unlikely to be so, because each person interprets motivation a little differently. Nonetheless, motivation is likely vital to participants' success in college. Why is it that some participants will feel that it is impossible to go college while working a full-time job and being a parent of two young children, whereas other participants in the exact same situation insist that going to college is too important to delay? Although we do expect participants' supports, obstacles, and individual characteristics to play a role in participants' decision making, we also felt that motivation was the underlying subtext for many such decisions. Ultimately, we chose not to use participants' self-report as our main measure, but rather to come up with a few proxy measures that would help to paint a more complete picture.

The first way that we looked at the *Motivation* hypothesis was to create a composite measure that relied slightly less on opinion and more on participants' action. We did use one subjective question from the Year 1 survey: *My own motivation makes it possible for me to attend the college prep program? (A: yes or no)*. Out of 227 participants, 40 replied *no* to that question (17.6 percent). We considered that if participants could not answer *yes* to such a simple question, indeed they must perceive themselves to have low motivation in comparison to what they felt would have been helpful to furthering their academic achievements. However, these participants also may have been more honest or self-critical with themselves than the other remaining 82.4 percent of respondents. Thus, we cannot assume that participants who answered *yes* were genuinely motivated. Therefore, we added two more objective items to the composite:

1. Whether or not the participant engaged in self-study of any topic in the year prior to enrolling in the transition program, and;
2. Whether or not the participant studied reading or writing on his or her own in the year before beginning the transition course.

Participants did not have to engage in self-study of an academic topic such as computer skills for it to be counted toward their motivation score. A few examples of valid entries included learning to repair bathroom tiling and improving parenting skills. Participants were asked to report their manner of studying said topic, and we did afford a great deal of leniency in coding those entries. However, if their responses were extremely suspect of not being valid self-study topics, then we did not give them credit for their answer. For example, the participant who reported studying “how to better talk to people” and explained that he did so via every single manner of self-study listed on our survey including web research, a correspondence course, mentor/tutor, books, audio materials, visual materials, and “talking to people” would not have been given credit for this self-study. The following tables provide descriptive statistics about self-reported motivation and self-study.

Table 14: Self-reported Motivation and Self-Study

Year 1: What helps make it possible for you to attend the college prep program? A: My own motivation	N = 227	%
Yes	187	82.4
No	40	17.6

Year 1: Have you studied/practiced <u>on your own</u> in the past year to improve your reading, writing or math skills?	N = 227	%
Yes	128	56.4
No	99	43.6

Year 1: In the past 12 months, other than the college prep course, have you set out to learn anything on your own?	N = 227	%
Yes	97	42.7
No/Don't Know	130	57.3

We also considered that for the motivation construct, an external assessment of the participants’ motivation may well be the best measure, for which we could look to the *Transition program staff teacher rating: motivation* score, where program staff, at the conclusion of the transition course were asked to: *Please rank this student for motivation compared with other students in your program*. It is a rough and secondhand measure, and we only have those ratings for participants who completed the college transition program, who thereby potentially already demonstrated heightened motivation in comparison to their peers who dropped out of the course. Furthermore, it is a subjective measure that was

often based upon the opinion of one staff member, whose relationship with each student in question may subconsciously influence the staff's ratings. Motivation will always be subjective, whether it's rated by oneself or by an observer. However, the advantage of the staff rating variable is that teachers are specifically asked to consider every individual in comparison to other students in the program. Certainly, staff members will differ at least slightly from one program to another in their stringency on rating participants' motivation. Nonetheless, using staff ratings left us with a more stable source of comparisons because it consisted of approximately 10-15 raters total compared with the much larger variability in having 227 participants rate themselves. Furthermore, participants' rigor in providing these self-ratings would also likely differ across an even wider spectrum.

Results for variable *Motivation Composite (Goal Strength)*: This composite variable was **not found to be statistically significant** for any college outcome tested. However, the transition program staff rating of students' motivation was significant for almost every college outcome variable tested (enroll within one year, earn three transferable college credits, college trajectory, tipping point 30 credits, and overall number of credits), except for number of semesters completed. In other words, those ATLAS participants who completed the transition course and were rated highly in their motivation by transition staff were significantly more likely to have positive college outcomes in enrollment and success.

Despite the fact that we could not tie this particular motivation composite to any college outcomes, we still firmly believe that motivation is a key element of participants' college success in both the short and long term. Why is it that some students fail to persist in college while others succeed even when so many other factors such as literacy ability, single parenting, supports, and obstacles are all held constant? Motivation must surely play at least some role in determining these outcomes. We have spoken with participants who face numerous obstacles yet remain determined to continue their pursuit of a college degree nonetheless, while others face much fewer obstacles but feel overwhelmed and give up. It is exceedingly difficult to quantify motivation on self-reported surveys in a way that allows participants to be self-critical. On the other hand, despite the fact that there is inherent bias in the staff ratings of participant motivation, a staff member may be more accurate because he or she can compare the individual in question to an entire group of students, not only that year but in the staff member's experience of teaching other adults as well. Therefore, we feel that the significance of the staff motivation rating variable is evidence that the construct of motivation is an important element of participants' ultimate college outcomes.

Financial Motivation

For this area of goals, we investigated two hypotheses:

1. Participants with experience in **lower-paying jobs** at the beginning of the study will be more likely to enroll, persist, and succeed in college.
2. Participants who are the major “breadwinner” in household—where the participant feels the **family relies more on his/her income**—will be more likely to enroll, persist, and succeed in college.

We present the description of the variables and results for these hypotheses below.

Hypothesis: Experience in Lower-Paying Jobs

Participants with experience in **lower-paying jobs** at the beginning of the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Lower Paid Job*: This hypothesis was coded only with baseline data, since the hypothesis wording specifically refers to the beginning of the study. We had a bit of difficulty analyzing this hypothesis due to the sensitivity of survey questions that dwell on precise salary amounts. Originally we expected to be able to ultimately request and obtain participants’ exact salary and work data from the Department of Labor. Although we obtained the consent of over 80 percent of participants to request this data, unfortunately there was no way in practice to obtain these figures. In order to set participants a little more at ease when asking them about their personal and household incomes, we structured the survey in a way that asked them to place themselves in a range of income, such as earning between \$250 and \$500 per week. We hoped that this would seem slightly less personal and invasive than demanding that they report their exact income after deductions.

However, the downside of this structuring was that when we failed to obtain DOL data, we were left with the difficulty of figuring out participants’ financial details. For example, a participant earning \$500 per week who works 35 hours per week would have an hourly wage of approximately \$14, but if they earned \$300 for 35 hours per week of work their wage would be about \$8.50 per hour. Although these participants are in the same response range, for our purposes only one of them would be considered as having a low-paying job. Nevertheless, we chose to forge on with our analysis of this hypothesis, bearing in mind the limitations of that analysis, by running participants’ hours working per week (Yr1) and their weekly personal income category (Yr1). We also held participants’ household income (Yr1, also provided as a range) constant on the belief that personal income might not make as much of a difference to a rich household as to a poor one.

Results for variable *Lower Paid Job*: The data did not support the hypothesis that participants with lower-paying jobs would be more likely to enroll, persist and succeed in college. As always, we ran all analyses controlling for covariates mentioned above. The variable of “low-paying job” at the start of the study was **not significantly associated** with any dependent variable or college outcome.

Hypothesis: Family Reliance on Income and Personal Income

Participants who are the major “breadwinner” in household—where the participant feels the **family relies more on his/her income**—will be more likely to enroll, persist, and succeed in college.

Description of the variables *Family Reliance on Income and Personal Income*: Personal income was low for our participants. In Year 1, over half (52%) brought home less than \$1,000 per month, and 87% of participants reported a weekly take-home income of \$500 a week or less (the equivalent of \$2,000 or less per month). However, we did run into difficulty in identifying participants’ exact salaries. Originally we expected to be able to ultimately request and obtain participants’ exact salary and work data from the Department of Labor. Although we obtained the consent of over 80 percent of participants to request this data, unfortunately there was no way in practice to obtain these figures.

In order to set participants’ a little more at ease when asking them about their personal and household incomes, we structured the survey in a way that asked them to place themselves in a range of income, such as earning between \$250 and \$500 per week. We hoped that this would seem slightly less personal and invasive than demanding that they report their exact income after deductions. However, the downside of this structuring was that when we failed to obtain DOL data, we were left with the difficulty of figuring out participants’ financial details. For example, a participant earning \$500 per week who works 35 hours per week would have an hourly wage of approximately \$14, but if they earned \$300 for 35 hours per week of work their wage would be about \$8.50 per hour.

Furthermore, some participants had trouble understanding this question and reported their bi-weekly paycheck amount, which we tried to clarify in the moment. However, in some surveys the participants were able to fill out the survey on their own online; therefore, we removed suspicious entries such as someone who reports a weekly paycheck that would have been equivalent to \$80,000-\$100,000 for a job type such as Certified Nurse Assistant (CNA) that every other participant reported making \$30,000-\$50,000. However, it was impossible to spot all such errors because not all salary entries were so dramatic. For example, the difference between a job at \$30,000 and \$60,000 is more difficult to determine since experience and geographical area may play a role in determining salary discrepancies.

Since both personal income and household income were reported in response range categories, it was nearly impossible to identify the ratio of the participant’s income to his or her household’s income, especially when there were multiple salary contributors in the home. Despite this limitation, we chose to approximate the “breadwinner” hypothesis by running an analysis of participants’ reported personal income range, controlling for their reported household income range. After realizing that we would not be able to obtain the

DOL information for our participants, in the fourth year of the survey we decided to restructure the way we gathered data for this hypothesis.

The educational theories we drew upon when crafting this hypothesis led us to believe that participants whose families heavily relied upon them to support the household would be more motivated to go to college in order to improve their financial outcomes and be better providers. However, we realized that participants need not be the “breadwinner” for their families to rely heavily on their financial contribution to the household. It also followed that such participants may in fact be less likely to go to college because of their family’s dependence on that source of income and thus the participants’ inability to reduce their work hours enough to successfully attend school. Therefore, we inserted a question into the Year 4 survey that would better examine this research question of family reliance on income, which asked: *On a scale of 1 to 5, where 1 means 'very little' and 5 means 'very much,' to what extent does your household depend on your income?* Table 15 below shows the participants’ responses to this question.

Table 15: Self-perception of household's dependence on participant's income

Year 4: To what extent does your household depend on your income?	N = 206	%
Very little	24	11.7
A little	11	5.3
Somewhat	22	10.7
A lot	25	12.1
Very much	124	60.2

We held household income constant when analyzing this Year 4 family reliance on income question, but did not factor in personal income. Since this question was only asked in the final survey, we used data from all years to examine this hypothesis, not baseline data. Other ways we examined participants’ financial situations and contributions (both using baseline data only, and using the average of figures reported across all surveys) included looking at their number of hours working per week, their personal income, and their household income.

Results for variable *Family Reliance on Income*: The only type of breadwinner analysis that was significant was the *Family Reliance on Income*; all other combinations that we attempted to use as a proxy for being the breadwinner were negative. This is likely due to the limitations detailed above, because it was very difficult to convert categorical responses on personal and family income into a meaningful analysis. However, increased family reliance on the participant’s income as reported in the Year 4 survey was significantly and negatively related to enrollment outcomes (completing 3 college credits and college trajectory; all years).

Table 16: Enrollment by Family Reliance on Income

To what extent does your household depend on your income? (N=206)	Did not complete 3 college credits		Completed 3 college credits		Total	
	#	%	#	%	#	%
Very little	6	25.0%	18	75.0%	24	100%
A little	3	27.3%	8	72.7%	11	100%
Somewhat	8	36.4%	14	63.6%	22	100%
A lot	10	40.0%	15	60.0%	25	100%
Very much	63	50.8%	61	49.2%	124	100%

Omnibus test $\chi^2 = 53.421$, $df=10$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta = -0.335$, $df=1$, $p=.019$.

Table 17: College Trajectory by Family Reliance on Income

To what extent does your household depend on your income? (N=206)	Never attended college		Attended college but dropped out		Still enrolled or graduated		Total	
	#	%	#	%	#	%	#	%
Very little	5	20.8%	6	25.0%	13	54.2%	24	100%
A little	3	27.3%	2	18.2%	6	54.5%	11	100%
Somewhat	8	36.4%	9	40.9%	5	22.7%	22	100%
A lot	10	40.0%	9	36.0%	6	24.0%	25	100%
Very much	52	41.9%	39	31.5%	33	26.6%	124	100%

Omnibus test $\chi^2 = 48.817$, $df=11$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, 8) composite obstacles, and 9) country of birth: $\beta = -0.25$, $df=1$, $p=.020$.

Participants who reported having families that were less reliant on the participants' income were significantly more likely to earn at least three non-developmental education credits [$\beta = -0.335$, $df=1$, $p=.019$, $n=187$]. The odds ratio $\exp(\beta) = .715$ indicates that the relative odds of participants who had greater family dependence on their income completing 3 college credits decreases as that family's income dependence increases. A two-point increase in family dependency on participants' personal income, (for example, having a family that was "somewhat" dependent on a participant's income versus one that was "very little" dependent on the participant's income), resulted in a 50% decrease in the relative odds for a participant earning at least three transferrable college credits [$\exp(\beta*2) = .512$].

Similarly, family reliance on participants' income was also significantly related to overall college trajectory [$\beta = -0.250$, $df=1$, $p=.020$, $n=187$]. Similar to the other enrollment variable, the odds ratio for college trajectory status was $\exp(\beta) = .779$, meaning that the relative odds of participants who had greater family dependence on their income persisting in

college decreases as that family's income dependence increases. In this case, a participant whose family was three points more dependent on his or her income (for example, "very much" dependent versus "somewhat" dependent) was less than half as likely to have enrolled in college but dropped out versus never having enrolled in college at all, or to still be enrolled in college or have graduated by the end of the study versus having enrolled and dropped out of college [$\exp(\beta \cdot 3) = .472$].

It is important to note that the variable *Family Reliance on Income* was not related to number of semesters or number of credits completed (persistence and success variables), only to enrollment outcomes. One hypothesis for this result may be that if the participant had someone else at home who was responsible for supporting the family then the participant may feel more freedom to stay in college and have more time for studying. In other words, participants may not believe that they can decrease their income and still support the family as they have been doing, and therefore they either may not enroll in college, or they may be more likely to drop out once enrolled. Once enrolled in college however, the importance of family reliance on income evidently dissipates.

Results for variable *Personal Income*: This variable was significantly and negatively related to total number of credits earned (success variable) for those participants who attended college at any point in the study, although it was not significantly related to number of semesters completed. A **lower personal income** (when household income and working full time are held constant) is associated with **earning more overall credits** ($b = -8.152, p = .047$; partial $r = -.176, n = 138$).

There may be several explanations for this somewhat surprising finding. Perhaps people who are making less are earning more credits because they decide to completely dedicate themselves to attending college by quitting their jobs and relying only on financial aid (or working a very low number of hours per week). Thus, they have more time to attend school, whereas people who are trying to work full time and attend school obviously only have time to fit in one or two classes. However, the number of hours spent working per week is not the full explanation, as it is not significant in analyses alone; another factor that may be at play here is that people with very low income may be awarded more generous financial aid packages or receive other public assistance. In fact, multiple participants reported that they were financially stressed because they earned too much money to qualify for aid but not enough to adequately support themselves and pay for college.

It should be noted that this effect, while significant, is a very small one. This may be in part due to the limitations of the personal income data described earlier; it is possible that the effect would have been stronger had we had a more accurate way to identify participants' income levels.

Career and College Goals

We investigated three hypotheses under this area:

1. Participants who are **unsatisfied in their jobs** will be more likely to enroll, persist and succeed in college.
2. Participants whose **career goals are easier to achieve** relative to their current employment experience will be more likely to enroll, persist and succeed in college.
3. Participants who **college degree goals are easier to achieve** (shorter time to graduation) will be more likely to enroll, persist and succeed in college.

In the sections below, we will present the description and results for these three hypotheses.

Hypothesis: Job Satisfaction

Participants who are unsatisfied in their jobs will be more likely to enroll, persist and succeed in college.

Description of the variable *Job Satisfaction*: In order to examine this hypothesis, we created a composite measure that included participants' statements about their job satisfaction, their belief in their ability to earn a raise or promotion, and their belief in their ability to find a satisfactory new job if they should choose to seek one. The rationale for designing a more complex picture of job satisfaction rather than simply accepting participants' statements about the way they felt about work is twofold. First, some people may enjoy their present situation while knowing that ultimately they must leave and improve their education if they are to avoid staying in a "dead-end" job. Secondly, other participants might feel trapped within a job, no matter how unsatisfactory, refusing to leave out of fear that despite an improved education they will not be able to secure a new job in a perilous economy. Although participants may not take either of those two notions into account when answering regarding their present job satisfaction, their overall sentiments about their job may be shaped by such fears and beliefs nonetheless. Therefore, we felt that compiling these factors into an overall job satisfaction measure was the most comprehensive analysis method for this hypothesis.

The descriptive data about job satisfaction is presented in the table below:

Table 18: Self-rating of Current Job Satisfaction (from Year 1 survey)

Year 1: Job Satisfaction (current or most recent job)	N = 226	%
Very unsatisfied	33	14.6
Unsatisfied	39	17.3
Satisfied	79	35.0
Very satisfied	75	33.2

When we asked whether there were opportunities for a promotion or raise in the participant's current or most recent job, 49% indicated "no opportunities" or "don't know", while 51% indicated that "yes", there were opportunities for a promotion or raise. When we asked participants how likely they felt that they could find a satisfactory job now, if they wanted to, the majority (41%) said that it was "likely", and 29% felt that it would be "very likely", while 17% felt it would be unlikely, and 13% felt it would be "very unlikely".

For the baseline composite, each piece above was summed together to provide an overall score (total possible score ranged between 2 and 9 points). For the All-Years composite, each piece was average across all years and then summed to provide overall score (total possible score ranged between 2 and 9 points). Across the participants (n=226 in Year 1 and n=227 for All-Years combined), composite scores fell across the complete range, with a mean of 6.24 (s.d.=1.67) in Year 1, and a mean of 6.26 (s.d.=1.29) for All-Years.

Results for the variable *Job Satisfaction*: This variable was **not significantly related** to any of our college outcome dependent variables. Even when a participant was not satisfied with their job, felt it was dead-end, or felt they could find a new job if they chose, it was not related to whether they enrolled, persisted or succeeded in college.

Hypothesis: Career Goals

Participants whose career goals are easier to achieve relative to their current employment experience will be more likely to enroll, persist and succeed in college.

Description of the variable *Ideal Job Hierarchy (difficulty to obtain job)*: Another set of variables created under the umbrella of hypotheses of participants' goals and driving forces was that of the *Ideal job hierarchy codes*. Objectively measuring participants' career goal aspiration levels was a difficult task on which we spent a great deal of time. Ultimately we settled on a series of quantifiable markers that indicate the degree of work and education involved in attaining a given job. Participants were scored on a scale of 0 to 9, with a 0 defined as "neither HS diploma/GED nor specific skills required to obtain desired job" and 9 defined as "need post-graduate degree and 3 or more years of training & specialization"

Although the exact route needed to earn any position of employment changes fluctuates based on many different factors including the particular needs of the position, the available workforce competing for that position, and the relationships between the applicant and his or her employers, we attempted in this chart to codify the average path taken to attain a given job. We then applied these codes to participants' current jobs and their stated goal jobs for each survey year. This allowed us to maintain an overarching system of job level classifications that we could use to compare any given survey question related to job titles. For example, the variable *Difference between current job and ideal job hierarchy codes*,

baseline compared each participant's present job hierarchy level as of the Year 1 survey with his or her Year 1 ideal job hierarchy level.

Another variable, *Difference between current job and ideal job hierarchy codes, all years*, was structured to examine the average difference in hierarchy levels between the participants' current job every year and their goal job stated in that year. We were also interested in the degree of change between the jobs participants held at the beginning of the study and their final stated goal job in the Year 4 survey. This variable, *Difference between current job Yr1 and ideal job Yr4 hierarchy codes*, provides insight into the pathway that participants saw themselves traveling, from their starting position at the beginning of the study to their ultimate desired destination. We hypothesized that we would see participants' goal job hierarchy codes actually lower over time in comparison to hierarchy codes for the goal job question in earlier years of the survey, as they learned of all the details and difficulties involved in attaining their stated ideal career.

Lastly, we examined participants' ideal job hierarchy codes on their own, without relating them back to participants' starting job hierarchy codes, in the variable *Ideal job hierarchy codes, averaged all years*. We included this measure because we were interested to see whether or not participants who aimed for jobs that required more education in order to secure them would in fact have better educational outcomes over time, no matter what the hierarchy code of their starting job.

Results for variable *Ideal Job Hierarchy*: Within the umbrella of this hypothesis, the only variable that resulted in significant findings was *Ideal job hierarchy codes, averaged all years* (completing 3 college credits and college trajectory).

Controlling for the covariates described at the beginning of this report, participants who averaged higher ideal job hierarchy codes over the course of the study were more likely to have completed at least three transferrable college credits by the end of the study ($\beta=0.276$, $df=1$, $p=.015$, $n=200$, $\exp(\beta)=1.318$). The odds ratio shows that a participant aiming for a job requiring more education and/or experience was more likely to have met this minimum enrollment marker within the five years of the study. Specifically, the odds of earning three credits for an individual with career goals averaging three hierarchy points higher than another participant (for example, someone aiming for a job requiring a Bachelor Degree versus someone aiming for a job requiring a certificate program of 1-6 months) are over twice as large as the odds of earning at least three credits for the individual seeking a lower level job ($\exp(\beta*3)=2.29$).

Additionally, participants who averaged higher ideal job hierarchy codes over the course of the study were more likely to 1) have stayed enrolled in college or have graduated by the end of the study versus having enrolled but dropped out; and 2) to have enrolled but dropped out versus never having enrolled at all ($\beta=0.227$, $df=1$, $p=.017$, $n=200$,

$\exp(\beta)=1.255$). The odds ratio shows that the relative odds of a participant whose career goals averaged three hierarchy points higher were two times greater to have achieved the better enrollment outcome for each of the comparisons listed: 1) have stayed enrolled in college or have graduated by the end of the study versus having enrolled but dropped out; and 2) to have enrolled in college but dropped out versus never having enrolled at all ($\exp(\beta*3)=1.98$).

One aspect of this analysis that indicates it should be viewed with caution is that although they were coded very differently, the ideal job hierarchy codes were significantly correlated with the ideal job specificity codes ($p < .001$; $r = .325$, $n = 227$). The latter variable, which will be discussed more thoroughly in the section on Goal Setting, below, measured the degree of clarity participants developed in their ability to consider their goal job or career. It was significant across numerous college outcomes including enrollment, persistence, and success dependent variables. Therefore, although we found that participants who aimed higher in their career goals overall was significantly correlated with better enrollment outcomes, this result should be considered with caution; it is possible that part of this effect may be at least partly explained by participants' amount of forethought into their own career goals. However, this general trend of higher specificity scores correlating with higher hierarchy codes (in which those who had considered their career goals more thoroughly were often the ones who had higher career aspirations), explains just 10% of the variance ($r^2 = .106$), and therefore the effect cannot be wholly explained by the specificity variable.

Here are a few examples of participant entries for the ideal job question in Year 4: specificity is scored from 1 (either undecided or can't decide between 2 unrelated fields) to 4 (job title and focus specified, if the chosen field is broad enough to require specialization, such as "nurse"); hierarchy is scored from 0 to 9, as previously discussed. It must be stressed that the hierarchy codes provided were not a judgment of worth or contribution to society, but rather an attempt to provide an objective measure of how difficult it is to attain each job in terms of years of experience, years of education, or a combination of both.

Table 19: Examples of Ideal Job Coding

Year 4: Ideal Job or Career (*exact response entered below)	Specificity Code	Hierarchy Code
Anything right now	1	0
Accounting or computer information systems	1	4
Math Teacher or Nurse (tied)	1	5
Psychopharmacology, or archeology (<i>note: at end of survey changed mind to drug and alcohol counselor</i>)	1	8
Agriculture, planting fruits, etc.	2	0
Want to do something for one of the utility companies	2	1

Year 4: Ideal Job or Career (*exact response entered below)	Specificity Code	Hierarchy Code
because I know they pay well		
Finance and accounting	2	5
To open up my own business	2	5
Nurse	3	5
Medical field, Mortician	3	6
To be an instructor for kids & horses	4	0
Dental Hygienist	4	4
Social worker in the school system	4	6
College professor teaching history	4	8
Be a CEO of a big company - construction business	4	9
Vet	4	9

As can be seen above, there was a broad range of career goal responses and the specificity and hierarchy variables, while sometimes correlated, were not consistently so.

Interestingly, none of the three analyses conducted to analyze the gap between a participant's present job and his or her ideal job was significantly related to any dependent variable tested. Thus, it appears that, whether one's ideal job is much "closer" to attain or "harder" to attain, according to our job hierarchy coding, it did not make any difference to participants' college outcomes. There may be several reasons for this: one may be that how far one has to travel to reach one's job goal doesn't influence one's motivation—for better or for worse. Or it may be that due to the fact that a number of participants are not yet sure what their ideal job is (e.g., "I think I want to work in the health field"), it is unclear to them how far they need to travel from their current job. Finally, even when a participant is clear about their ideal job (e.g., "I want to be a third-grade teacher"), they may still be unsure of all the hurdles they need to clear before getting that job. Therefore, the reality of the large difference between their current and ideal job still eludes them. Of course, some participants did have a strong understanding of the difficulty of their career goals and the steps needed to attain their desired career; however, as these participants were mixed in with those who lacked that understanding or knowledge, it is possible that there was too much variability within this measure for any meaningful pattern to reveal itself.

Hypothesis: College Degree Goals

Participants who **college degree goals are easier to achieve** (shorter time to graduation) will be more likely to enroll, persist and succeed in college.

Description of the variables *First Stated Goal Degree: AD vs. BA; Voc. vs. BA; Voc. vs. AD; MA+BA vs. AD+Voc.* In addition to our interest in understanding the division of

degree types that students were pursuing, we also wanted to know whether students who started out with higher aspirations were more successful in college, or whether they had increased levels of persistence. To answer this question, we created the *First Stated Goal Degree* variables. These variables examined participants' very first responses to this question, rather than averaging the participants' responses across the years. For example, imagine that our participant Jane told us in Year 2 that she was studying towards her bachelor's degree. In Year 3, Jane reported that now she is only seeking her associate's degree. However, for this variable, it did not matter that Jane changed her mind in Year 3, because we were only interested in her initially reported degree goal. Some participants only had one data point for this item, perhaps because they dropped out of college within a year of first enrolling, or they enrolled in college for the first time in 2011 (Year 4). If a participant was only given one opportunity to answer the question, no matter in which year of the survey, then the answer given on that occasion counted as the first response. As a reminder, participants were only administered this question if they stated that they had attended college within the last year—it was not administered to those who enrolled in vocational programs outside of a college campus. Therefore, the vocational certificate discussed herein should be assumed to be a 30-credit college certificate program directed at a specific vocational area. The breakdown of college-degree goal variables is showed in the table below.

Table 20: Goals for Specific College Degrees

Independent Variable	Levels
First Stated Goal Degree: MA+BA vs. AD+Voc	Vocational/Professional Certificate or Associate Degree
	Master or Bachelor Degree
First Stated Goal Degree: Voc. vs. AD	Vocational/Professional Certificate
	Associate Degree
First Stated Goal Degree: Voc. vs. BA	Vocational/Professional Certificate
	Bachelor Degree
First Stated Goal Degree: AD vs. BA	Associate Degree
	Bachelor Degree

The various *First Stated Goal Degree* variables are all drawn from the same survey question, administered Years 2-4, which was directed at participants whose yearly trajectory included some college enrollment component. Each year that a participant reported attending a college program, he or she was asked to answer the question: "*What type of degree or certificate are (were) you studying towards?*" There were four possible answers from which he or she could select: *Vocational or Professional Certificate*, *Associate's Degree*, *Bachelor's Degree*, or *Master's Degree*. We decided to analyze only the first time that the

participant responded to this question. For example, if a participant responded “Bachelor’s Degree” in the Year 2 survey, and “Associate’s Degree” in the Year 3 survey, the participant’s response was coded as Bachelor’s Degree. If the participant was only given one opportunity to answer the question, no matter in which year of the survey, then the answer given on that occasion counted as the first response. This would be true, for example, for participants who dropped out within a year of enrollment or enrolled in college for the first time in 2011.

Out of the 76 people who responded to this item in two or more surveys, 36 participants changed their goal degree type at least once. We ran several contrasts using the *First stated goal degree* data, because we wanted to see if pairwise comparisons (one degree type versus a single other type) were significantly different in any way. We also grouped *Master’s Degree* respondents and *Bachelor’s Degree* respondents together due to the small number of people who selected the *Master’s Degree* answer. We then grouped *Associate’s Degree* and *Vocational Certificate* together for an analysis of whether aiming for a degree that required four or more years of study versus a degree that required two or less years of study ultimately impacted students’ college outcomes. We chose not to examine the last stated goal degree, since we expected it to be correlated too closely with actual outcomes (e.g., if the participant had been in college for several years and changed his or her mind to study for a BA versus an Associate’s Degree, it is likely that this participant has already accrued significant credits and completed at least several semesters of college).

During each survey in which the participant reported attending a college program, he or she was asked about the type of degree being sought. Student responses for this question may be seen below:

Year 2: What type of degree or certificate are (were) you studying towards?	N = 87	%
Vocational or Professional Certificate	9	10.3
Associate’s Degree	53	60.9
Bachelor’s Degree	19	21.8
Master’s Degree	6	6.9

Year 3: What type of degree or certificate are (were) you studying towards?	N = 102	%
Vocational or Professional Certificate	13	12.7
Associate’s Degree	62	60.8
Bachelor’s Degree	24	23.5
Master’s Degree	3	2.9

Year 4: What type of degree or certificate are (were) you studying towards?	N = 99	%
Vocational or Professional Certificate	9	9.1
Associate's Degree	70	70.7
Bachelor's Degree	19	19.2
Master's Degree	1	1.0

We ran several different contrasts using the *First Stated Goal Degree* data, because we wanted to see if pairwise comparisons (one degree type versus a single other type) were significantly different in any way. In one analysis, we also grouped *Master's Degree* respondents and *Bachelor's Degree* respondents together due to the small number of people who selected the *Master's Degree* answer. For the sake of parallelism, we then grouped *Associate's Degree* and *Vocational Certificate* together for an analysis of whether aiming for a degree that required four or more years of study versus one that required two or less years of study ultimately impacted students' college outcomes. We chose not to examine the last stated goal degree (the degree that participants were working towards as of their final survey), since we expected it to be correlated too closely with actual outcomes. For example, if the participant had been in college for several years and has now changed his or mind to study for a BA versus an AD, it may be more likely that this participant has already accrued significant credits and completed at least several semesters of college.

Results for the variables *First Stated Goal Degree: AD vs. BA; Voc. vs. BA; Voc. vs. AD; MA+BA vs. AD+Voc*: There were three individual *First Degree Type* comparisons examined in pairs: 1) associate degree versus bachelor's degree; 2) associate degree versus vocational certificate; and 3) bachelor's degree versus vocational certificate. Out of these, the only significant individual *First Degree Type* comparison that was significant was the one between participants aiming for an associate degree and those seeking to earn a professional or vocational college certificate. For this analysis, we found that participants who originally hoped to attain an AD earned approximately 12 credits more over the course of the study than did those who originally wanted a vocational or professional certificate ($b=11.964$).

We expected to also see significantly different college outcomes for the variable comparing participants who first intended to earn a bachelor's degree versus a vocational certificate, but this was not the case. However, the likeliest reason for this lack of significant findings is that there were relatively few participants whose originally intended degree was a BA or vocational certificate, resulting in too little power for a successful analysis. After compiling

students' first responses across survey years, we ended up with the following breakdown by degree:

All Years: First Stated Degree Type studying towards	N = 142	%
Vocational or Professional Certificate	23	16.2
Associate's Degree	87	61.3
Bachelor's Degree	25	17.6
Master's Degree	7	4.9

Due to these limited group sizes, it makes sense that the only significant comparisons occurred when either two groups were combined together, or when the largest group (associate's degree) was part of the analysis. Nonetheless, because we lack corroborating evidence in the pairwise comparisons, we recommend caution in drawing conclusions about the *First Stated Goal Degree: MA+BA vs. AD+ Voc.* college outcomes.

Out of the four different *First Stated Goal Degree* variables examined, two variables resulted in significant correlations. The variable that grouped students aiming for a certificate program or an Associate's Degree, and compared them against students aiming for a Master's or Bachelor's Degree, was significantly correlated with both the persistence and success college outcome variables. Furthermore, students who said they were planning to earn an Associate's Degree instead of a professional or vocational certificate were more likely to have earned more credits by the end of the study. The statistical results are detailed below:

Table 21: Relationship between Goal Degree and College Outcomes

Independent Variable	College Outcome	Results
First Stated Goal Degree: MA+BA vs. AD+ Voc.: (n=200) (n=200)	Success: Number of credits (College only)	$b=12.30, p=.015$; partial $r=.218$
	Persistence: Number of semesters (College only)	$b=1.216, p=.034$; partial $r=.191$
First Stated Goal Degree: Voc. vs AD (n=200)	Success: Number of credits (College only)	$b=11.964, p=.033$; partial $r=.188$

For the variable *First Stated Goal Degree: MA+BA vs. AD+ Voc.*, the slope (b)=12.30, indicating that participants who originally stated that they planned to earn a bachelor's or master's degree earned approximately 12 more credits over the course of the study than

did participants who originally planned to earn an associate's degree or a professional certificate. On average, they also stayed in college for approximately one additional semester in relation to their peers ($b=1.216$). Although this additional credit and semester accrual is certainly not revolutionary, it does show that there are at least some minor differences between the two participant groups.

One might assume that the reason for this discrepancy is that students aiming for higher degrees would naturally require more credits, resulting in increased accrual over time. After all, an associate's degree typically requires 60 credits whereas a bachelor's degree requires 120 credits. However, for our participant sample, that simple explanation is very unlikely to be the correct one. First of all, out of the 76 people who responded to this item in two or more surveys, 36 participants changed their goal degree type at least once. Second, we only had a handful of participants who completed at least 60 credits ($n=14$) before the end of the study, even when taking their previous transfer credits into account. Moreover, although 60 credits is the required minimum, students often end up needing some additional credits before they can graduate due to not having fully completed their colleges' mandatory classes and subject areas that must be covered prior to degree completion. Although upon entry into college, each student is assigned an advisor who is supposed to help them draft an appropriate plan, we found that this was not always adequate to assist students. Sometimes students took unneeded classes due to their lack of planning or understanding of the requirements during their initial semesters, due to poor counseling by advisors, or due to an inability to get into the right classes because of seniority enrollment rules.

Therefore, the additional credits accrued by participants who originally had higher educational goals is likely due to a less obvious reason. Perhaps students who first stated plans to attain a master's or bachelor's degree were either very enthusiastic about educational achievement for its own sake, or perhaps they were set on a specific career goal that required a BA or higher. As we already know, participants who were more specific about their personal career goals were more likely to enroll, persist, and succeed in college. We also know that participants who brought up education and career goals on their own during the Year 3 and Year 4 surveys were more likely to enroll, persist, and succeed in college. Students' intended degree type was often lowered after they started attending college, once they realize how work-intensive and challenging college courses can be. However, it could be that students' original enthusiasm and interest in higher education or careers is captured by this particular *First Degree Type* variable.

It is vital to understand that this analysis does not suggest that transition program staff members should push students to aim for a BA or MA in hopes that this will lead to better college outcomes for students. This analysis simply shows the correlation between students who made these higher goals *on their own* and their credit accrual over time; it does not provide information about the cause of this trend.

Hypotheses related to Individual Characteristics

The next set of hypotheses revolves around participants' individual characteristics. Previously, we discussed other some types of individual characteristics that were included in our analysis, such as participants' test scores and their self-ratings of their academic ability and their transition programs. However, this section is meant to focus on the more fixed individual qualities, such as ethnicity and age, as well as on participants' personalities and the way those attributes might impact their college outcomes. The full list of variables created to study our hypotheses regarding individual characteristics is as follows:

Table 22: Variables for Individual Characteristics

Category	Independent Variable	Range
Cognitive Factors	Test of Adult Literacy Score (TALS) Scale Score Document literacy (Year 1)	Possible score between 0 and 370
	Test of Adult Literacy Score (TALS) Scale Score Document literacy (Year 4)	Possible score between 0 and 370
	TALS Scale Score Document literacy (change from Year 1 to Year 4)	Possible score between 0 and 370
	Accuplacer test Scores Change in scores from intake to exit	Individual subjects: Possible score between 20 and 120
	Accuplacer Algebra Scores (intake, exit, & change from intake to exit)	Possible score between 20 and 120
	Accuplacer Arithmetic Scores (intake, exit, & change from intake to exit)	Possible score between 20 and 120
	Accuplacer Reading Comprehension Scores (intake, exit, & change from intake to exit)	Possible score between 20 and 120
	Accuplacer Sentence Skills Scores (intake, exit, & change from intake)	Possible score between 20 and 120
	Total Accuplacer scores across all subjects (intake, exit, & change)	Possible score between 80 and 480
	Compiled Accuplacer scores for arithmetic, sentence skills and reading comprehension (before, after, & change)	Possible score between 60 and 360
	Learning Disability	Yes or no
Non-cognitive	Hope Herth Index	protocol
	New General Self-Efficacy scale	protocol
	Goal-Setting Composite	composite score
	Part of composite: Number of Goals	Possible score between 0 to 3

Category	Independent Variable	Range
Factors	Part of composite: Strategy to attain stated goals	0=no strategy, 3=three specific, discrete strategies mentioned
	Part of composite: Ideal Job Specificity	0=undecided, 3=job title and focus specified
	Non Cognitive Factors	composite score
	Leadership	1=no leadership experience, 7=two examples of formal leadership experience provided
	Part of composite: Academic/Career goals stated	1 point for each goal that is job or school related
	Part of composite: Strategy to attain stated goals	0=no strategy, 3=three specific, discrete strategies mentioned
	Part of composite: Planning habits	7 question protocol
Demographic factors	Country of Birth	United States
		Other country
	Age	continuous
	Marital status	Single, divorced, or widowed
		Married or domestic partnership
	Kids	no kids
		older kid(s) (13 and up)
		young kid(s) (12 and under)
	Single Parent of Young Kids	Not a single parent of kid(s) under age 13
		Single parent of kid(s) under age 13
	Household income	Range of income levels

These individual characteristics are divided into three categories: (1) Cognitive factors, such as literacy and math skills or having a learning disability; (2) Non-cognitive factors, such as self-efficacy and goal setting; and (3) demographic factors, such as age and country of birth.

Cognitive factors

Hypothesis: Literacy and Academic Skills

Participants with higher literacy or academic skills will be more likely to enroll, persist and succeed in college (cognitive variable)

Description of the variables *TALS* and *Accuplacer* scores: Previous research (Sum, Khatiwada, Trubskyy, Palma, & McHugh, 2012) indicates that GED holders with higher academic skills are more likely to obtain a college degree. To address this hypothesis, we analyzed participants’ test scores on each of the measures available to us, both pre- and post-tests, in all subjects. The two measures were the Test of Applied Literacy Skills (TALS) Document literacy test, administered twice—once at the beginning of the study while participants were enrolled in the college transition course and once at the end of the study—and the Accuplacer test scores given to us by the transition program intake and exit files. However, in addition to these straightforward analyses, we also came to be interested in a second type of academic proficiency: the ability to *improve* one’s test scores over a given period of time. It is possible that participants who perceived that they were improving their skills and who were thereby able to take advantage of participating in the transition course were more likely to go to college than participants who did not advance as quickly in that set time. Perhaps it was not participants’ final skill preparedness in any topic or combination of topics that dictated their ultimate enrollment, persistence, and success in college but rather their capacity as students to absorb information and promptly put that material into practice.

Therefore, we also created several variables to examine changes in participants’ test scores—their (hopefully) gain in skills—as defined as the average point increase in students’ Accuplacer or TALS test scores between the pre-test (before beginning the transition program) and the post-test (at the conclusion of the transition program [Accuplacer] or at the conclusion of the ATLAS study [TALS]). For the Accuplacer, two different composite measures were created: one that provides a sum score for all of the four subject tests combined (algebra, arithmetic, sentence skills, reading comprehension), and one that provides a sum score for the three subject tests of arithmetic, reading comprehension, and sentence skills. The reason that we removed the algebra subtest from one version of the composite measure is that the administration of the algebra test is typically contingent on the student attaining a high enough arithmetic test score. Due to the fact that we wanted to be able to examine some type of composite measure without sacrificing higher response rates, and we felt that the three sub-test sum score would provide as useful a proxy as the full composite, especially since the algebra test administration was contingent upon the arithmetic score anyway. Participant change scores were calculated for both types of Accuplacer composite measures. As with all of the other transition-gathered exit data, transition program completion status was not used as a covariate when looking at Accuplacer final test scores or Accuplacer change scores, because only those participants who completed the transition course took the exit Accuplacer.

In summary, we have several different measures of literacy and numeracy:

1. TALS scores:
 - a. Beginning TALS score
 - b. Ending TALS score

- c. Change/difference in TALS score
- 2. Accuplacer individual subject test scores:
 - a. Sentence skills: intake, exit and change between intake and exit
 - b. Arithmetic skills: intake, exit and change between intake and exit
 - c. Algebra skills: intake, exit and change between intake and exit
 - d. Reading comprehension skills: intake, exit and change between intake and exit
- 3. Accuplacer combined scores
 - a. Accuplacer **total score** on algebra, arithmetic, sentence skills and reading comprehension: intake, exit and change between intake and exit
 - b. Accuplacer **compiled scores** from arithmetic, sentence skills and reading comprehension: intake, exit and change between intake and exit

Data for the TALS was scored by ATLAS and entered into our system; data for the Accuplacer was reported to ATLAS by program staff members in different ways. One way that we obtained this data was through the Accuplacer score printouts included in many students' files submitted to us by the transition programs. This is a one or two page document that certain colleges generated that was handed out to many of the students and often included details of developmental course recommendations or requirements. The other source of Accuplacer data submitted was the summary section on the Questions for Program Staff form on the backside of the exit form. Whenever possible, we double-checked this summary section filled out by staff against the Accuplacer print-out; out of the many forms compared, not a single error in staff reporting was discovered. This fact gave us confidence in using the rest of the staff-reported data for participants when the scores could not be triangulated.

Results for variables *TALS scores*: The table below shows the range of the ATLAS participants' scores as well as their average score on the Test of Applied Literacy Skills (Document Literacy subtest). This table shows the minimum and maximum scores observed in our participants' data; however, the actual minimum possible score on the TALS Document test is 130 and the maximum possible score is 370. We also included the range of test score changes from first to second taking of the test (subtracting the score of the 1st test from the score from the 2nd test) to show the difference in participants' tested skills from the beginning of the study (2007/2008) and the end (2011). However, as may be seen in Table 23, some participants actually did worse on the post-test, as indicated by the negative numbers.

Table 23: Descriptive Statistics for Test of Applied Literacy (TALS) Document Literacy Scores

TALS Scores	N	Minimum	Maximum	Mean	S.D.
Beginning of Study	216	190	370	291.39	37.73
End of Study	143	200	370	298.95	40.66
Score (change)	141	-110	90	2.91	30.37

We found that literacy skills—as gauged by scores on the Document Literacy TALS test—were not related to any of our college outcomes. Neither their scores on the first administration of the TALS test (while in the transition course) nor on the second administration (at the end of our study) were related to college outcomes. Similarly, the difference in scores between *TALS 1* and *TALS 2* was not related to participants’ college outcomes.

Results for variables *Accuplacer scores*: The table below shows the range of the ATLAS participants’ scores as well as their average score for each subtest. This table shows the minimum and maximum scores observed in our participants’ data; however, the actual minimum possible score for a given Accuplacer subtest is 20 and the maximum possible score is 120. For the total score (all subtests combined) the maximum possible score is therefore 480 with a minimum of 80. We also included the range of test change scores below (subtracting the score of the 1st test from the score from the 2nd test) to show the expected improvement in participants’ skills. However, as may be seen in Table 24, some participants actually did worse on the post-test, as indicated by the negative numbers listed below.

Table 24: Descriptive Statistics for Accuplacer Scores

Accuplacer Test	N	Minimum	Maximum	Mean	S.D.
Algebra (before)	106	20	119	35.35	20.67
Algebra (after)	90	20	119	48.70	27.35
Algebra (change)	69	-38	73	11.85	18.93
Arithmetic (before)	152	20	118	47.49	24.47
Arithmetic (after)	117	20	118	62.05	28.02
Arithmetic (change)	111	-58	76	14.93	20.55
Reading Comp (before)	158	25	117	69.46	20.69
Reading Comp (after)	123	28	120	75.64	23.21
Reading Comp (change)	117	-39	59	8.42	14.96
Sentence Skills (before)	151	30	114	74.23	19.38
Sentence Skills (after)	124	30	119	81.34	20.95
Sentence Skills (change)	115	-46	61	7.74	16.91

Accuplacer: Total score (after)	84	146	463	279.82	76.51
Accuplacer: Total score (change)	62	-33	142	45.67	39.21
Accuplacer: Compiled score (after) <i>[arithmetic, sentence skills, & reading comp]</i>	114	108	353	216.84	60.46
Accuplacer: Compiled score (change) <i>[arithmetic, sentence skills, & reading comp]</i>	104	-57	108	29.23	33.71

A number of the Accuplacer measures, particularly changes in arithmetic scores from the beginning of the transition program to the end, were significantly related to certain college outcomes. Table 25 below outlines the various Accuplacer scores and the outcomes to which they are related. For the following variables, the omnibus test was always significant. In terms of the college outcomes examined, participants' Accuplacer scores were only analyzed using the baseline version of the enrollment outcome, rather than the All Years version. Statistics representing the individual effects for each independent variable are provided below:

Table 25: Relationship between Accuplacer Scores and College Outcomes

Accuplacer measure	College Outcome	Results
Sentence skills, at intake (n=143)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.024$, $df=1$, $p=.028$; $\exp(\beta)=1.024$
Sentence skills, at exit (n=121)	Success: Tipping point (achieving 30 college credits)	$\beta=0.025$, $df=1$, $p=.029$; $\exp(\beta)=1.025$
Arithmetic, at exit (n=111)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.030$, $df=1$, $p=.003$; $\exp(\beta)=1.030$
Total score (algebra, arithmetic, sentence skills, reading comp), at exit (n=81)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.011$, $df=1$, $p=.017$; $\exp(\beta)=1.011$
Compiled score (arithmetic, sentence skills, reading comp), at exit (n=108)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.012$, $df=1$, $p=.009$; $\exp(\beta)=1.012$
Change in arithmetic score, from intake to exit (n=106) (n=107) (n=109)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.046$, $df=1$, $p=.002$; $\exp(\beta)=1.048$
	Enrollment: within 1 year	$\beta=0.033$, $df=1$, $p=.009$; $\exp(\beta)=1.033$
	Success: Tipping point (achieving 30 college credits)	$\beta=0.044$, $df=1$, $p=.001$; $\exp(\beta)=1.045$

Accuplacer measure	College Outcome	Results
	credits)	
Change in compiled score (arithmetic, sentence skills, reading comp), from intake to exit (n=99) (n=100) (n=102)	Enrollment: Completing 3 credits (<i>baseline data only</i>)	$\beta=0.023$, $df=1$, $p=.010$; $\exp(\beta)=1.023$
	Enrollment: within 1 year	$\beta=0.020$, $df=1$, $p=.011$; $\exp(\beta)=1.020$
	Success: Tipping point (achieving 30 college credits)	$\beta=0.023$, $df=1$, $p=.007$; $\exp(\beta)=1.023$

Controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles

The log odds [$\exp(\beta)$] indicate the following outcomes:

- A 15 point increase on a participant's **intake sentence skills** score increased the relative odds of **completing 3 credits** by approximately 40 percent [$\exp(\beta*15)=1.43$].
- A 15 point increase on a participant's **exit sentence skills** score increased the relative odds of **completing 30 credits** by approximately 45 percent [$\exp(\beta*15)=1.46$].
- A 15 point increase on a participant's **exit arithmetic** score, increased the relative odds of **completing 3 credits** by 57 percent [$\exp(\beta*15)=1.57$].
- A 30 point increase in a participant's **total exit score of algebra, arithmetic, reading comprehension, and sentence skills** increased the relative odds of **completing 3 credits** by approximately 40 percent [$\exp(\beta*30)=1.39$].
- A 30 point increase in a participant's **compiled exit score of arithmetic, reading comprehension, and sentence skills** increased the relative odds of **completing 3 credits** by approximately 40 percent [$\exp(\beta*30)=1.43$].
- A 10 point **increase in a participant's arithmetic score** between the person's intake and exit Accuplacer tests increased the relative odds of **completing 3 credits** by 58 percent [$\exp(\beta*10)=1.58$].
- A 10 point **increase in a participant's arithmetic score** between the person's intake and exit Accuplacer tests increased the relative odds of **enrolling in college within 1 year** by approximately 40 percent [$\exp(\beta*10)=1.39$].
- A 10 point **increase in a participant's arithmetic score** between the person's intake and exit Accuplacer tests increased the relative odds of **completing 30 credits** by 55 percent [$\exp(\beta*10)=1.55$].
- A 20 point **increase in a participant's compiled score of arithmetic, reading comprehension, and sentence skills** between the person's intake and exit Accuplacer tests increased the relative odds of **completing 3 credits** by 58 percent [$\exp(\beta*20)=1.58$].

- A 20 point **increase in a participant's compiled score of arithmetic, reading comprehension, and sentence skills** between the person's intake and exit Accuplacer tests increased the relative odds of **enrolling in college within 1 year of transition course** by approximately 50 percent [$\exp(\beta*20)=1.49$].
- A 15 point **increase in a participant's compiled score of arithmetic, reading comprehension, and sentence skills** between the person's intake and exit Accuplacer tests increased the relative odds of **completing 30 credits** by approximately 40 percent [$\exp(\beta*15)=1.41$].

In short, sentence skills and math skills, particularly improvements in math scores during the period of the transition course, are predictors related to enrollment and success. Although change in **compiled score** (combined scores on arithmetic, sentence skills and reading comprehension) from intake to exit is related to three outcomes—enrolling within one year, enrolling and completing 3 credits, and success at completing 30 credits (tipping point momentum)—it is most likely the improvement in **arithmetic scores** that makes the strongest difference, since changes in subscores on sentence skills and reading comprehension were not reliably significant. Thus, it appears that when transition course participants were able to improve their arithmetic scores during the course of the transition program, they were significantly more likely to enroll in college sooner, complete 3 credits, and go on to complete 30 credits.

For those who reached the tipping point, the improvement in their arithmetic scores was a significant factor, regardless of their actual arithmetic score (since exit score on arithmetic test was not, by itself, significantly related to completing 30 credits). Thus, one wonders whether the actual importance of improving math skills during a transition course is not the math learning acquired but the sense of self-efficacy gained from having been able to improve one's scores; i.e., that participants who improved their math skills felt more ready and had the confidence that they would be more successful in college as a whole. Perhaps this initial experience of success in the transition program, especially in an area that often inspired a feeling of dread in our participants, engendered a feeling of confidence and willingness to work hard in college, which in turn engendered more success. Or, perhaps the effect that we are detecting is not causality but rather an observed effect in which those participants who are able to pick up these type of math skills most easily are also the ones who are able to succeed most readily in college classes overall, thereby allowing them to complete more credits. Those participants who were more successful learners in the immediate term may have been more likely to pass their college classes than their slower-learning peers, thereby accruing more credits more quickly (since they would not have to repeat as many failed classes).

One interesting outcome was that Accuplacer scores were not related to the total number of semesters completed. This means that although self-efficacy and actual ability to progress in math may have encouraged students to take more classes at once and/or pass

those classes more easily, this learning ability did not lead to more persistence over time. Those students who did make the choice to go to college despite their slower relative academic progress during the transition program were equally tenacious as their peers, even if this meant that they were able to take fewer classes at once or if they were required to take more non-credit developmental classes.

Hypothesis: Learning Disabilities

Participants with an academic learning disability will be less likely to enroll, persist and succeed in college.

Description of the variable *Learning Disability*: The majority of the information used to code this variable was collected in the first survey. In Year 1, participants were asked whether or not they had ever been diagnosed with a learning disability. If they responded “yes,” they were asked to specify which condition(s) applied to them, such as *ADHD or ADD, Dyslexia, memory deficit/concentration problem, reading/writing/reading comprehension problem*, or a *math disability*. The largest number of learning disabilities reported by any one participant was five, however for the purpose of our analysis they were either coded only as *yes* or *no* for the variable. The main reason for grouping participants together no matter how many learning disabilities they identified is that less than 20 percent of participants reported having a learning disability. Considering this relatively low figure, we did not want to create multiple divisions within the variable, as that would result in a loss of power in the analysis overall. We also felt that facing even one academic disability was enough of a challenge that we did not have to attempt to quantify the exact degree of disability faced. The only other additional piece of information used to code this variable was if participants mentioned in a subsequent survey that they had been diagnosed in the past year with a learning disability. This was not a prompted question, but information sometimes offered by participants when discussing new events occurring in their lives. Since we considered an academic learning disability to be a life-long condition, no matter at which point in life it was detected, we did not attempt to divide the data into a baseline and an all-years version. Therefore, even if the first mention a participant made of having ADHD was in the Year 4 survey, s/he was considered as of Year 1 to have had a learning disability that might impact his or her educational outcomes and trajectory over the course of the study.

Results for variable *Learning Disability*: Forty-four (22%) of the 200 participants for whom we have this information indicated that they did have a learning disability. Identifying as having a learning disability was significantly related to enrollment, as indicated in Table 26.

Table 26: Learning Disability and College Enrollment

N=200	Did not complete 3 college credits		Completed 3 college credits		Total	
	#	%	#	%	#	%
With a learning disability	24	54.5%	20	45.5%	44	100%
Without a learning disability	71	40.3%	105	59.7%	176	100%

Omnibus test $\chi^2=41.577$, $df=9$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta=-1.107$, $df=1$, $p=.012$.

Having a learning disability was significantly related to student enrollment outcomes, with a negative relationship where students who reported having learning disabilities were less likely to attain three non-developmental credits. Obtaining the odds ratio for the learning disability analysis variable results in $\exp(\beta)=.330$, meaning that the odds of those with a learning disability earning three college credits are only 33 percent as large the odds of doing so for students without a learning disability. **Therefore, not having a learning disability made students three times more likely to acquire 3 non-developmental credits.**

However, having a learning disability was not significantly related to other enrollment variables, such as enrolling in college within one year of the transition program, nor to any of the persistence (college trajectory, number of semesters completed) or success variables (tipping point or total number of credits completed), once a student had enrolled in college.

In thinking about why this one outcome would be significant where others were not, we considered several hypotheses. First, perhaps participants with learning disabilities did not have the self-efficacy to succeed in college, or they enrolled in college initially but then dropped out. Participants who self-identified as having a learning disability perhaps did not believe they had the academic skills necessary to succeed in college, and therefore chose not to enroll. This is supported by the descriptive data, which shows that similar numbers of LD and non-LD participants (72% and 70% respectively) either never enrolled in college or enrolled in college but dropped out. However, more participants with learning disabilities decided not to enroll at all (50% vs. 34%) whereas more participants without learning disabilities dropped out after enrolling (34.7% vs. 22.7%). Thus, the non-LD participant group had an increased opportunity to earn three non-developmental credits before dropping out of college.

Another hypothesis is that LD participants took developmental college courses in higher numbers than non-LD participants. The numbers support this: 45% of non-LD participants did not take any remedial courses versus only 14% of LD participants. This

fact may have contributed in a small way to the statistical significance of the college enrollment (earning 3 credits) analysis, since a few LD participants may have enrolled in college but then dropped out before moving successfully from developmental to non-developmental courses. However, overall enrollment patterns of those LD participants who chose to enroll in college show that they were just as likely to stay enrolled for as many semesters and did not earn significantly fewer credits overall in comparison to their non-LD peers. Therefore, the tenacity shown by those LD participants who enrolled in college in the first place may have made up for the fact that a smaller percentage of them ever enrolled overall.

Non-cognitive factors

The theory that non-cognitive factors could affect educational outcomes, particularly the outcomes for non-traditional college students, was advanced primarily by Dr. William Sedlacek at the University of Maryland. Sedlacek proposed that there are eight non-cognitive factors that can influence a college student's enrollment, persistence and success in higher education. Those factors include:

1. **"Positive self-concept or confidence.** Strong self-feeling, strength of character. Determination, independence.
2. **Realistic self-appraisal,** especially academic. Recognizes and accepts any deficiencies and works hard at self-development. Recognizes need to broaden his/her individuality.
3. **Understand and deals with system/racism.** Realist based upon personal experience of racism. Is committed to fighting to improve existing system. Not submissive to existing wrongs, nor hostile to society, nor a "cop-out." able to handle system. Asserts school or organization role to fight racism and change system.
4. **Prefers long-range goals to short-term or immediate needs.** Able to respond to deferred gratification.
5. **Availability of strong support person** to whom to turn in crises.
6. **Successful leadership experience** in any area pertinent to his/her background (gang leader, church, sports, non-educational groups, etc.)
7. **Demonstrated community service.** Has involvement in his/her cultural community.
8. **Knowledge acquired in a field.** Unusual and/or culturally-related ways of obtaining information and demonstrating knowledge. Field itself may be non-traditional."
(Sedlacek, 2004, p. 17 in online source) (Tracey & Sedlacek, 1987)

Since we were investigating so many other variables related to ABE-to-College transition, we were not able to include measures for all of these variables. However, we did attempt to measure the following variables:

1. **Self-concept,** in Wave 1, using the New General Self-Efficacy scale
2. **Goals,** measured in each wave (addressed in the Goal sections above)

3. **Support persons**, in each wave (addressed in the Supports section)
4. **Leadership experience**, in Wave 4, (using questions from Tracey & Sedlacek Non-cognitive Factors questionnaire)
5. **Positive and hopeful outlook** (using the Hope Herth index)

The specific hypotheses related to each of these non-cognitive variables, and their relationship to our college outcomes, are described below.

Hypothesis: Positive Outlook

Participants who are more hopeful and positive (according to the Hope Herth index) will be more likely to enroll, persist and succeed in college.

Description of the variable *Hope Herth*: We used the Hope Herth Index in order to examine the hypothesis. This is a variable related to outlook in general. The Hope Herth Index is a tool developed by Dr. Kaye A. Herth (Herth, 1992) as a means of assessing individual's hope and optimism about the future. It has been used in hundreds of studies, primarily in the field of physical and/or mental health outcomes for patients. We came across the Hope Herth Index (HHI) during our research into psychometric scales on outlook and optimism that might be adapted for use in one of the ATLAS surveys. The HHI was the perfect fit due to its extensive application in many different studies. Moreover, it is a validated, shortened version of the full protocol, the Hope Herth Scale; the short version is only 12 questions long, thereby fitting more easily into one of our surveys. Participants are asked to respond to questions such as "*I have a positive outlook toward life,*" or "*I believe that each day has potential*" by ranking each one on a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). After contacting Dr. Herth and asking for her permission to use the HHI in our study, we inserted the protocol into the Year 3 survey. Participants' responses were scored at the conclusion of the study and analyzed to assess whether or not having a more positive outlook was correlated with any of the college outcome dependent variables.

Results for the variable *Hope Herth*: This variable was not found to be statistically significant; participants' responses—whether more positive or negative—on the Hope Herth index were not related to any of our dependent variables: enrollment, persistence or success. It is possible that this index, initially created to gauge the relationship between hope and health, is not applicable to gauge the relationship between hope and educational effort or achievement. Perhaps a longer or more fine-tuned instrument would have shown significance, or it is possible that administering this instrument at the beginning of the study (when participants were first enrolled in the transition program) might have shown some relationship. However, like the findings on general self-efficacy (see below), it is also possible that a generally positive outlook is not related to performance in a specific area, such as enrollment and success in college. Other research (Baumeister, 2003); (Wylie,

1979) shows that increases in general self-efficacy or self-esteem are not related to increases in achievement in a particular realm (such as education or health). The same may be true about a hopeful outlook: if the questions were related to hopefulness about attending and succeeding in college, we may have seen a stronger relationship.

Hypothesis: Self-efficacy

Participants with greater general self-efficacy (as gauged by the New General Self-Efficacy scale) will be more likely to enroll, persist and succeed in college.

Description of the variable *Self-Efficacy*: We also used an existing protocol to examine this hypothesis about self-efficacy. The protocol used, the New General Self-Efficacy Scale created by Chen and others (Chen, 2001) were asked to rate eight statements using a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Some examples of the questions asked were “*I will be able to achieve most of the education goals that I have set for myself*” and “*Compared to other people, I can do most tasks very well.*” This protocol was a part of the Year 1 survey and was therefore administered to all 227 participants. As with the Hope Herth Index, the protocol was assessed independently in order to analyze the potential impact of participants’ self-efficacy on their ultimate college outcomes.

Results for the variable *Self-Efficacy*: Similar to the findings with the Hope Herth index, we were not able to support this hypothesis. Again, it is possible that a specific self-efficacy assessment, with statements related specifically to one’s self-efficacy around education, may show some relationship. This finding, however, is fruitful for further research into non-cognitive factors related to non-traditional college student enrollment and success, including protocols for measuring positive self-concept that include both specific education-related and general statements of confidence and self-esteem (Sedlacek, 1996) (Sedlacek, 2011).

Hypothesis: Leadership and Other Non-Cognitive Factors

Participants who get less easily discouraged, who feel more confident, and who feel more capable of leadership will be more likely to enroll, persist and succeed in college.

Description of the *Leadership* variable and the *Non-Cognitive Factors* composite variable: As with the previously described variable, the *Non Cognitive Factors* composite variable is also related to outlook. This research question was developed later in the study than many others and arose after we were made aware of articles published on the impact of *Non-Cognitive Factors* (Sedlacek, 1996, 2011) on educational outcomes. Although it was too late for us to track whether participants identified as being stronger on these non-academic elements ultimately had better college outcomes, we could examine whether the qualities might be correlated with participants’ college success by the end of the study. Thus, the hypothesis was analyzed only using questions included in the Year 4 survey.

One of the variables assessed was *Leadership*, which was based on participants' open-ended responses to the question "Can you think of two examples where you have ever been in a leadership position (where you organized something), such as at work, in a club, in high school, at your church, at a community group, etc.?" Unlike the goals section in the Year 4 survey, participants were strongly urged to provide two examples of leadership, no matter how small, before moving on to the next question. Despite this encouragement, a handful of participants stated that they had never had any sort of leadership experience, while still more participants could only refer to having assisted with the organization of something rather than being the primary leader. The rest gave examples of either: (1) formal leadership experience, quantified as organizing or leading an event or series of events that took multiple days of planning and for which they were selected by others to play the primary leadership role, such as a club president; (2) informal or brief leadership in which the participant volunteered to organize some event that was less defined in nature, such as a party, vacation, or a group project in class; or (3) some combination of the two.

Table 27: Self-reported Leadership Experience

Year 4: Please describe two examples where you have ever been in a leadership position? (coded)	N = 201	%
Either no leadership experience, or no concrete example provided	41	20.4
Provided only informal, co-leadership experience	13	6.5
Provided one example of informal/brief leadership experience as sole organizer	66	32.8
Provided 2 examples of informal/brief leadership experience as sole organizer	30	14.9
Provided one example of formal/extended leadership experience	24	11.9
Provided one example of formal leadership experience & one example of informal leadership experience as sole organizer	13	6.5
Provided 2 examples of formal leadership experience	14	7.0

The other variable, *Non-Cognitive Factors*, was drawn from questions used in a survey protocol by Tracey & Sedlacek (1987). This survey was designed to predict academic success for incoming college freshmen at University of Maryland, College Park (UMCP)¹⁶ based on responses to personality questions and racial views. As race was a particular interest for Sedlacek due to the population he was studying, many of the questions used in

¹⁶ <http://williamsedlacek.info/publications/surveys/universityofmaryland.html>

his survey were not relevant for ATLAS. Furthermore, many of the questions were worded specifically about UMCP. However, we did adapt as many questions as we were able to from the interview, from which we ended up drawing upon three subscales specified by Sedlacek (with an example of each):

1. Prefers Long-Range Goals to Short-Term or Immediate Needs: *"I get easily discouraged when I try to do something and it doesn't work"*
2. Positive Self-Concept or Confidence: *"When I believe strongly in something, I act on it"*
3. Successful Leadership Experience: *"In groups where I am comfortable, I am often looked up to as a leader"*

We asked one or two questions for each of the subscales mentioned and then compiled the participants' responses to obtain an overall score for the *Non-Cognitive Factors* variable. For a complete list of the questions we asked, see Appendix 3 (Question 148).

Results for the variables *Leadership* and *Non-Cognitive Factors*: This hypothesis is partially supported. When combining responses from the participants who responded to questions in wave 4 from the three subscales listed above related to these variables, we find that a **higher non-cognitive factors composite score was significantly related to enrolling and finishing three non-developmental credits** ($\beta=0.604$, $df=1$, $p=.044$, $n=188$, $\exp(\beta)=1.830$).

We also found that, separately, **previous leadership experience was significantly related to total number of college credits acquired** ($b=2.602$, $p=.044$; partial $r=.187$, $n=126$), a success outcome: for the 126 participants who provided us with information about their leadership experiences, more leadership experience was related to earning more credits.

However, neither the *Leadership* variable nor the *Non-Cognitive Factors composite* variable were related to any other college outcomes, such as enrolling within one year of transition course, college trajectory, tipping point, or total number of semesters of college attended. The main difference between the two different success college outcomes is that *total number of college credits acquired* examines the amount of credits earned amongst only those participants who ever enrolled in college ($n=138$); the *Tipping Point* variable examines whether any study participant for whom we have a Year 4 survey and/or college transcript data available ($n=220$) accrued 30 credits before the conclusion of the study. Therefore, the statistical significance of the former analysis but not the latter indicates that out of those participants who chose to enroll in college, more leadership experience was correlated with having earned more credits by the end of the study, but this correlation was not demonstrated in the sample as a whole (leadership experience was not correlated with enrolling or persisting in college).

These findings provide some support to the idea that some non-cognitive factors, specifically leadership experience, self-confidence, and long-term planning tendencies, may be related to two college outcomes; however, we must be cautious about interpreting the significance of this variable since it was not shown to have a relationship with other college dependent variables tested.

Hypothesis: Goal-setting Skills

Participants who can list more goals with greater specificity and who more clearly describe strategies to attain their goals will be more likely to enroll, persist and succeed in college.

Description of the variable *Goal-Setting Composite*: The *Goal-Setting Composite* variable is related to planning skills, and is another factor hypothesized as related to successful college transition. We drafted this hypothesis because we believed that participants who can describe their goals with greater specificity are more likely to have thought longer and harder about how to attain those goals. Participants who do so may be more likely to understand all of the steps needed to accomplish their goals, and may therefore take action to achieve those objectives in a more direct manner.

It may have been noticed that this hypothesis is somewhat similar to the *Career Planning Skills* hypothesis (see section below), which is: *Those with knowledge of careers, and planning abilities to obtain those careers, will be more likely to enroll, persist, and succeed in college.* The main difference between these two hypotheses is that ***Career Planning* focuses on career knowledge and planning** whereas ***Goal-setting Skills* emphasizes planning and strategizing to reach any goal.** There are two overlapping survey questions used in the analysis of both: *Ideal Job planning steps*, averaged across all survey years, and *Strategy to attain stated goals* from the Year 4 survey.

Each hypothesis was analyzed using a composite measure that consists of four components:

1. The first component for the *Goal-Setting Skills Composite* was the *Ideal Job Specificity* variable. This measure was created to assess the degree of detail that participants provided each year about the ideal job that they would like to one day attain. Participants were asked, “*What is the job or career you have in mind as your goal?*” We noticed that the level of specificity in participants’ responses ranged quite substantially even when the participant was able to identify the ideal position. For example, participants might say “*nursing*,” “*RN*,” or “*geriatric nurse*.” We hypothesized that participants who provided more specificity in their answers were more likely to have spent increased time considering their ultimate career goal. Participants’ responses were coded using the following guidelines:

Table 28: Coding for Ideal Job Variable

Specificity of Stated Ideal Job or Career <i>Guidelines for coding</i>	Specificity Code
Undecided; or can't decide between 2 unrelated fields	1
Job <u>field</u> identified; or 2 closely related job titles	2
Job title identified; or job <u>field</u> identified plus position description or field details	3
Job title and focus specified, if the chosen field is broad enough to require specialization; if not then no specific focus required	4

Earlier, we included a table showing some of the survey responses and the specificity codes they were assigned. That table is reproduced in part here:

Table 29: Examples of Coding for Ideal Job or Career

Year 4: Ideal Job or Career <i>(*exact response entered below)</i>	Specificity Code
Anything right now	1
Accounting or computer information systems	1
Math Teacher or Nurse (tied)	1
Psychopharmacology, or archeology (note: at end of survey changed mind again to drug and alcohol counselor)	1
Agriculture, planting fruits, etc.	2
Want to do something for one of the utility companies because I know they pay well	2
Finance and accounting	2
To open up my own business	2
Nurse	3
Medical field, Mortician	3
To be an instructor for kids & horses	4
Dental Hygienist	4
Social worker in the school system	4
College professor teaching history	4
<i>Be a CEO of a big company - construction business</i>	4
<i>Veterinarian</i>	4

We analyzed the specificity component both as an individual variable and as part of the overall goal planning composite, in order to ascertain the different types of goal development occurring in participants' minds and the impact of those planning tendencies on college outcomes. However, due to the fact that the *Ideal Job Specificity* variable made up $\frac{1}{4}$ of the *Goal-Setting Composite*, there is a moderate correlation between the two variables

($r=.633$, $p<.001$; $r^2=.401$ $n=227$). Therefore, results for the goal-setting variable should be interpreted a little cautiously, as there is approximately 40% shared variance in the data collected for the job specificity variable in comparison to the goal-setting one.

2. The second component was based upon participants' responses to the question: *What would you need to do to obtain that [ideal] job?*
3. The third component was based on the survey question in the Year 4 survey asking *Please list three goals you have set for yourself*. For the career planning hypothesis, we used this survey item as well, and participants were awarded a point each time they mentioned a goal related to school or career fulfillment. In contrast, for the goal-setting skill hypothesis, participants were assigned a point for every valid goal they stated, whether it was personal, health, job, or school related. Although the initial instruction asks participants for three goals, participants were not pushed or prompted to come up with more goals beyond the first instruction given and many did not provide more than one goal. Most participants did have at least one goal listed, although some stated that they didn't know. Accepted goals could be anything, from "*move to another state*" to "*lose some weight*." However, some participants provided an invalid answer, such as "*win the lottery*." In order to be counted, the response had to be an achievable goal within the participant's relative ability to attain, not simply a wish over which the participant could exert little control. However, goals such as "*get a better job*" were accepted because even if the participant might not be able to achieve it, at least he or she could take a number of explicit steps towards its attainment such as preparing a resume, networking with friends and family, practicing interviewing skills, and so on. In contrast, winning the lottery or becoming a television star is largely out of the participants' control. When adding up the number of goals listed, we eliminated responses in which participants articulated further details about the same goal. For example, a participant who listed her three goals as "*become a hair dresser*," "*learn how to perm hair*," and "*get some clients*" was counted as only having named one goal, because the second and third goals may be reasonably assumed to be part of becoming a hair dresser.
4. The fourth component was from the section of the Year 4 survey in which participants were asked how they thought they could attain each of their stated goals. Participants' responses were assigned between zero and three points based on how many specific, discrete strategies they described as how they planned to achieve each goal. The number of strategies listed to achieve every goal was averaged across responses so that participants were not punished for having enumerated fewer goals. However, the goals themselves were analyzed differently between the two hypotheses.

Results for the variables *Goal-Setting Composite* and *Ideal Job Specificity*: The two variables *Ideal Job Specificity* and *Goal-Setting Composite* were both significant across a range of college outcomes. The covariate framework described previously for enrollment, persistence, and success college outcomes was applied in all analyses. The omnibus test

was significant for all of the results provided below; statistics representing the individual effects for each independent variable are as follows:

Table 30: Relationships between Job Specificity, Goal-Setting Skills and College Outcomes

Independent Variable	College Outcome	Results
Ideal Job Specificity (n=200)	Enrollment: Completing 3 credits (<i>Baseline data only</i>)	$\beta=0.424, df=1, p=.022$; $\exp(\beta)=1.528$
	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta=0.883, df=1, p=.004$; $\exp(\beta)=2.418$
	Enrollment: within 1 year	$\beta=0.468, df=1, p=.010$; $\exp(\beta)=1.597$
	Success: Number of credits (<i>College only</i>)	$b=7.858, p=.033$; partial $r=.188$
	Persistence: Number of semesters (<i>College only</i>)	$b=0.872, p=.040$; partial $r=.182$
Goal-Setting Composite (n=200)	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta=2.843, df=1, p=.037$; $\exp(\beta)=17.167$
	Enrollment/Persistence: Trajectory Status	$\beta=2.283, df=1, p=.046$; $\exp(\beta)=9.806$
	Success: Tipping point (achieving 30 college credits)	$\beta=4.606, df=1, p=.006$; $\exp(\beta)=100.057$
	Success: Number of credits (<i>College only</i>)	$b=49.305, p=.005$; partial $r=.244$
	Persistence: Number of semesters (<i>College only</i>)	$b=5.095, p=.013$; partial $r=.219$

As a reminder, for the *Ideal Job Specificity* variable participants were assigned a code from 1 to 4 indicating how specific they were in identifying their ideal job; for the All Years variables, participants' score for this item was averaged across all four years of survey data. When analyzed against the enrollment (All Years) dependent variable, the odds ratio was 2.418, meaning that moving up just 1 point in this average score (e.g. someone who is undecided vs. someone who knows the general desired field of work) increases the log odds of completing at least three credits by almost 2.5 times ($\exp(\beta)=2.418$). For a participant averaging two points higher than another student (e.g., someone who specifies both a job title and focus, such as pediatric nurse, vs. someone who only knows the general desired field, such as health/medicine), their odds of earning at least three credits are almost 6 times the odds of the participant with a score two points lower ($\exp(\beta^2)=5.847$).

Due to the fact that it is a composite score and therefore averaged on a scale of 0 to 1, the Goal-Setting variable is a little more difficult to interpret. The odds ratio of a participant who earned a perfect score of 1 on the scale enrolling in college and earning at least three credits was approximately 17 times larger than the odds of someone who scored a 0 ($\exp(\beta)=17.167$). However, participants' actual scores ranged from 0 to .70, with a mean of .40. The odds ratio for the same college outcome for a participant scoring a .50 on the scale versus someone who scored a 0 was ($\exp(\beta*\frac{1}{2})=4.143$), indicating that this higher scoring individual was over 4 times more likely to earn three credits.

One possible explanation for the significance of the *Ideal Job Specificity* variable is that participants who are more precise about their goals may be more likely to have spent time thinking about and developing them. We also thought the level of specificity participants exhibited could potentially be a marker of higher interest in achieving their goal in comparison to someone who hadn't fully developed his or her plans yet—whether or not he or she could readily name the steps needed to attain that goal. Perhaps having more specificity about a goal is a precursor to knowing the steps to attain that goal; then again, perhaps they are two completely separate, parallel components. There is a small correlation between the two variables *Ideal Job Planning Steps* and *Ideal Job Specificity* ($r=.312, p<.001; r^2=.097, n=227$). This indicates approximately 10% of total variance can be explained by the relationship between knowing the steps needed to attain a career goal and being specific about the career desired, whereas 90% is still unaccounted for.

In terms of interpreting the *Goal-Setting Composite*, one could wonder whether the *Ideal Job Specificity* variable is so strong that it can account solely for the significance of the goal-setting variable; however, we contend that this is not the case. The goal-setting variable consistently accounts for more variance in the model than the specificity variable, indicating that the other components of the goal-setting variable are adding to rather than detracting from the strength of the variable overall. For example, when the two variables were analyzed against the college success outcome of earning more credits overall, the partial correlation, or the amount of variance explained by the individual variable tested, for the *Ideal Job Specificity* variable was (partial $r=.188, p=.033$) whereas for the *Goal-Setting Composite* it was (partial $r=.244, p=.005$). As seen here, the goal-setting variable grows the partial correlation coefficient (r) by approximately one third. Although both of these correlations are small overall, we would argue that since there are so many factors that contribute to the college outcomes for adult students, finding a significant factor that explains even four or five percent of the overall variance in students' college enrollment, persistence, and success is a worthwhile effect to note.

Hypothesis: Career Planning Skills

Participants with knowledge of careers and planning abilities to obtain those careers will be more likely to enroll, persist and succeed in college.

Description for variable *Career Planning Composite*: For the baseline version of this hypothesis, we looked at just two questions: one that asked participants how often they participate in planning activities of any kind and the other that asks what the participants believe they would need to do to obtain their stated goal job. After examination of participants' responses, we did not feel that the question regarding planning frequency used in the Year 1 survey was the best measure of this hypothesis. Many participants felt that they were engaging in long-term planning activities even though the examples that they gave revealed short-term daily logistical plans, such as who would drive the kids to school the next day. Unfortunately, we did not have a great deal of other planning data available to us from the Year 1 survey.

In contrast, the *All Years* composite measure, which took into account data from across all four surveys, was much more thorough. It contained four parts and did not utilize the question from the Year 1 survey on planning activity frequency. One part of the score was derived from the goal job planning steps that participants were asked on surveys Years 1-4, in which they were asked the question: *What would you need to do to obtain that [ideal] job?*

Table 31: Participant Responses to Career Planning Questions

Year 1: How often would you say you plan more than a few months into the future?	N = 227	%
Rarely	53	23.3
About once a month	59	26.0
About once a week	39	17.2
Almost every day	76	33.5

Year 1: What kind of things would you need to do to get that [ideal] job or career? (*scored answers)	N = 226	%
Did not provide any correct or specific information on how to get ideal job	149	65.9
Referenced one of the following: education, work experience, or job seeking specifics	62	27.4
Referenced two of the following: education, work experience, or job seeking specifics	15	6.6

Year 2: What kind of things would you need to do to get that [ideal] job or career? (*scored answers)	N = 148	%
Did not provide any correct or specific information on how to get ideal job	119	80.4
Referenced one of the following: education, work experience, or job seeking specifics	26	17.6
Referenced two of the following: education, work experience, or job seeking specifics	3	2.0
Referenced all of the following: education, work experience, or job seeking specifics	0	0

Year 3: What kind of things would you need to do to get that [ideal] job or career? (*scored answers)	N = 189	%
Did not provide any correct or specific information on how to get ideal job	145	76.7
Referenced one of the following: education, work experience, or job seeking specifics	39	20.6
Referenced two of the following: education, work experience, or job seeking specifics	5	2.6
Referenced all of the following: education, work experience, or job seeking specifics	0	0

Year 4: What kind of things would you need to do to get that [ideal] job or career? (*scored answers)	N = 201	%
Did not provide any correct or specific information on how to get ideal job	121	60.2
Referenced one of the following: education, work experience, or job seeking specifics	52	25.9
Referenced two of the following: education, work experience, or job seeking specifics	23	11.4
Referenced all of the following: education, work experience, or job seeking specifics	5	2.5

The second part came from the Year 3 and 4 surveys, in which participants were asked to list any goal (in Year 4, they could list up to 3 goals). In this section, participants were not prompted to make the goal academic related, so many of the participants discussed financial or personal goals, such as to pay off their car loan or lose more weight. However, for the composite score, participants were given one point for each goal listed that was college or career-related. Participants were only awarded a point for a career-related goal

if they detailed something specific about a future desired outcome. For example, a point would be given for the response “*to become a hair dresser*” but not for the response “*get a better job.*”

Years 3 & 4: Please list x* goal(s) you have set for yourself	N	Minimum	Maximum	Mean	S.D.
Average of academic or specific career goals listed for years 3 & 4	215	0	4	1.77	1.14

*Note: in Year 3 participants were asked to list one goal they had set for themselves, whereas in Year 4 participants were asked to list three goals they had set for themselves (although if participants said that they did not have any other goals to name, interviewers were instructed not to push or prompt further).

The third piece of the composite was taken from the Year 4 survey alone. In that survey, participants were asked how they thought they could attain each of their stated goals, and their responses were assigned points based on how many specific, discrete strategies they offered (up to three points).

Year 4: What strategy do you have to achieve each of these (stated) goals?	N	Minimum	Maximum	Mean	S.D.
Average of strategy points awarded to attain stated goals	191	0	2.33	0.56	0.48

The fourth component of the planning composite was the seven-question planning protocol described previously, *Planning Skills/Tendencies*. For the *Career Planning Composite* measure, we obtained an average score for the participants’ responses, by dividing the total points awarded for better planning skills by 35, the total number of points possible. This standardized *Planning Skills/Tendencies* score was then used as $\frac{1}{4}$ of participants’ *Career Planning Composite* score.

Year 4: How often, if at all, do you do: (each of the following planning activities)	N	Minimum	Maximum	Mean	S.D.
Average of planning personality questions, compiled	207	1.14	5.0	3.21	0.70

*Note: 1-5 points possible per question- a higher score indicates better planning.

Results for variable *Career Planning Composite*: The variable *Career Planning Composite* was significant across each of the *All Years* college outcome measures tested, but not for either of the baseline college outcome variables (likely because of the relatively weak data used to set up the baseline career planning variable). For all of the results provided below, the omnibus test was always significant. Statistics representing the individual effects for each analysis conducted are as follows:

Table 32: Relationships between Career Planning and College Outcomes

Career Planning Skills	College Outcome	Results
(n=200)	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta=3.731$, $df=1$, $p=.004$; $\exp(\beta)=41.706$
(n=200)	Enrollment/Persistence: College Trajectory Status (<i>All Years</i>)	$\beta=2.536$, $df=1$, $p=.017$; $\exp(\beta)=12.629$
(n=138)	Persistence: Number of semesters (<i>College only</i>)	$b=5.604$, $p=.001$; partial $r=.300$
(n=138)	Success: Number of credits (<i>College only</i>)	$b=38.213$, $p=.007$; partial $r=.235$
(n=220)	Success: Tipping point (achieving 30 college credits)	$\beta=3.681$, $df=1$, $p=.010$; $\exp(\beta)=39.705$

Since the *All Years* career planning composite was created by averaging the career planning elements for all surveys completed by a given individual, the possible score ranged from 0.0 to 1.0. Of course, no participant scored with perfection on this career planning measure, since that means he or she would have been awarded every conceivable career planning point available across all surveys taken by that person. The minimum score observed in our sample was 0.0 and the maximum score earned was 0.86.

When analyzed against the outcome of completing 3 college credits, the odds ratio for career planning is $\exp(\beta)=41.7$, meaning that the odds of earning this enrollment milestone for those individuals who achieved a score of 1.0 on this measure was 41.7 times the odds of those who scored a 0.0 on that same measure. Even though no one scored a 1.0 on this measure, the large odds ratio indicates that there would still be a substantial discrepancy between participants who scored in the upper range of this variable compared to those at the lower end.

The odds of a participant who **scored a 1.0 on the career planning composite measure** were 12.6 times as large as the odds of those participants who scored a 0.0 on the same measure to have had a **successful college trajectory status**, including: 1) more likely to have enrolled in college at all; 2) if did enroll in college, more likely to have stayed in school or to have graduated by the end of the study [$\exp(\beta)=12.629$].

For the persistence variable examining the length that a given participant stayed enrolled in college, the analysis shows a slope of $b=5.6$. The slope is a projected line that shows the mean number of semesters completed by participants who scored across the range of

career planning composite totals. This means that the average number of semesters completed by those who scored a 0.0 on the career planning measure is approximately five and a half semesters fewer than those who (would have) scored a 1.0 on the career planning measure. The slope of the career planning variable for the college success outcome of number of credits earned was $b=38.2$, indicating that the average number of earned credits projected for someone who scored a 1.0 on the career planning composite would have been 38 more than the average number of credits earned by someone who scored a 0.0 on career planning.

Lastly, for the tipping point variable the career planning odds ratio was $\exp(\beta) = 39.7$ which shows that the odds of someone who scored a 1.0 on the career planning measure earning at least 30 college credits were almost 40 times greater than the odds of someone who scored a 0.0 for career planning doing so by the end of the study.

Finally, out of a desire to better understand the nature of the relationship between individuals' planning skills and their college success, we also tested the four individual components of the composite planning measure against our dependent variables. We found that two pieces of the composite measure were particularly strong: *Academic/Career goals stated yrs3&4* was significant for every college outcome tested, and *Ideal Job planning steps (all years)* was significant for the success (number of credits earned) and tipping point variables. It is worth noting that since the majority of the data collected for these measures was done so in subsequent years of the study (rather than while participants were still in the transition course), we must be cautious in interpreting their results, and by extension the results of the planning composite as a whole. It is very possible that those students who attended college in the second or third year of the study also became more focused on having academic and career success, or that the skills learned in college helped them to delineate the various steps that would be needed to obtain their ideal job more easily. Although it certainly makes sense to imagine that the transition program participants who were more driven to pursue career or academic-related goals were also more likely to be the ones who would enroll in college and stay enrolled, we cannot assume that this is the case. Nonetheless, now that we know the way in which questions regarding goals and their attainment should be phrased from the start, this is something that could be easily replicated in any transition program or study. It may also be that discussing the correlation between career planning skills and college success openly with participants could help spur them to focus more on developing these areas more in the future, which might potentially lead to improved college outcomes. However, further study is needed to be able to determine whether this is indeed possible.

Hypothesis: Personal Planning and Time Management Skills

Participants with better time management or planning tendencies/skills will be more likely to enroll, persist and succeed in college.

Description for variable *Planning Tendencies/Skills*: Research has shown that there is a relationship between college students' self-reports of time management and planning and their academic achievement (Britton & Tesser, 1991). We tested this hypothesis using seven out of the 18 questions from Britton and Tesser's Time Management Questionnaire, some taken from the Short-range Planning Skills area and some taken from the Time Management Area, administered as part of the Year 4 survey¹⁷. In this section, participants were asked to rate their planning tendencies and habits on a Likert scale from 1 (never) to 5 (always), such as: "*How often do you make a list of things you have to do each day,*" or "*how often do you have a clear idea of what you want to accomplish?*" We created the composite score by summing together participants' responses across all questions, in order to obtain an overall picture of their career planning ability and propensity. For questions that were negatively construed such as "*How often do you feel that there is room for improvement in the way you manage your time,*" we created an inverse score (coding 1 as always and 5 as never) before compiling the participants' total score. However, we were also interested in the elements separately since we were curious to see whether any individual planning tendency might be correlated with participants' ultimate college outcomes. Therefore, we examined the components individually as separate variables, and together, as a composite measure. For a full list of the questions used, see Appendix 3 (Question 147).

Results for variable *Planning Tendencies/Skills*: Neither the composite variable nor the individual planning tendency components analyzed was statistically significant for any college outcome tested. It is possible that if this protocol had been administered in the Year 1 survey, then we would have seen different results. However, it seems more probable that if any significant correlation were to be found, then it would be most likely to be at the end of the study when students who have been successful in college have already honed their organizational skills.

It may be that part of the problem with the measure here is that the protocol is completely subjective and relies on participants' opinions of themselves rather than attempting to quantify demonstrable skills. Participants may be too generous in the way they see their own abilities, or perhaps the questions included in the protocol do not assess the specific types of skills that are needed for college success. It is also possible that using the full 18-question TMQ scale would have given different results.

Despite the lack of significant outcomes for this particular protocol tested, we still believe that time management skills are an important component of students' success in college. For example, we did find significant results on several college outcomes for participants who attended transition programs that included a strong student life skills class

¹⁷ Although we would have liked to have administered the full 18-question TMQ, the already-considerable length of the Wave 4 Questionnaire required us to balance getting some data about participants' self-reported time management and planning skills against the possibility that participants would refuse to finish the questionnaire because of its considerable length.

component that focused on developing time management and planning skills (see *Support from College Transition Program* section below).

Also, similar to the results for motivation, we found that transition program staff's ratings of participants' time management skills (part of the program's exit questionnaire for each completing participant) were significantly related to a number of college outcomes: enrolling within one year, enrolling and completing 3 transferrable credits, college trajectory, and reaching the 30-credit tipping point (a success outcome). In other words, the more highly program staff rated a participant's time management skills, the more likely s/he was to enroll sooner, complete 3 credits, have a more positive college trajectory, and reach tipping point momentum.

Taken together, the results for those variables indicate that there is a link between students' planning and time management skills and their ultimate success in college, whether or not that link was demonstrated in the planning protocol measure here.

Demographic factors

Hypothesis: Age

Participants who are younger will be more likely to enroll, persist and succeed in college.

Description of the variable Age: Previous research indicates that age is a factor in successful college transition, with younger college-bound adults being more likely to enroll, persist and succeed (Paulson, 2012). Prince and Jenkins (2005) found that those who enrolled in college aged 25 years or older were much less likely to earn a credential than those who enrolled in college just after completing high school. More recently, research on enrollment behavior of GED recipients indicates that 17% of GED holders aged 18-29 were enrolled in college, but just 9% of GED holders aged 25-29 had been enrolled in the previous 12 months (Sum, Khatiwada, Trubskyy, Palma, & McHugh, 2012).

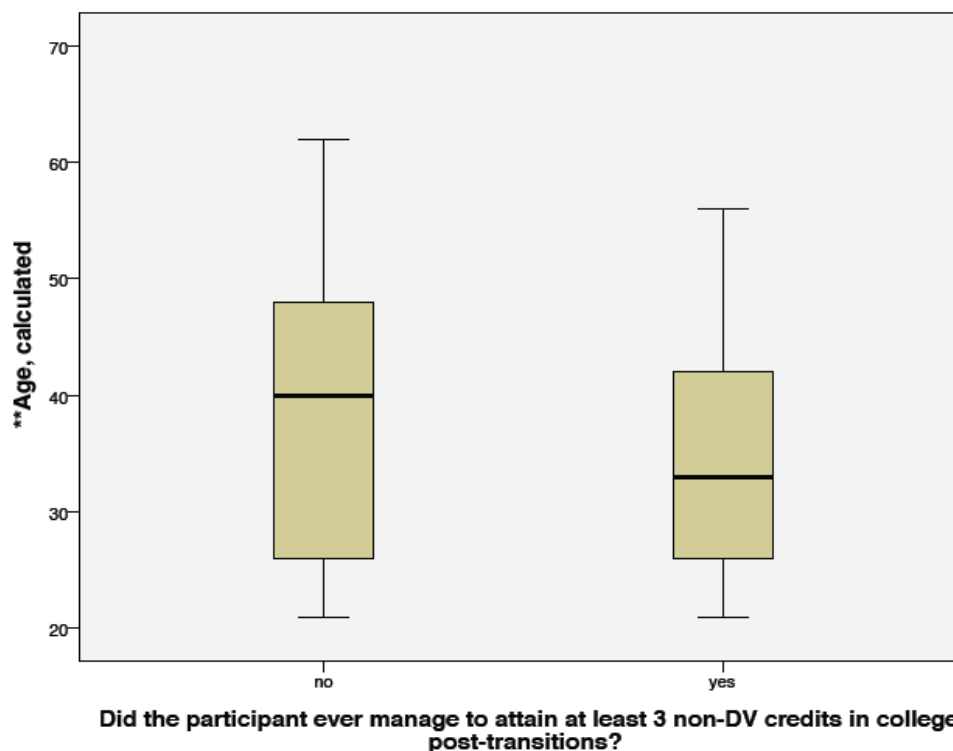
For this hypothesis, we used participants' ages as a continuous variable. We considered but rejected the idea of creating age categories rather than using a continuous variable. Although we did expect younger participants to have more successful college outcomes, we did not identify specific age groups in our hypothesis, nor did we have in mind any upper age beyond which persistence in college would be unfeasible. One element of this variable that we considered thoroughly was whether to use participants' ages at the beginning or the conclusion of the study. Participants had different start dates for the transition program, with some beginning in August or September 2007 and others in January, February, or March 2008. Due to these varying start dates, we ultimately chose to calculate participants' ages at the last day of data collection, 12/31/11, since we could then apply a

unified date to all participants. As it is a continuous variable, the comparison in the analysis is the same no matter which start date we used to calculate ages. However, the manner of calculation should be kept in mind when viewing the descriptive data below, as participants were 3½ or 4 years younger at the initiation of the transition program than their ages at the completion of the study, shown below.

	N	Minimum	Maximum	Mean	S.D.
Age	227	21	62	36.26	11.16

Results for variable *Age*: This hypothesis is partially supported; controlling for the covariates described at the beginning of this report, age was a significant factor for the primary college enrollment dependent variable in our study. Younger participants were more likely to enroll and complete at least three transferrable college credits by the end of the study ($\beta = -.036$, $df = 1$, $p = .017$, $n = 200$, $\exp(\beta) = .965$). The *Age* variable has an odds ratio of 0.965. An odds ratio below 1 implies that the relative odds of a participant earning at least three college credits decreases with older age— in this case, by 3.5% with each year. Since looking at a comparison between participants who differ by just one year in age is not particularly meaningful, we also examined the odds ratio for participants separated by a larger number of years. The odds ratio for an age difference of 10 years between participants is 0.691, meaning that the odds of successfully earning three credits are 31% less for the older participant in comparison with his or her younger peer ($\exp(\beta * 10) = .691$). Furthermore, the odds ratio for an age difference of 20 years between participants is 0.477, meaning that the odds of successfully earning three credits are 52% less for the older participant in comparison with his or her younger peer ($\exp(\beta * 20) = .477$). This means, for example, that the odds of a 25-year-old participant earning at least three transferrable college credits are twice as large as the odds of a 45-year-old participant doing the same. This relationship is depicted in Figure 3 below:

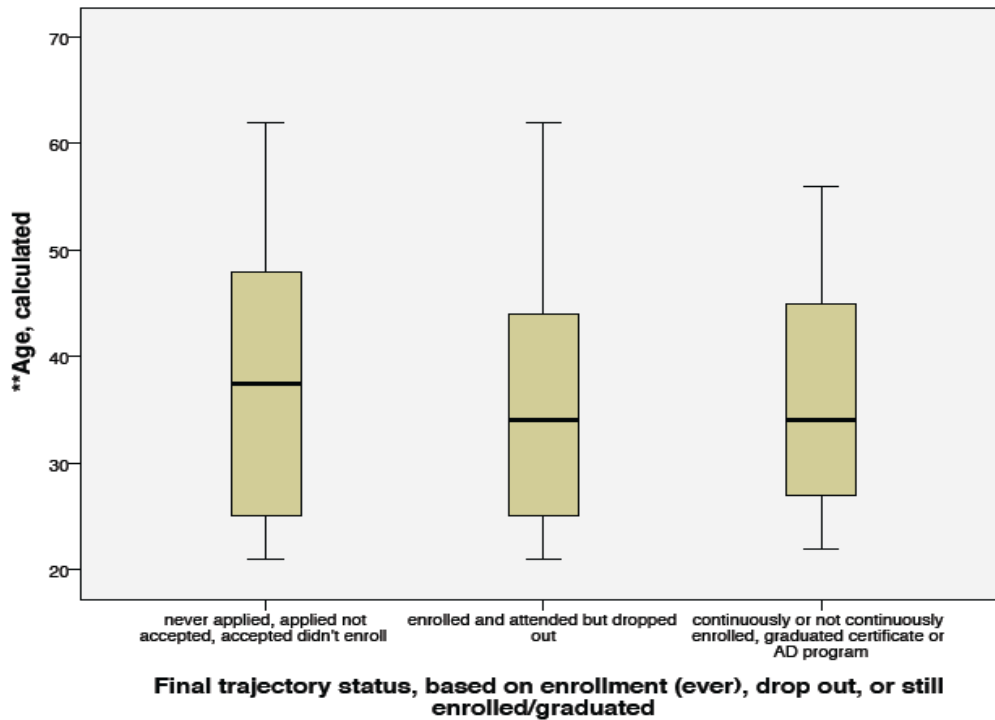
Figure 3: Relationship between Age and Completion of Three College Credits (n=220)



As clearly seen in the figure above (the dark black line drawn horizontally within each bar), the mean age of the students who earned at least three college credits was substantially lower than the mean age of those students who were unable to do so. However, age was not significantly related to persistence (total semesters completed) or success (total credits, reaching tipping point). In other words, **once a participant had enrolled in college and completed three college credits, their age was not a significant factor in staying in college or earning more credits.**

Furthermore, age was not a reliably significant predictor of college enrollment within one year or of college trajectory over the course of the study. There were a few instances in which age, as a covariate in the analysis of another independent variable, was significant; nonetheless, it was not a strong enough effect to appear consistently in the analysis of our many variables of interest. The following figure depicts the relationship between age and college trajectory:

Figure 4: Relationship between Age and Trajectory (n=220)



As shown in the figure here, although the mean age of those who never enrolled in college was indeed higher than that of the other two groups (those who enrolled but dropped out, and those who were still enrolled or graduated at the end of the study), this discrepancy was too insubstantial to be reliably found as statistically significant, likely because there does not appear to be a significant difference between the “enrolled but dropped out” group from the “continuously enrolled/graduated” group.

These results suggest that while age may indeed influence slightly whether or not a student might enroll in college and successfully complete three non-developmental credits, age is not a strong determinant of quick enrollment after the transition program or length of enrollment.

Hypothesis: Country of Birth

Participants who immigrated to the United States from another country will be more likely to enroll, persist, and succeed in college.

Description of the variable *Country of Birth*: Immigrants to the U.S., including those in the ATLAS sample, share many of the characteristics of non-traditional students:

Many immigrant college students are nontraditional students who have delayed entry into higher education after high school, who attend college part time, and who have dependents of their own. Immigrant students have higher unmet financial need than the average undergraduate and are more likely to enroll in community colleges or private for-profit institutions (Erisman & Looney, 2007, p. 31)

However, previous research demonstrates that immigrants are more likely to have better post-secondary outcomes than those adults born in the United States (Bailey & Weininger, 2002) (Fuligni & Witkow, 2004) (Vernez & Abrahamse, 2003). We chose to analyze this hypothesis as a categorical variable, comparing participants who were born in the United States to those who were born outside of the U.S. Initially, we considered accounting for participants' parents' home country rather than solely the participants' country of birth, because first generation American children of immigrants may be similarly likely to achieve higher results. However, we ultimately concluded that the most objective method of sorting participants into categories for analysis of this variable would be to use their own country of birth as the deciding factor. Overall, 20% of ATLAS participants were born in a country other than the U.S; some moved to the U.S. as young children, whereas others did so as adults.

Results for variable *Country of Birth*: We found that this hypothesis was supported, since immigrant status was significantly related to overall college trajectory ($\beta = -0.776$, $df=1$, $p=.030$, $n=220$, $\exp(\beta)=.460$). Participants who were born in the United States were less than half as likely as participants who were immigrants to have: 1) stayed enrolled in college or have graduated by the end of the study versus having enrolled but dropped out; and 2) enrolled but dropped out versus never having enrolled at all. However, being born in another country was not significantly related to any other dependent variables, such as enrolling within one year, total semesters completed, or total credits acquired.

Hypothesis: Children

Participants with either older children or no children will be more likely to enroll, persist and succeed in college.

Description of the variable *Children*: Research shows that about $\frac{1}{4}$ of all college students are raising dependent children, and the majority of them are women: "Women make up 71 percent of all student parents, and roughly 2 million students, or 43 percent of the total student parent population, are single mothers" (Gault, Reichlin, Reynolds, & Froehner, 2014, p. 1). In order to analyze our original research question about parents, first we had to define what "older children" meant for our participants. Our intention behind writing the hypothesis in this manner was to attempt to distinguish between the levels of responsibility a given parent has on a daily basis when he or she has children of varying ages.

Parents of young children face daily logistical challenges, such as the need to take care of their children's transportation to and from school and activities, as well as their care while they are home from school, although children from different households may have varying rules about staying home alone. Ultimately, we chose the age of 13 as a minimum cut-off for children to be considered "older." It's likely that many parents allow children aged 11 and older to stay home alone, and possible that children of 12 years even babysit for other children. However, we felt that 13 was a safe age for marking the passage from an all-encompassing parental responsibility for that child into a slightly less consuming role.

The next challenge we faced was how to account for the longitudinal nature of the study when considering how to code this question. After debating the issue at length, ultimately we decided that we would categorize parents as having young children if at any point over the study they had children aged 12 or under. For example, a parent who had four children aged 12, 16, 20, and 24 in the first year of the study would be coded as having young children. This was a difficult decision since the nature of that particular parent's responsibility versus one that has two children aged one and three might be quite different; however, both parents have at least one child whose transportation must be accounted for all four years of the study, which is an added challenge that parents of older children would not face for at least part of the study.

Furthermore, since the intention behind our analysis was to examine parents' added responsibility in having young children, we chose to code parents as having young children only if they were the primary caregiver for that child or shared equal custody. Due to divorce, separation, or immigration, some parents reported that they saw their children on just one day per week (or less). We felt that parents being able to count on having so many days when they did not have the burden of worrying about their kids' transportation and childcare was more similar to the state of having older children; that is to say, parents may still love and worry about their child, but it is not a minute-to-minute preoccupation as it would be for a parent of younger children who are present at home. Therefore, we ultimately created three categories for the primary analysis: (1) no children, (2) older children or no custody of young children, and (3) full custody of young children. We also decided to look at two additional comparisons between these three groups (a) any children vs. no children; b) young vs. none or older children; c) young vs. no children c) young vs. older children). The baseline version of these variables looked only at children reported in the first survey, while the all-years versions accounted in addition for babies that were born in any subsequent year of the study.

Table 33: Number and Ages of Participants' Children

Year 1: Participants with children at beginning of study	N = 227	%
No kids	79	34.8
Older kids or no custody of younger kids	46	20.3
Young kids (age 12 or under)	102	44.9

All Years: Participants with children at any point during study	N = 227	%
Never had kids	65	28.6
Older kids or no custody of younger kids	56	24.7
Young kids (age 12 or under)	106	46.7

Results for the variable *Children*: Surprisingly, after controlling for the covariates described earlier (including participants' age), we found that having younger children, compared to having no children, was actually significantly related to enrolling in college within one year of the transition program, as seen in Table 34. As a reminder, this particular college outcome was examined using baseline data only for the independent variables, meaning that this result specifically applies to participants who had no children or young children as of Year 1 of the study.

Table 34: Children and College Enrollment

Participants with children at beginning of the study (N=204)	Did not enroll in college within 1 year of transition program		Enrolled in college within 1 year of transition program		Total	
	#	%	#	%	#	%
No kids	43	56.6%	33	43.4%	76	100%
Older kids, or doesn't have custody of younger kids	25	56.8%	19	43.2%	44	100%
Young kids (age 12 or under)	48	48.0%	52	52.0%	100	100%

Omnibus test $\chi^2 = 45.006$, $df = 9$, $p < .001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta = 0.791$, $df = 1$, $p = .048$.

The odds ratio for young children versus no children is approximately 2.2, meaning that the odds of enrolling in college within a year for participants with young children are more

than twice the odds of enrolling in college for those with no children ($\text{Exp}(\beta)=2.205$). One hypothesis to explain this outcome is that participants with young children may have been more motivated to enroll in college in order to provide an example to their children. During our yearly qualitative interviews with the subsample group, this desire was expressed by participants several times; they reported that when their children grew up, the participants wanted their kids to be proud of them and to be someone that their kids could look up to.

Similarly, having any kids (young or older) was significantly related to enrolling in college within one year ($\beta=0.785$, $df=1$, $p=.049$, $n=204$). It is possible that this finding was largely due to the younger children versus no children comparison described above, as that effect would have been absorbed within these latter groupings (any children versus none). Nonetheless, the impact of having older children did not significantly diminish the strength of the log odds for the analysis described above; the odds of parents of children of any age enrolling in college within a year were also over twice as large as the odds of their childless peers to do the same ($\text{Exp}(\beta)=2.193$).

Additionally, we found that having older children versus younger children was significantly related to the college trajectory outcome.

Table 35: Children and College Trajectory

Participants with children at any point during study (N=220)	Never attended college		Attended college but dropped out		Still enrolled or graduated		Total	
	#	%	#	%	#	%	#	%
Older kids or doesn't have custody of younger kids	26	48.1%	18	33.3%	10	33.3%	54	100%
Young kids (age 12 or under)	34	32.7%	32	30.8%	38	30.8%	104	100%

Omnibus test $\chi^2=45.035$, $df=10$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, 8) composite obstacles, and 9) country of birth: $\beta = -0.826$, $df=1$, $p=.044$.

The odds ratio is approximately .44, and it shows that the relative odds of a participant with older children were less than half as large as those with young children to have achieved the better enrollment outcome for each of the following comparisons: 1) to have stayed enrolled in college or to have graduated by the end of the study versus having enrolled but dropped out; and 2) to have enrolled in college but dropped out versus never having enrolled at all ($\text{exp}(\beta)= 0.438$). In other words, participants with at least one child under the age of 12 at some point during the period of the study were more than twice as likely to enroll in college as participants who were parents of children older than 13 years

of age. Furthermore, once enrolled, parents of young children were more than twice as likely to stay enrolled in college as were participants with older children.

However, having young, old, or no children was not significantly related to persistence or success outcomes. **In other words, having older or no children was sometimes negatively related to enrolling in college but, once in college, it did not figure in the number of semesters or credits completed.**

Although the significant outcomes reported above are interesting to ponder, we do want to caution that all of these results are borderline effects, with p equal to .048, .049, and .044 respectively. Due to the fact that we considered this study to be exploratory in many ways, we did not conduct family-wise error corrections to rigorously select which analyses would still be considered significant. Since there were so few significant effects reported in previous research on adult education and transition to college programs, we were not sure which analyses would be significant. For that reason, we did not have a basis for excluding, for example, analyses comparing young children versus no children in favor of only running an analysis of any children versus no children. Instead, we feel that our role is to point to effects that may be interesting for additional exploration and analysis by future studies, rather than to provide a definitive answer on the factors that are impactful in adult education. Despite that interest, we would still like to be particularly cautious about borderline effects such as the ones reported above, since these may or may not be replicable in further studies.

Interestingly, when examining program intake data, we discovered that out of the participants who rated the likeliness of facing particular obstacles to participating in college, those who rated “needing childcare” as a more substantial obstacle were significantly more likely to enroll in college and to continue to stay enrolled ($\beta=0.397$, $df=1$, $p=.037$, $n=166$, $\exp(\beta)=1.487$), and to have completed 3 non-developmental credits by the end of the study ($\beta=0.493$, $df=1$, $p=.027$, $n=166$, $\exp(\beta)=1.636$). This effect may simply be due to our hypothesis described above, in which participants with young children were more likely to feel the need to pursue college to serve as a role model for their children, rather than being about a specific link between the obstacle of needing childcare and college enrollment. Notably though, this same effect was not found in participants’ exit data. This could either indicate that the effect is not robust enough to stand up to multiple analyses of the same factor, or it could result from the fact that the exit data is comprised of a slightly different population: those who were able to successfully complete the transition program. Since some of the less motivated individuals were already filtered out of the data sample by dint of having quit the program at an earlier date, it is possible that there was not enough variation remaining in the student population to show a significant effect for this particular item.

Hypothesis: Household Income

Those whose household income is higher will be more likely to enroll, persist, and succeed in college.

Description of the variable *Household Income*: To gauge household income, we provided participants with a series of salary and income ranges and asked participants the range into which they fell. We chose to structure the survey this way because we wanted to be cautious about asking invasive questions about a very personal issue. We hoped that using income ranges would make participants feel more comfortable answering these questions. The table below shows the breakdown of participant responses about their household income for Year 1:

Table 36: Responses for Household Income, Year 1 Survey

Year 1: What is your combined annual household income, including income from all household members and sources?	N = 227	%
Less than \$5000	16	7.0
Over \$5,000 but less than \$20,000	55	24.2
Over \$20,000 but less than \$30,000	41	18.1
Over \$30,000 but less than \$40,000	30	13.2
Over \$40,000	65	28.6
Don't know	20	8.8

When compiling this data, we assigned a score between 1-5, with a 1 indicating the lowest salary bracket and a 5 indicating the highest. Participants who responded “don’t know” were removed from that year’s pool of data entirely. Due to the fact that almost 30 percent of our sample reached the income ceiling provided on the Year 1 survey, we raised the highest income bracket on subsequent surveys. This created 7 categories in all, instead of 5. The wording for this survey question was also expanded starting with Year 2 so that participants were prompted to reflect upon all possible income sources when considering their answer, including “income from all household members from all sources including wages (reported and unreported), interest, rent, and support from government programs.” The added income ranges and their corresponding participant frequencies may be seen in the table below, which shows participant responses for Year 2.

Table 37: Responses for Household Income, Year 2 Survey

Year 2: What is your combined annual household income, including income from all household members and sources...?	N = 150	%
Less than \$5000	10	6.7
Over \$5,000 but less than \$20,000	43	28.7
Over \$20,000 but less than \$30,000	25	16.7
Over \$30,000 but less than \$40,000	21	14.0
Over \$40,000 but less than \$60,000	26	17.3
Over \$60,000 but less than \$80,000	5	3.3
Over \$80,000	8	5.3
Don't know	12	8.0

Each participant's *Household Income* (All Years) score was compiled by summing participants' corresponding income category code for each year and dividing by the total number of points possible across the surveys on which he or she responded. For example, if the participant only provided income data for the Year 1 and Year 2 survey, then the total number of points possible was 12 (denoting the maximum income for all survey years in which the participant responded).

Results for the variable *Household Income*: There were no significant findings for this variable. As previously discussed, we encountered several problems when we attempted to analyze the data gathered from this item. Since both personal income and household income were reported in response range categories, it was nearly impossible to identify the ratio of each participant's income to his or her household's income, especially when there were multiple salary contributors in the home. Another problem is that due to privacy concerns, participants were not asked to specify the exact details of family members' job titles, hours, or wages, but were rather asked to select a range estimating their household income and personal income. Unfortunately, when we went back to analyze these variables, we realized that they did not line up as easily as we expected. Although we asked some general questions asking what other types of people lived in the household (children, parents, friends, other relatives, etc.), we did not collect specifics on how many people fell into each of those categories, and which specific people were contributing to the household income.

For example, consider again our participant Jane, who is in her fifties. She had two adult sons living with her, aged 19 and 23. As a household, Jane reported that they earned "over \$80,000" per year. Both of Jane's sons had their own jobs, although they were not high-paying jobs. Very little money earned by these young men was funneled into paying for overall household expenses such as rent and utilities. Instead, Jane's sons spent their

money on paying for their own food, car payments, entertainment, and community college tuition. Thus, while Jane's overall household income may have seemed high at first glance, in reality Jane only had the use of approximately \$35,000 to fund her household costs and her own educational pursuits. Of course, we are not saying that the data we gathered for household income was completely invalid, and surely many of the participants' responses could be considered to be part of much more straightforward scenarios. Nonetheless, if you consider the example of Jane in comparison to a participant who was only 18 or 20 years old and who still lived with mom and dad, the amount that the young participant may be afforded by his or her household income and the amount that Jane is able to spend is likely to be significantly different. Furthermore, a household with an income of \$90,000 per year may seem like considerable amount money at first glance, but if it is meant to support a group of 10 people composed of extended family and children, this amount quickly starts to look less impressive. If our young participant was from such a household, it is likely that there is not as much money available for college tuition as a participant living in a household of 2 people who earn a total of \$50,000 per year.

Therefore, it makes sense that it would be difficult for any patterns to shine through in this type of data without a very careful, detailed analysis that takes into account the participants' other household members and the type of other people in the home who are working, the amount that each worker in the home contributes to the overall welfare of the household, and the number of dependent people in the home that must be supported by the household income.

Although as expected, the *Household Income* variable did not produce any significant results, on the other hand, we chose to still use it as a covariate when it was called for. We did this because it was our only measure by which to estimate the overall financial resources of the participant's household. Many of the issues we were examining were directly impacted by the participant's household means, such as participants' need for and ability to obtain financial aid. Other times, such as for the *Financial Support* variable, we attempted to combine the *Household Income* data with additional information we had gathered. In that case, we attempted to approximate the financial load that the participant had to shoulder in terms of providing for their overall household expenses by also factoring in the total number of people working in the household. Nonetheless, at best the *Household Income* provided only a very rough estimate of participants' inner financial lives, and we certainly recommend taking a more direct approach with survey respondents in the future.

Other Findings related to Individual Characteristics

Although we had not specified particular hypotheses for other demographic variables, such as marital status, college participation factors, or the type of secondary diploma, we report them here as variables of interest.

Marital Status

Description of the variables *Marital Status* and *Single Parent of Young Children*: The variable *Marital Status* was coded in the same way as the variable *Young Children*: if the participant was single, divorced, separated, or widowed at any point during the survey then we marked them as being single throughout. Although this was a difficult choice to make in terms of coding strategy, we did not want to end up with a coding system that conveyed degrees of being married over the course of the study. Therefore, we were obliged to skew the data towards marriage, if we coded participants as married if they were married at any point, or towards being single, if we coded participants as being single if they were single at any point. We chose the latter because we believed the potential benefits of having a life partner throughout the course of the study might confer significant advantages such as having built-in childcare and ongoing emotional support. Of course, we did have participants with unhappy marriages, but we nonetheless believed that we were more likely to see positive outcomes overall for participants who were married. The following tables show how we classified participants at the beginning of the study and after all years of the study were taken into account. As a reminder, participants who were ever single, divorced, or widowed at any point during the five years of the study were classified as single for the purposes of this analysis.

Table 38: Participants' Marital Status During the ATLAS Study

Year 1: Participants' marital status at beginning of study	N = 227	%
Single	100	44.1
Married	77	33.9
Domestic Partner	23	10.1
Divorced	27	11.9

Year 1: Participants' combined marital status at beginning of study	N = 227	%
Single, Divorced, or Widowed	127	55.9
Married or Domestic Partner	100	44.1

All Years: Participants' combined marital status over the course of the study	N = 227	%
Single, Divorced, or Widowed	149	65.6
Married or Domestic Partner	78	34.4

If the single, divorced, or widowed individual in question is also a parent, this could present an additional set of challenges and obstacles that this person must overcome. Raising children is a heavy responsibility, even before adding the challenge presented by pursuing

a college degree; and, if that individual's children are still young enough to need transportation or childcare, then the amount of work and logistics that the individual must juggle increases even further. Therefore, we created another variable, *Single Parent of Young Children*, which was the interaction between *Marital Status* and *Young Children*. It was defined as participants who were both single at any point in the study and who had children under the age of 13 at any point in the study. Both of these variables also had a baseline version, which was coded using participants' marital and parenting status in first year of the study, and which did not take into account break-ups in later years or children who were born after Year 1.

Table 39: Number of Single Parent Participants with Young Children

Year 1: Single parent, with kids under the age of 13 at the beginning of the study	N = 227	%
Not a single parent of young kids	193	85.0
Single parent of young kids & has full custody	34	15.0

All Years: Single parent, with kids under the age of 13 at <u>any</u> point during the study	N = 227	%
Not a single parent of young kids	168	74.0
Single parent of young kids & has full custody	59	26.0

Results for variables *Marital Status* and *Single Parent of Young Children*: Marital status was significantly related to our college-only dependent variables; i.e., it was significant only for those who enrolled in college. As described earlier in the methodology, marital status was one of the nine covariates that we chose to make up the persistence and success analysis framework (see earlier section for full rationale on selection of covariates, which were based on the characteristics of non-traditional students in the college transition literature). In the analysis of the covariate framework and throughout the statistical tests on other independent variables, marital status was significantly related to our dependent variable measuring success. Being married or in a domestic partnership throughout the course of the study was significantly related to earning more total college credits by the end of the study ($b=10.585$, $p=.034$; partial $r=.187$, $n=138$).

The picture of marital status was more complicated with respect to completing more total semesters in college. In the first analysis of the persistence dependent variable using just the covariate framework as independent variables, being married was a significant factor but the omnibus model was not significant, so therefore we could not consider it a viable

significant outcome. However, once we started testing other independent variables of interest and identified omnibus models that were significant, we frequently continued to see participants' marital status appear as significant. Individual results for the partial r and statistical significance varied somewhat depending on the independent variable of interest being analyzed. The most conservative significant value identified for marital status in relation to college persistence was $b=1.142$, $p=.038$; partial $r=.183$, $n=138$. Due to the fact that the marital status variable was not consistently significant, we would like to be cautious when considering its impact on participants' college persistence; however, when these results are considered alongside the significant findings in the college success analyses, it does provide a tentative indication that marital status factors into non-traditional students' college outcomes to at least a limited extent.

One explanation for these findings is that having a permanent, stable partnership likely assists an individual with a range of critical household and parenting tasks. Participants who lack that support may not be deterred from enrolling or persisting in college, but it is probable that it increases the likelihood of allowing them to attend college full-time or take a heavier load of classes in comparison with their peers. Having a partner is a unique type of support; it provides all-hours access to an adult who is often available at home, in contrast from the support offered by a friend whose company must be specifically sought out.

Thus, it may be that having a stable relationship with a partner provides magnified support in comparison to other types of assistance, which might be more sporadically available. However, since we did not attempt to characterize the relationships of our participants, in our analysis of this variable both those marriages that are healthy and those that are unhappy are mixed in together. Unfortunately, not every spouse is a support; indeed some partners may present a substantial obstacle to a participant's ability to pursue college due to frequent criticism, outright objection to the individual enrolling in college, or refusal to assist with household or childcare tasks. Using the simple classification of married or unmarried employed by our study, we may see a small or borderline effect in our statistical analyses. However, the effect of relationships on college outcomes might be considerably magnified if we were to ask participants to classify each year whether they considered their marriage to be supportive or unsupportive, and then only compare supportive marriages to those individuals who are single. Another future area of exploration would be to examine the impact on college enrollment, persistence, and success between participants with contrasting types of marriages.

Being a single parent of young children was not found to be significant in any tests examining it as the primary variable of interest. Nonetheless, we included it as a covariate for all analyses conducted on enrollment and trajectory, because we believed that it was an important factor to hold constant across participants.

Secondary Education Degree

Description of the variable *High School Degree Type*: For this variable there were three categories: traditional high school diploma, alternative diploma, or General Educational Development (GED).

Table 40: Type of High School Degree Among ATLAS Participants

High School Degree Type	N = 227	%
GED	105	46.3
Alternative High School Diploma	38	16.7
Traditional High School Diploma	84	37.0

Some of the participants who earned their GED were undoubtedly immigrants with high school or even college degrees in their own countries but who wanted or needed to get a GED diploma in order to enter college in the U.S. Other participants had an alternative diploma, usually acquired through participating in adult secondary programs where they could finish the specific courses that were uncompleted when they dropped out of high school. Due to the fact that there was a limited number of those who completed an alternative diploma program, we felt it was necessary to combine this category with either GED or traditional diploma. After much consideration, we ultimately chose to combine the GED and alternative diploma responses, because both of those participant groups took a non-traditional route to completing high school.

Results of variable *High School Degree Type*: This variable was not found to be significant against any college dependent variables tested. We also closely examined the descriptive output for the more detailed categorical variable (using all three degree types) in comparison with all of our categorical dependent variables such as earning three credits, enrolling within one year, trajectory status, and achieving tipping point momentum of at least 30 credits. For all of these variables there was very little distinction between the three high school degree types on college outcomes. Regardless, we included the combined *High School Degree Type* variable as a covariate for all analyses conducted, because it was part of our original theoretical framework of the factors we believed important to hold constant across participants.

College Participation Variables

These variables represent data about ATLAS participants' participation in college. We collected this information from college transcripts¹⁸. Therefore, we only have data on these variables from ATLAS participants who ever enrolled in college during the time of the study, and we analyzed these variable only for the college-only dependent variables *Number of Semesters Completed*, and *Number of Credits Earned*.

Table 41: College Participation Variables

Independent Variable	Level
# of Previous (Transferrable) College Credits	continuous
# of Classes Enrolled in 1st Semester	continuous
Ratio of Earned Credits to Attempted Credits	ratio: possible range= 0 to 1
College GPA	0.0 to 4.0, includes grades for developmental coursework
# of Classes Flunked, Repeated, and Withdrawn	continuous
# of Developmental Classes Taken	continuous

Previous College Credits

Description of the variable # of Previous (Transferrable) College Credits: Originally we had also asked participants to report in the Year 1 survey whether they had any previous college credits, and if so, how many. Unfortunately, when examining the actual transcripts we found that this self-report data was wildly inaccurate. The transcript-verified figure should actually have been higher than the self-reported figure, because several transition programs awarded between 1-4 college credits to those participants who successfully completed their program. These newly gained credits were counted in our overall transfer credit tally, even though they were a very recent acquisition.

Therefore, participants' transfer credit total post-transitions should have been inflated compared to their originally stated transfer credit total, which they had reported before earning any additional credits associated with the transition program. Instead, we found the reverse: the mean number of previous college credits reported by participants Year 1 was 12.28 (n=88), whereas the actual number of previous college credits transferred to

¹⁸ See discussion of "College Transcript Data" in Methodology section above for a description of how and from whom we acquired college transcripts.

participants' colleges post-2007 was 1.54 (n=138). Although the latter figure only represents the portion of the participant sample that enrolled in a college program post-2007, it seemed highly unlikely that the figures would be off that substantially by chance alone. In fact, when we examined just the subset of those 84 participants who completed at least 3 non-developmental college credits between 2007-2012, we found that the mean self-reported transfer credit total was 11.85 (n=48). On average, participants reported having successfully completed three additional for-credit classes at their previous college than was actually the case. Considering the large discrepancy discovered, we decided to disregard the self-reported figures entirely and only analyze the transcript-verified transferred credits.

Results for the variable # of Previous (Transferrable) College Credits: This variable was not significant for either the persistence or success college-only variable. It appears that previous college achievement had no bearing on participants' subsequent college persistence or achievement levels.

Number of Classes in First Semester

Description of the variable # of Classes Enrolled in First Semester: This variable was another a transcript-verified item, and consequently was analyzed solely against the college-only dependent variables. We originally planned to draw the information for this variable from the Year 2 survey, in which we asked participants to report the number of classes they took in their first, second, and third semesters. However, as discussed earlier in the Obstacles section, we unfortunately had our lowest participant response rate for the study in Year 2, and this question was not repeated in subsequent surveys. As a precaution, we triangulated Year 2 participants' self-reported class numbers with their college transcripts. There were some discrepancies between individual entries, but overall these problems seemed to balance out. The mean for the self-reported number of classes taken in the first semester was 2.39 classes (n=87), and the mean number of first semester classes taken according to students' college transcripts was 2.36 classes (n=127). Interestingly, this was the one college transcript variable that participants reported with overall accuracy. Notably, this was the one college transcript variable that participants seemed to report with overall accuracy. Nonetheless, we chose to use the transcript-verified data for this variable because of its larger sample size and because of our certainty in its accuracy.

One final point of note is that this variable did count developmental classes as part of students' class workload, unlike many other college variables that we have discussed thus far. Although students in remedial classes do not receive transferrable college credits for course completion that count towards their degree, they do need to pass these classes in order to meet certain college requirements (based on their incoming test scores such as the Accuplacer). Therefore, students enrolled in these classes must work equally hard as in

their other for-credit classes, so that they may perform well and satisfy any remedial education requirements.

Results for the variable *# of Classes Enrolled in 1st Semester*: This variable was not related to college persistence but it was significantly correlated with our college success outcome *Number of Credits Earned* ($b=7.639$, $p<.001$; partial $r=.356$, $n=127$). Participants who enrolled in a higher number of classes in their first semester were more likely to have achieved higher totals of transferrable college credits over the course of the study. This result makes sense for a number of reasons. The number of classes in which students enroll during that first semester provides an indicator of their desired pace for completing their college degree, as well as a gauge of the amount of time and flexibility the participants have in their schedule. It also may be linked to the financial means that a student has available to spend on college, both in terms of the ability to pay for a larger number of classes thanks to grants, loans, or household income, and in the ability to forgo the higher income that would accompany working more hours at one's job. It is certainly possible that a student might start out college by enrolling in too many classes at once and then struggle with the workload to the point where he or she burns out on school entirely. One might also wonder whether a student who takes on a larger workload from the start may be more committed to earning a college degree than someone who signs up for just one class per semester. Perhaps either of these possibilities may be true for a few students, but the fact is that we did not find any significant relationship between the first semester workload and the number of semesters that participants completed once enrolled in college. Therefore, it is unlikely that the number of first semester classes in which a student enrolls can be interpreted as a measure of his or her overall determination to earn a college degree—no matter how long it takes.

Ratio of Earned Credits to Attempted Credits

Description of the variable *Ratio of Earned Credits to Attempted Credits*: This variable attempted to gauge participants' overall success and level of study in college by looking at the number of transferrable college credits earned divided by the total number of college credits attempted. This variable was created as a proxy measure to examine participants' academic ability and overall progress rate in college. It was individualized for each participant such that we could see the proportion of transferrable credits accrued relative to the participant's total workload during a given semester. The variable was calculated by summing the number of transferrable college credits earned, and dividing that figure by the total number of college credits attempted.

Several factors negatively impacted scores for this variable, such as taking a high number of developmental courses, failing or withdrawing from courses, and repeating courses. For example, a student who enrolled in only one course in college and completed that course

but then dropped out of school would earn a 1.0 for this variable (3 credits attempted, 3 credits earned). In contrast, a student who enrolled in 20 courses out of which he completed 15 non-developmental courses, withdrew from 2 non-developmental courses, and completed 3 remedial courses would earn a .75 for the variable, despite having accrued 45 credits total.

Although we did expect some degree of correlation between this ratio and the number of credits earned, we felt that there was enough of a difference in the two measures that it could be reasonably analyzed. To be safe, we conducted a Pearson correlation between the two variables to verify the degree to which they were related. As expected we found a significant relationship between the *Number of Credits Earned* and the *Ratio of Earned Credits to Attempted Credits* variables [$r(130)=.552, p<.001$]; showing that those who accrued more college credits over the course of the study were also more likely to have a higher ratio of credits earned in comparison to those attempted. Although this correlation is moderately large, on the other hand it explains just 55 percent of the variance between the two variables. Thus, the correlation was not so high that it precluded a regression analysis between the two variables (as it would have been with a correlation finding of $r>.800$). We also examined the Pearson correlation between the number of semesters completed and the ratio of earned credits to total credits attempted, which was lower but also significant, at $r(130)=.431, p<.001$. These findings reassured us that we could proceed with the full analysis of the *Ratio of earned credits to attempted credits* variable, albeit with caution.

Results for the variable *Ratio of Earned Credits to Attempted Credits*: This variable was significant for both the college persistence and college success outcomes tested. This result was expected based on the fact that we already had shown a simple correlation between the two variables. Nonetheless, this analysis was different because it was mediated by other explanatory factors such as a participant's age and whether they were able to complete the transition program. After accounting for all of the covariates in our standard analysis framework, we found that having a higher *Ratio of Earned Credits to Attempted Credits* was significantly related to earning more total college credits ($b=47.30, p<.001$; partial $r=.598, n=132$). Even after accounting for these other covariates, the partial correlation from the linear regression analysis was slightly stronger than the Pearson correlation discussed earlier; it indicates that **a student who only took for-credit classes and who was able to maintain a 1:1 ratio of classes taken to classes passed will have earned on average 47 more credits than someone who either only took developmental classes or who was unable to successfully complete any for-credit courses before dropping out.** Similarly, a higher *Ratio of Earned Credits to Attempted Credits* was significantly related to completing more total college semesters ($b=4.152, p<.001$; partial $r=.466, n=132$). Thus, on average a participant who earned a 1.0 for the *Ratio of Earned Credits to Attempted Credits* variable would have completed approximately 4 more semesters than someone who had a score of 0.0. It should of course be noted that

such extreme scores were not the norm; only 23 participants had a score of 1.0, whereas 12 students scored a 0.0. The mean score for this variable was 0.641.

College Grade Point Average

Description of the variable *College GPA*: This variable was the second one that we used to examine students' academic prowess and in-class success as they made their way through college. The *College GPA* variable was scored by conducting a review of the students' college transcript records. It served as an alternate route for us to address the question of whether participants with stronger academic abilities were more likely to persist and succeed in college over time. A second reason that *College GPA* was important to us to examine is that we saw a pattern in which some students would habitually repeat courses that they had passed but on which they had done poorly, in order to improve their overall GPA. Students who successfully retook any college class, developmental or other, were able to replace a previously lower grade for that class with the best one earned in their colleges' final GPA calculations. Of course, repeating such courses resulted in a lower score for the *Ratio of Earned Credits to Attempted Credits* variable, which was our other measure of academic ability. This is not to say that repeating such courses was an unwise decision; after all, repeating a course to obtain a better grade not only improves the student's permanent academic record, but it also exposes the student to challenging material for a second time, allowing that individual to glean a deeper understanding the second time around. For example, we found that some students repeated developmental (non-credit) math classes after having passed with a low grade such as a C or D; even if the primary motivation behind this decision was to erase any record of a low grade on their transcript, one consequence of that decision is that the student would likely gain a more thorough understanding of that required skill-set before moving on to more challenging courses. Therefore, although it takes an additional investment of time and money to re-enroll in a class that has already been passed, on the other hand it may be a worthwhile decision for a participant if it helps him or her towards stronger academic abilities and a record that will ultimately impress future employers.

During our review of the college transcripts we collected, we realized that in order to analyze the data in a fair and consistent way, we would need to recalculate students' GPA across a number of situations. One type of recalculation occurred whenever students had transcripts from multiple college institutions. Once a student transferred to a new college, the accepting institution would transfer over any acceptable course credits but would not count students' previous GPA towards their new academic record. Therefore, we refigured each student's GPA for all credits taken at both schools and combined them into a final GPA for our analysis, which was not based on which classes transferred over successfully but rather upon all classes taken. Taking this step was important to us because we wanted to gain a sense of participants' academic aptitude across their entire college experience from 2007 and on, not just from their most recent transfer history.

A second calculation issue we discovered was that approximately half of the colleges used students' grades earned in remedial (non-credit) courses towards their total GPA, whereas the other half of schools did not. This is obviously problematic, because we needed consistency across all colleges for comparison purposes. Thus, for the sake of our analysis we chose to recalculate the GPA of any students who attended schools where grades for remedial coursework did not count towards the students' overall GPA. Even though these developmental classes ultimately did not count towards students' total credit hours, using the grades derived from them was helpful for several reasons. The first reason is that being able to count grades from students' developmental courses allowed us to obtain the most accurate picture of academic skills. Students often reported that they feared taking mandated remedial math courses more than any other course, and if we were to leave out grades for these types of courses we would be missing out on capturing one important element of participants' academic experience in college.

Second, some study participants only attended college for one or two semesters in total, and sometimes the only classes that they took were developmental courses. Therefore, these students would otherwise have been left out of the *College GPA* variable analysis entirely, even if they had attended several different classes before dropping out.

Lastly, while reviewing students' transcripts we noticed that students often repeated remedial courses that they had passed but in which they received poor marks, such as a "D". In fact, students engaged in this behavior even when those grades did not contribute to their GPA. We cannot know if participants who did this were motivated purely by the desire to improve their academic skills in a given area, or whether they just did not understand their college's system of GPA calculation. This pattern took place both in colleges that counted those grades towards total GPA and those that did not. It is highly possible that at some such institutions, students erroneously believed that their GPA was impacted by grades earned in developmental coursework. This would be consistent with our observation throughout the transcript versus self-report comparison process that many students did not fully understand the policies of their institution. Therefore, considering that students in effect delayed furthering their progress for the sake of improving their GPA, thereby lowering the *Ratio of earned credits to attempted credits*, we decided to ensure that developmental coursework was consistently figured into the *GPA* variable.

Results for the variable *College GPA*: After we took grades on remedial coursework into account, the mean GPA for our participant sample was 2.633, with participants earning GPAs that were spread across the full possible range of 0.0 to 4.0. We found that having a higher *College GPA* was significantly related to earning more total college credits ($b=10.865$, $p<.001$; partial $r=.431$, $n=126$). The slope for this analysis indicates that **for every 1.0 increase on a participant's overall college GPA including remedial**

coursework (for example a 3.0 GPA versus a 2.0), the student earned an average of **10 additional credits in comparison to his or her lower performing peer**. Similarly, a higher *College GPA* was significantly related to completing more total college semesters ($b=0.977$, $p<.001$; partial $r=.348$, $n=126$). These results indicate that **for every 1.0 increase on a participant's overall college GPA (for example a 2.8 GPA versus a 1.8), the student would have completed 1 additional semester in comparison to the lower performing student**. Of course, the strong statistical results for this variable were certainly expected; it makes sense that participants who had better grades would achieve more credits and stay in school longer than their lower performing peers, either because they find college work easier and more agreeable, or because they dedicate enough time and energy to studying and earning better grades.

Number of Developmental Education Classes

Description of the variables # of Developmental Classes Taken: We designed this variable with the purpose of providing further detail regarding participants' college academic experience. The variable *# of Developmental classes taken* represents the total number of non-credit courses in which the student enrolled at any point during his or her college career (post-2007), not including transition program participation. We calculated this variable by carefully examining students' transcripts. Each developmental class in which a student enrolled in counted as one course, no matter whether or not the participant actually completed the course or how many credits were offered (usually one to three). The vast majority of non-credit courses in which students enrolled were in the subject areas of reading, writing, and math. Only a few students out of our entire sample took less traditional developmental credits such as science or college orientation courses. The number of developmental classes in which our participants enrolled, including course repetitions, ranged from 0 to 12 classes total, with a mean of 1.398 classes. As can be seen by this figure, most participants did not enroll in a large number of non-credit classes, although some participants had much more extreme developmental course enrollment.

Results for the variable # of Developmental Classes Taken: The variable *# of Developmental Classes Taken* was significantly and positively related to having completed more semesters overall ($b=0.372$, $p=.007$; partial $r=.244$, $n=128$), but it was not significant for the college success variable *Number of College Credits Earned*. The effect size of this analysis was fairly small, and should be viewed with caution because we chose not to standardize this measure (unlike the variable *Ratio of Earned Credits to Attempted Credits*). Due to that fact, it makes sense that taking more developmental classes would be linked to having stayed in college for a longer period of time, simply because a participant who has enrolled in 5 developmental classes has clearly been in school for longer than 1 semester; in contrast, a participant who has only taken one such class may have only attended college for a single semester.

Number of Classes Flunked, Repeated and Withdrawn

Description of the variable # of Classes Flunked, Repeated, and Withdrawn: This variable is somewhat similar to the *Ratio of earned credits to attempted credits* variable, although its focus was much narrower. The goal of this variable was to measure the number of times that a participant would have earned zero credits after having enrolled in a for-credit course. We hoped the variable would measure the degree to which students were delayed in their progress along their college journey, excluding situations involving remedial education requirements. This might occur if a student was enrolled in a non-developmental (for-credit) course but either flunked or withdrew before the end of the semester. It also might occur if the student deliberately re-enrolled in any for-credit or non-credit course, either to improve his or her initial grade or to make a second passing attempt. However, we did not count students' first attempt at remedial education classes towards this variable because in spite of the lack of credit earned, the student is nonetheless making progress towards his or her college goals. Although the student's college journey may take longer than someone who can skip developmental coursework altogether, on the other hand this student is still learning and advancing forward. In contrast, a student who either flunks, withdraws from, or repeats a class is no longer making forward progress towards college completion. Instead, that student must go back and repeat the same class in order to advance again. This repetition bears a cost of both time and money, which are precious commodities for many participants. Not all students who flunked or withdrew from a course later went back to repeat that course, either because they subsequently dropped out of college or because they found a way to complete their course requirements without it. However, if a student did flunk or withdraw from a course and then later repeat it, it was counted twice in the variable calculations (once for the *F* and once for the *R*), or three times if the student received an *F* or *W*, then repeated it and again received an *F* or *W*, and then repeated it a final time. We had a difficult time deciding whether or not to count the repeated coursework a second time in addition to the initial *F* or *W* received by the participant, but ultimately we decided to do so because we felt that it best represented the stalled academic advancement that we were attempting to capture, along with the participant's struggle to meet his or her academic goals. The highest number of combined class repetitions, withdrawals, and failures was 16, but the mean number was 2.659. Many participants scored a 0 for this measure, indicating that they never received an F, W, or R at any point on their college transcript post-2007.

Results for the variable # of Classes Flunked, Repeated, and Withdrawn: This variable was also significantly and positively related to having completed more semesters in college ($b=0.250$, $p=.001$; partial $r=.295$, $n=129$). Like the variable above, the effect size was small. It is more interesting that this variable was not linked in any way to the college outcome measure *Number of Credits Earned*, since we did expect participants with repeated class withdrawals, failures, and repetitions to have earned fewer credits than their peers over

time. On the other hand, to a certain extent, high scores on this measure represent participants' persistence and determination to stay in school in spite of the challenges they face rather than simply dropping out. This doggedness may have provided a counterbalance to the delay in students' progress that these course repetitions would have necessitated.

Hypotheses related to Supports

The next section of ATLAS hypotheses is concentrated around the supports in participants' lives. These supports could come from people, from engaging in college activities, from social capital (e.g., through parents who went to college), from financial aid, or any number of. As with the other hypothesis variables discussed to date, the support variables were analyzed in two ways: once using baseline data and once using data compiled across all years of the survey. The full list of hypothesis variables on participants' supports is provided below:

Independent Variable	Range
# of People relied upon for support	1=No one, 5=More than 20 people
# of Supportive tasks identified	Total number of boxes checked in support section (Yr1, Yr4)
Active Support	composite score
Passive Support	composite score
Support People Network: Family & Friend Support Network	composite score
Support People Network: College Transitions Support Network	composite score
Support People Network: Work Support Network	composite score
Support People Network: Community Support Network	composite score
Support People Network, compiled across all people categories	composite score representing the number and breadth of people who support the participant
Support People Network: College Support Network	composite score
Support Category Type: Informational/Connectional Support	composite score
Support Category Type: Logistical Support	composite score
Support Category Type: Emotional Support	composite score

Independent Variable	Range
Support Category Type: Academic Support	composite score
Support Category Type: Financial Support	composite score
Support Type Categories, compiled across all category types	composite score representing number and breadth of support types provided
Academic-Related Activity Engagement	composite score
Financial Aid (Years 2-4)	yes, received financial aid in the past year
	no, did not receive financial aid in the past year
Social Capital	composite score representing social network's beliefs and experience with college

A primary goal of ATLAS study was to identify the various supports and obstacles that assisted or hindered participants in their college journey. Therefore, the surveys that were administered each year were designed with the intention of gathering detailed information about those obstacles and supports. By the end of the study we had compiled a detailed picture of participants' relationships and lives, and of the specific types of assistance offered through each of their connections with individuals or institutions. We considered at great length how we could best organize, quantify, and analyze this massive amount of data. The supports participants reporting receiving were spread across many different facets of their lives, and there were numerous ways we could have divided them. Ultimately, we realized that all of the information gathered could be divided into four distinct components, each of which would examine the issue in a slightly different manner:

1. *Number of people* who were available to support the participant, no matter the breadth of support from across social groups. In this construct, if a participant had 10 people who they reported as supportive in one way or another, it did not matter whether those 10 individuals were drawn from one social network (e.g., work) or from many different ones.
2. *Number and breadth of social networks* across which the participant could draw for assistance or support. For this construct, both the number of people and the spread of supportive people across the various facets of the participant's life was what mattered (e.g., friends and family, college transitions, etc.), rather than the total number of people on whom the participant could depend.
3. *Number of supportive tasks* with which participants received assistance. For this construct, the breadth of support type categories did not matter; that is to say, it did not matter whether all of the assistance received fell into a single category (e.g., child care) or was distributed across many different ones.
4. *Number and breadth of support type categories* that were provided to the participant across the many areas of their lives. This construct is similar to the second one listed above, in the sense that we are examining both the spread across the various support

areas that a participant received assistance with (e.g., transportation, academic, etc.) as well as the depth of support received within that particular category.

- It may be difficult at first to perceive the differences between these four variables, but an examination of the data will show that the categories are in fact quite discrete. The main reason that we decided to look at support in so many diverse ways is that we did not know which of these variables might be the most instrumental in helping students to enroll, persist, and succeed in college, and there was no research to which we could look to resolve the issue for us.

Variables #1 and #3 listed above were easy to calculate; we simply added up the total number of supportive tasks or people that participants reported in all of their yearly surveys, and then standardized that figure based on the total possible for those years combined. We had to standardize these variables despite their more straightforward nature, because participants did not all complete the same number of surveys over the course of the study.

The way that we designed the analysis for the more complex composite variables above, #2 and #4, was based on the idea that each category of support types or of social networks was a discrete “bucket.” Each of those buckets could be filled to varying degrees based on how much support a participant received. The higher the number of affirmative responses the participant gave regarding the assistance types received within each category, the higher the score for that particular bucket; the lower the number of affirmative responses, the more empty that bucket would be. In order to achieve this end, we standardized each bucket based on the number of questions participants were actually asked for a given category (depending on how many surveys were completed, etc.). Furthermore, any questions that were not applicable for participants were removed from their total possible score. One example of such a removal would be work-related support questions for someone who was unemployed at the time, which was done on a year by year basis. Another removal that we accounted for was participants’ probable absence of childcare needs if their children were over the age of 16, or if participants made a specific statement about not requiring assistance, as long as the children in question were at least 13 years of age. For children aged 12 and under we assumed that there might be some cases in which, even if the parent did not readily consider it at the time of the survey, the participant might feel compelled to arrange for childcare. Ultimately, all of these standardized buckets were summed together for each participant, essentially forming a composite variable that represented the overall load of support that a participant could count on. This allowed us to simultaneously measure the breadth and depth of the tasks that participants felt that they could rely on receiving across their support network.

Since we did not have a theoretical basis for selecting the support variable that we wanted to use as a covariate for all of our statistical models, we chose to assess all of the composite

variables individually and see whether any of them were related to participants' college outcomes. We also ran the two variables *Number of People relied upon for support* and *Number of Supportive tasks identified* together to create a picture of the number of people and depth of support offered to the participant, without dividing those supports into category types. Although we felt that dividing the participants' supports into category types and people networks was far and away the best method of examining participants' overall support, since we had no previous research on which to base that judgment, we felt it was important to run through multiple conceptual frameworks for this hypothesis.

As part of our work to set up the four overarching support composite variables, we had also completed the set-up of the discrete support "buckets" for the categories of support people networks and the categories of support types. Although we expected the overall composite measures to be the most powerful and accurate format for predicting students' college outcomes, we also endeavored to isolate individual support networks and categories of support types that might impact student enrollment and success on their own. This attempt was represented by the individual hypotheses drafted for each support "bucket." For example, we ran the *Family & Friend Support Network* bucket by itself in order to examine the hypothesis: *Those who feel supported by family and friends will be more likely to enroll, persist, and succeed in college.* Similarly, another single "bucket" hypothesis related to *Logistical Support* was that *those who receive more support with childcare, transportation, and other logistical needs will be more likely to enroll, persist, and succeed in college.*

Assuming all questions for each section were pertinent to participants and that they had completed all four surveys, the total possible points for each category of support type buckets may be seen below:

Categories of Support Types	Total Possible Points
Informational/ Connectional	4 possible points (Yr1 only); 5 possible points (All Years)
Logistical	9 possible points (Yr1 only); 14 possible points (All Years)
Emotional	4 possible points (Yr1 only); 5 possible points (All Years)
Academic	1 possible points (Yr1 only); 2 possible points (All Years)
Financial	2 possible points (Yr1 only); 4 possible points (All Years)

The total of possible points for each category of supportive people is:

Categories of Support People	Total Possible Points
Family & Friends	5 possible points (Yr1 only); 7 possible points (All Years)
College Transitions	3 possible points (Yr1 only); 9 possible points (All Years)
Work	4 possible points (Yr1 only); 7 possible points (All Years)
Community	5 possible points (Yr1 only); 10 possible points (All Years)

A more detailed explanation for the methodology behind compiling the support variables and their results follows.

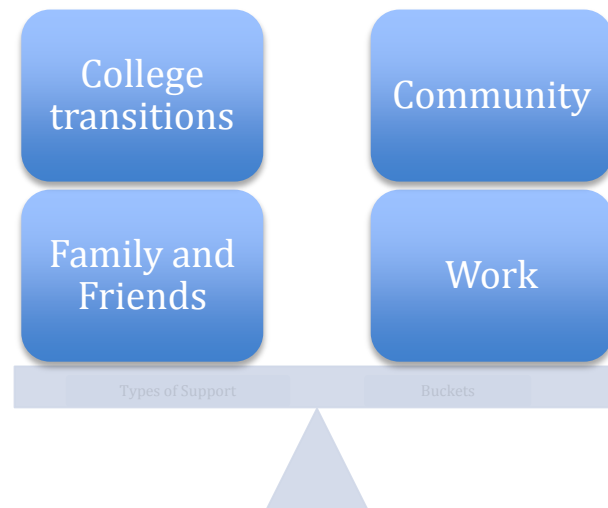
Support from People

Hypothesis: Breadth of Support People Network

Participants with a greater breadth of people who provide support (family and friends, college transitions students and/or staff, work colleagues, neighbors and community members, college instructors or colleagues) will be more likely to enroll, persist and succeed in college.

Description of the variable *Support People Network Composite*: This variable represented the number and breadth of people who were available to support the participant. This was a complex variable to craft because it was intended to represent the diversity of the individuals that compose the participants' support network.

Consider a hypothetical example in which participant A, Jane, can name and describe six people whom she counts as major supporters in her life, as can participant B, Bob. Four of Jane's supporters are family members, and the other two are her best friends from high school. In contrast, Bob has two supporters who are family members, one who is his former boss, one who is his transition program teacher, one who is a neighbor, and one who is his caseworker. Is the support that Jane and Bob receive identical, simply because they each have six people available to support them? Or is it possible that Bob's network provides better support for him to attend college due to the fact that he can draw upon different resources for different types of issues in his life? Our interest in answering this question is what led us to create the composite variable *Support People Network*.



This depiction shows a large scale on which a series of “buckets” sit, and which sum together to provide the total “weight” of support a participant can count on. For this particular variable, those buckets consist of the four support people categories:

1. family and friends
2. college transitions
3. work
4. community

Each bucket contains, for each participant, information from questions that pertain to those different support people categories that are drawn from the four years of survey data. As seen above, we combined family and friends into one bucket because we felt that the support received by those two categories were indistinguishable in practice. Depending on the relationship, some individuals may see their family members as friends or some friends as substitute family members. A few examples of the types of questions representative of each bucket are as follows:

Support People Categories	Questions
Family & Friends	If felt supported by family to participate in transitions (Yr1)
	If felt supported by friends to participate in transitions (Yr1)
	If mentions having a mentor that helps them to participate in transitions (Yr1)
	If mentions having a friend and/or family member in their top 5 supportive people (Yr1, Yr4)
College Transitions Community	If spends time with transitions students outside of class either sometimes or frequently (Yr1)
	If keeps in touch with transitions students (Yr2, Yr3)
	If keeps in touch with transitions staff (Yr2, Yr3)
	If mentions someone from this category (e.g., fellow transitions student or staff member) in their top 5 supportive people (Yr1, Yr4)
Work	If supportive work environment helps to participate in college transition program (if employed) (Yr1)
	If coworkers were supportive when told about transitions participation (if employed) (Yr1)
	Early release from work to attend transitions (if employed) (Yr1)
	If participant mentions work related person (current or former) in their top 5 supportive people (Yr1, Yr4)
Community	If participates in church, neighborhood activities, or support group (max 1 point per year) (Yr1, Yr2, Yr4)
	If has worked with others in neighborhood or community to do something for the benefit of the whole community (Yr1, Yr4)
	If mentions someone from this category (e.g., therapist, priest, health worker) in their top 5 supportive people (Yr1, Yr4)

As with the other variables discussed to date, there is a baseline version of the composite variable as well as one that draws upon data from all years of the study. Since all participants completed the Year 1 survey, the first composite was fairly easy to calculate, as the only variations from one participant to the other occurred in the total possible work support network score. Participants who were not employed at the time of the Year 1 survey had only 1 possible point for the work support network score, based on whether or not they had a contact from their current or former job listed in their top five supports. Some participants had never held a job at any point in their lives, and we considered classifying the work support network bucket as inapplicable for such individuals. However, after careful contemplation we chose to include the bucket for all calculations, even if participants had not ever worked previously. Having a work contact to whom one might

refer for questions, advice, or resources may be an asset that assists participants during their college journeys. Consequently, whether the absence of a work support network is due to never having held a job or to a poor working environment, the effect is the same; it causes the participant to have one fewer resource at his or her disposal. We wanted that fact to be reflected in the ultimate support people network composite score.

In contrast to the baseline version, calculating the composite variable based on all four years of survey data was a much more arduous task. As discussed at the beginning of this section, the total number of points that a participant may have earned for a given bucket had to be calculated individually and then standardized. Ultimately, participants received a score of 0 to 1 for each of the four buckets and had a maximum score of 4 points possible for the entire scale in both the baseline and All Years version. One reason for the need to calculate these buckets individually was due to participants' variation in the number of survey completed. The other is that it was important to us that each bucket weigh the same amount conceptually in the model. Some of the facets of participants' support networks were covered much more thoroughly in the survey than others.

If we had not performed this individual standardization and summing procedure, then any bucket that had a higher total possible point tally within the surveys would ultimately be seen as the most impactful on our measure of participants' support. In some cases, the disparity was quite large. For example, over the course of the four surveys, participants were given 10 opportunities to identify potential community supports but were only asked 7 questions regarding potential friends and familial supports. This discrepancy does not indicate that we believe community support is more critical to a participant's success, but rather that it was a particular area of interest for us. Nonetheless, we did not want a larger share of survey questions to dictate how much weight that support network carried for participants in the overall scheme of their composite score.

The idea behind the "scale of buckets" concept was that we could measure not only how "full" participants' individual buckets were in each category, but also that we could measure the combined weight of all of those buckets across categories. Standardizing the buckets allowed us to make this comparison. For example, for the participants Jane and Bob, let us suppose that Jane's family and friends bucket was completely full. That would mean that she answered "yes" to every question relevant to that support network category, and would thus receive a 1.0 for that bucket's score. However, let us also suppose that she received a 0 for the buckets of work, community, and college transitions. This would result in a total composite support network score of a 1.0 (out of 4 possible points) for Jane. Let us assume that based on the situation detailed previously, Bob received a score of 0.5 for the family and friends bucket, a 0.5 for the work bucket, a 0.5 for the college transitions bucket, and 0.25 for the community bucket. Accordingly, he has a total composite support network score of 1.75 (out of 4 possible points). Although we know that Jane and Bob have the same number of supportive people in their lives, as seen in this example, their support

networks are actually very different in their breadth as well as somewhat different in their overall depth of support.

Even though calculating the composite score in this manner required a great deal of work, it allowed us to differentiate between participants' diverse support types and networks available to them in their lives, which we hoped would ultimately make participants' college outcomes easier to understand. We also analyzed each support network bucket individually against all dependent variables, since we were interested in understanding whether there is an area of support in participants' lives that makes a particularly significant impact on having successful college outcomes.

Results for the variable *Support People Network*, compiled across all people categories: When we analyzed this variable against our college outcome variables, we found that it was significant across three different dependent variables:

Table 42: Relationship between Support People Network and College Outcomes

Independent Variable	College Outcome	Results
(n=200)	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta=0.784$, $df=1$, $p=.023$; $\exp(\beta)=2.190$
(n=200)	Enrollment/Persistence: Trajectory Status	$\beta=0.763$, $df=1$, $p=.008$; $\exp(\beta)=2.145$
(n=220)	Success: Tipping point (achieving 30 college credits)	$\beta=0.828$, $df=1$, $p=.023$; $\exp(\beta)=2.288$

These findings indicate that having broader support combined across all categories of people—family and friends, college transitions, work, and community— over a long-term period was related to successfully enrolling in college (completing at least one 3-credit course), having a more positive college trajectory, and reaching the tipping momentum of acquiring 30 college credits. However, the version of the *Support People Network* variable that comprised only baseline data (using just the Year 1 survey) was not significant against either of the two dependent variables tested for baseline factors. This suggests that it was not merely the network of people who were available to help the participant at the time of the study's initiation that mattered, but rather the network of people who were consistently supportive to our participants over the entire course of the study. This was the case even with the variable *Enrolled in college within 1 year*, a short-term variable that we expected to be related to the *Support People Network* baseline variable if the pattern held. The fact that it was not significant may indicate that one important element of the *Support People Network* All Years composite variable is its ability to measure the consistency of participants' supports over time. Relationships between friends, family, work colleagues,

and even state-mandated supports are bound to change over time; on one hand, people may lose touch, arguments arise, people leave their jobs for other career opportunities—or, on the other hand, relationships may flourish and grow even stronger. It could be that this difference is the tipping point that makes the *All Years Support People Network* significant where the *Baseline Support People Network* is not.

Interestingly, neither the All Years version nor the Baseline version of the *Support People Network* variable was significant for the college-only variables *Number of semesters completed* and *Number of credits earned*. This suggests that participants' broader, overarching support system may not contribute significantly to differences in college achievement between those who do successfully enroll in college at some point. It could be that once enrolled in college, participants need more targeted support in academic or other specific areas to be of substantial assistance rather than the more diffuse support measured by this variable; or, it could simply be that the survey questions used to make up this variable were just not sensitive enough to the aspects of support that make a significant difference to participants' college persistence and success.

Results for the variables *Family & Friend Support Network*, *Community Support Network*, *Work Support Network*, and *College Transitions Support Network*: When we examined the importance of each of these four categories of support people buckets individually, we found that having more support from people associated with the college transitions course was significantly related to increased college enrollment (earning 3 credits), staying enrolled in college (college trajectory), and reaching the tipping point of acquiring 30 credits. Having more community support also made participants more likely to reach that tipping point.

Table 43: Relationship between Community Support Network and College Outcomes

Independent Variable	College Outcome	Results
Support People Network: <u>Community Support Network</u> (n=220)	Success: Tipping point (achieving 30 college credits)	$\beta=2.342$, $df=1$, $p=.036$; $\exp(\beta)=10.404$

Participants who had higher levels of *Community Support Network* scores typically felt close to at least one community member, be it a pastor, therapist, or social worker, and they regularly engaged in some type of activity within the community such as volunteering or participating in a sports league. Since this variable was compiled across a number of different facets and across multiple years, it would have been extremely challenging for any individual to have received a perfect score (1.0) for this measure. The highest score obtained was 0.67, which means that the participant responded affirmatively to 67% of the community network-related questions across all surveys completed. However, the average score for participants' community social network was much lower: 0.19. The odds ratio for this variable shows that the odds for attaining at least 30 college credits by the end of the

study for those individuals at the top range of the community support network score were over 3 times greater than the odds of those participants who had an average community support network score [$\exp(\beta \cdot .5) = 3.23$].

Table 44: Relationship between College Transitions Support Network and College Outcomes

Independent Variable	College Outcome	Results
Support People Network: College Transitions Support Network (n=200) (n=200) (n=220)	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta = 4.344$, $df = 1$, $p < .001$; $\exp(\beta) = 76.995$
	Enrollment/Persistence: Trajectory Status	$\beta = 3.001$, $df = 1$, $p < .001$; $\exp(\beta) = 20.106$
	Success: Tipping point (achieving 30 college credits)	$\beta = 2.121$, $df = 1$, $p = .013$; $\exp(\beta) = 8.340$

Participants who had higher scores for the *College Transitions Support Network* variable were those who kept in touch with a staff member, mentor, or fellow student from the transition course. As with all of the support network buckets that were compiled, it would have been almost impossible for a participant to have received a perfect score on this composite. The highest score obtained was 0.83, which means that the participant responded to approximately 83% of the college transitions-related support questions. However, the average score for participants' college transition social network was just 0.24. Comparing those who scored at the top end of this variable to those who had an average *College Transitions Support Network* score, the log odds results show that:

- The odds of **earning at least 3 non-developmental college credits** for those individuals at the top range of the college transitions support network score were 13.5 times greater than the odds of those participants who had an average college transitions support network score [$\exp(\beta \cdot .6) = 13.55$].
- The odds of a participant who scored at the top range of the college transitions support network variable were 6 times as large as the odds of those participants who had an average college transitions support network score to have had a **successful college trajectory status**, including: 1) more likely to have enrolled in college at all; 2) if did enroll in college, more likely to have stayed in school or to have graduated by the end of the study [$\exp(\beta \cdot .6) = 6.05$].
- The odds of **completing at least 30 non-developmental college credits** for those individuals at the top range of the college transitions support network score were 3.5 times greater than the odds of those participants who had an average college transitions support network score [$\exp(\beta \cdot .6) = 3.57$].

Taken together, these results lend weight to the hypothesis that there is a connection between the social supports provided to participants at the college transition course and students' ultimate college enrollment and success. However, it is important to recognize two aspects of this finding. Firstly, the specific type of support being discussed here is a type of human resources that participants may take advantage of in the transition program, when offered. Program staff members had to care enough to lend that helping hand or listening ear, and to keep doing so even after the transition course semester ended, or they had to have successfully engendered a positive atmosphere for students to bond with at least one fellow student or alumnus. Nonetheless, it is ultimately up to the participant to accept that support and to continue to nurture those relationships, because the score being discussed in this case is a long term composite variable that examined participants' social networks well beyond the scope of the initial transition course.

This brings us to the second point, which is that it is impossible to say whether having a supportive college transitions network of people in a participant's life actually leads to more successful college outcomes, or whether it is actually that the type of students who are likely to have college success are the same ones who are likely to work at keeping up connections made through the college transition program. It is impossible to answer this question without further research that examines participants' behaviors, rationale, and perceived impetus for engaging in and cultivating their college transitions social network beyond the timeframe of the program.

On the other hand, one potentially significant link between these two specific types of groups of people under discussion is that both the community network and the college transitions network are social settings that participants deliberately engage in, versus having people who are thrust into their lives without action taken by the participant themselves, such as family members or colleagues at work. They are also the types of networks in which the type of support offered is more likely to be advice or emotional support, rather than logistical support. Moreover, the help provided is more likely to come from a highly educated, trained professional who may have more insight into college than the people supporting the participants through other networks such as family. This may assist participants with a wide range of activities such as choosing coursework that will directly build towards degree completion, obtaining financial aid, or helping the participant to feel confident enough to join an extracurricular club on campus. Or, perhaps because participants can choose, at least to some extent, which relationships they want to engage in (although still dependent of the support being offered to participants in the first place), they may place a higher value on the advice offered by such individuals. Feeling confident about the advice or support being offered, in turn, may make participants more willing to push through obstacles as they arise than would a student who did not feel like they had such support.

Interestingly, having more support from family and friends or a stronger network of work support was not related to any of our dependent variables. It seems that **having broader support across categories of people, and having stronger support from within the college transitions and community networks, was more important to enrolling and staying in college long enough to earn 30 credits than was having the support of family and friends or of people at work.**

Hypothesis: Number of Support People

Participants who have an overall greater number of people in their lives to support them will be more likely to enroll, persist and succeed in college.

Description of the variable *Number of People relied upon for support*: The data used to create this variable was drawn from the question included in surveys from Years 1, 2 and 4: “About how many people do you or could you count on for support?” (Answers: 1: No one, 2: 1-5 people, 3: 6-10 people, 4: 11-20 people, 5: More than 20 people). The All Years version of this variable was created by averaging participants’ responses across all three surveys in which the question of asked. This variable was designed to represent the number of people that participants feel that they can call upon to provide support in some capacity, regardless of whether the support offered by that person would be small or large.

Year 1: About how many people do you or could you count on for support?	N = 227	%
No one	1	0.4
1-5 people	114	50.2
6-10 people	71	31.3
11-20 people	22	9.7
More than 20 people	19	8.4

Results for variable *Number of People relied upon for support*: This variable was significant when tested against the enrollment dependent variable *Earned 3 college credits* ($\beta = -0.474$, $df = 1$, $p = .046$, $n = 200$, $\exp(\beta) = .622$) using our standard covariate framework. This variable was one of the four angles from which we wanted to measure participants’ support, but its construction relied only on one survey question for its data, and we therefore viewed it more as a traditional variable rather than a composite support measure. Due to the fact that we saw this variable as providing only a small slice of information on participants overarching support systems and network, we chose to run the analyses of this variable using our standard framework. This means that the support composite variable that was selected to serve as a covariate throughout the majority of the analyses (testing the breadth and depth of the various categories of people who support the participant) was held constant. Typically if we expect overlap between two variables,

we would pull the overlapping covariate from the model for that analysis. However, in this case we included the support covariate due to our belief that the two variables represented very different aspects of participants' support. Unlike the composite variable, the *Number of People relied upon for support* was not divided up into categories that required standardization. In this variable, if a participant had 20 or more supportive people that he or she could count on overall, then he or she was scored as having that number of supports, even if all 20+ people were part of the family and friends category.

Unexpectedly, the results indicated that participants who claimed to have more people in their life to support them overall were actually less likely to go on to college and earn at least three non-developmental credits. The log odds show that a one-point increase in the grouping indicated (for example, a participant who stated that he or she had 6-10 supportive people to count on versus someone who had 1-5 supportive people) made the odds of earning three college credits drop by almost 40 percent [$\exp(\beta) = .622$]. Furthermore, a two-point increase in the categories characterizing the number of supportive people (e.g., 11-20 people versus 1-5) resulted in a 60 percent decrease in the relative odds of going to college for the participant who described having more people available to provide support [$\exp(\beta * 2) = .388$].

Although this seems like a startling (or at least confusing) finding, we believe that this result has much less to do with the concept itself of the number of supportive people available to participants, and more to do with the type of supports being identified by participants. First of all, it is very possible that participants who identified themselves as having only 1-5 supportive people who they could rely on were holding these individuals to a higher standard in terms of the type of support provided than were participants who listed 11-20 or more than 20 people as supports. Perhaps people who listed such large numbers of supports did not have anyone in their life who could serve as a model of what a truly supportive friend or family member acts like. They may simply have been identifying the number of friends and acquaintances that they have overall and assuming that those people would all offer support, versus knowing the actual number of people they could rely on.

Secondly, it may be that participants who provided lower numbers of supportive people in their life were being more self-critical or self-aware and were therefore giving the matter more serious thought. Thirdly, since this data was often collected via a live interview, it is possible that some participants felt a small element of social desirability when considering their answer.

Of course, there is always the chance that the result should be taken at face value. If this is the case, one hypothesis to explain this outcome is that participants who feel that they have fewer people available in their life to support them are perhaps more likely to push themselves harder or develop increased self-reliance. However, it should be noted that the

Number of People relied upon for support variable was only significant when tested alongside the covariate *Support People Network, compiled across all people categories*. We discovered that fact after first identifying the odd result described above. We were interested to see if the variable would still be significant if it was the only representation in the model of participants' supports; in fact, it was not. There was no relationship between the *Number of People relied upon for support* variable and any dependent variable when tested by itself. This suggests that it is only after the analysis has already been adjusted for the number of participants' who were concretely and specifically identified as supports in other questions throughout the surveys that participants' looser statement regarding their overall number of supports has any bearing on their college outcomes.

Hypothesis: Number of Tasks Supported by People

Participants who get assistance with a greater number of tasks will be more likely to enroll, persist and succeed in college.

Description of the variable *Number of Supportive tasks identified*: Another element of participants' supports that we examined were the specific ways in which they received assistance from people in their lives. The variable *Number of Supportive tasks identified* was created to gauge, as accurately as possible, the amount of support participants believed they would be able to obtain, if needed, across the different areas of their life. The types of support that we inquired about were: a) *money*; b) *educational counseling, information, or advice*; c) *emotional support or advice*; d) *childcare; transportation*; e) *academics*; f) *work responsibilities*; g) *household responsibilities*; h) *care in case of illness*; and i) *other* (participants were allowed to write in any additional assistance received). This variable was meant to represent, as straightforwardly as possible, the help extended to the participant across all facets of his or her life, and was gathered from a section in both the Year 1 and Year 4 surveys. In those two questionnaires, participants were asked to first identify up to five of the most supportive people in their lives. Next, they were asked to mark every different task that each supportive person could or would provide to them, if they should need it. In Year 4, participants were additionally provided a space for each task where they could list "anyone else" who would provide that type of support. Consequently, there were six opportunities in total on the Year 4 survey for participants to state that they would be able to receive each type of assistance, should they come to require it. Due to this difference, the range of total points possible was 0-41 for Year 1 and 0-55 points for Year 4. For each year of data, the total number of supportive tasks identified were tallied from across all of these categories to produce a total score for each participant.

One element of this variable worth noting is that it is constructed to examine the degree of assistance offered by each person within just the participants' closest circle of supports. The reason for this design is that the data points used for this variable are posed in the survey as part of a hypothetical question (it asks which tasks participants think they would or could get help from, if they should need it). Based on that fact, we felt that it was

important to narrow the field down for participants to only their closest supports and to identify specifically those people by both their names and relationships so that they could truly consider each individual person and the assistance that he or she might be willing to offer. Our hope was that this design would ground participants' answers in reality as much as possible.

Despite the seemingly straightforward calculations needed for this variable, we ultimately had to standardize participants' scores in order to make it as fair as possible. The main reason is that wanted to account for participants' absence of need for childcare and/or work responsibilities by subtracting those items from participants' total possible when necessary. For example, participants whose children were over the age of 16 were not likely to require help with childcare, unless there were special circumstances noted by the participant. Therefore, in most cases for participants with older children, we removed childcare assistance from their total possible score. The category examining work support was a little more difficult to assess because we noticed that a number of participants who were unemployed still responded in the affirmative that they could receive assistance with their work responsibilities. Although participants may have been considering their past job or making assumptions about their future job when completing this question, we decided that the most consistent way to score this item was to remove it for any participants who were not employed at the time of their response for a given survey.

As a result, participants had different potential maximum scores for both the baseline and the All Years version of this variable. Thus, we had to standardize the variable by dividing each person's total number of supportive tasks identified by the number of supports that were relevant to his or her life, resulting in a score between 0 and 1. Participants who did not complete the Year 4 survey were only given a baseline score. For the All Years version of this variable, the two scores for Year 1 and Year 4 were then averaged to create a score representative of the number of supportive tasks a participant could count on receiving, if needed, over the trajectory of the study. Descriptive data for this variable may be seen below:

Table 45: Number of Supportive Tasks Identified

Variable	N	Minimum	Maximum	Mean	S.D.
Number of Supportive tasks identified, Baseline (standardized)	227	0.0	0.97	0.46	0.22
Number of Supportive tasks identified, All Years (standardized)	192	0.0	0.86	0.30	0.15

Results for the variable *Number of Supportive tasks identified*: We found that this variable was not significantly related to any of our dependent variables. Although we cannot be certain why this is the case, one possibility raised by this outcome is that support across a variety of demands in participants' lives—financial, counseling, emotional support,

etc.—was just not as important to college enrollment, persistence and support as having a broader spectrum of people to support one to enroll, or having support from people in college to persist and succeed.

On the other hand, we should also consider the possibility that the outcome might be due to the way the survey was constructed to examine this particular facet of support. As noted previously, for this question, participants were allowed to hypothesize supports they “could” get, rather than supports that actually “did” get. As a result, it is conceivable that participants may have been inclined to overestimate the amount of support they would be able to obtain. The *Number of Supportive tasks identified* variable was constructed somewhat similarly to the variable *Number of People relied upon for support* in that we may have made it too easy for participants to check off boxes identifying the support on which they *believed* they could count. Perhaps participants did not think critically enough about whom and what they could actually rely on, or they may simply want the interviewer to think more highly of them by showing that they are well loved by their friends and family.

This type of variable may have shown different results if we had required participants to come up with their own concrete lists of the supportive tasks that they received, such as “my aunt picks up my daughter from school every day,” or “if I get sick, my mother always comes to my house to check on me.” On the other hand, one major reason that the survey was not constructed in this way was due to our concern that many participants would not be able to brainstorm a comprehensive list of the supports received, or that it would be too time consuming and tiring for them to do so accurately. Such a design may have led to its own problems such as rewarding participants who are more eloquent or communicative with higher scores while missing critical data from those who are more reticent.

Hypothesis: Number and Breadth of Support Types

Participants who get assistance with a greater number and breadth of support types (logistical, emotional, academic, financial, and informational or connectional) will be more likely to enroll, persist and succeed in college.

Description of the variable *Support Type Categories Composite*: This variable examines the overall number and breadth of the support types that were provided to the participant. It was designed in parallel to the *Support People Network Composite* in that it divides support type categories into “buckets” and sums them together to obtain the overall “weight” of support received by the participant. Its purpose is to examine the depth and breadth of the categories of support types available to the participant rather than of the people who provide those supports. The categories of support types included in the composite calculations were:

1. logistical (childcare, transportation, household responsibilities, work responsibilities)

2. informational/connectional
3. emotional
4. academic
5. financial

In order to understand the difference between the *Support Type Categories Composite* and the previously presented variable, *Number of Supportive tasks identified*, consider once more the example of our hypothetical participant Jane. In keeping with the participant survey process described earlier, Jane was administered the Year 1 survey and asked to name up to five of her closest supporters and to describe her relationship to each of them. She identified five friends and family members who she believed she could count on, and said she felt she would be able to receive assistance from all five people with: assistance with childcare, transportation, household responsibilities, and work responsibilities. Out of the 41 possible support task points, she received a sum score of 20 because she marked five people as helping her with childcare, transportation, household responsibilities, and work responsibilities. Her final standardized score for the baseline *Number of Supportive tasks identified* variable was a 0.49.

However, Jane's score would be quite different for the *Support Type Categories Composite* variable because it places a larger emphasis on covering a wide breadth of support types. All of the types of supportive tasks that Jane identified receiving fall under just one category: logistical support. Meanwhile, there are 4 additional support type buckets that are completely empty for Jane. Despite having more than enough logistical support to help her through her daily tasks and responsibilities, Jane does not have anyone to turn to who would be able to lend her money when her car payment is late, to listen to her vent about her marital problems, or to offer tutoring when she is struggling with her math homework. Thus, in keeping with the same calculations described earlier for the *Support People Network Composite* variable, Jane would receive a 1.0 for the logistical support bucket and a 0 for the buckets of emotional, academic, financial, and informational/connectional support. Therefore, she would receive a total score of 1.0 (out of 5 possible points), or a standardized score of 0.20 for the *Support Type Categories Composite*, which is substantially lower than the score of 0.49 that she received for the baseline *Number of Supportive tasks identified* variable.

As with the *Support People Network Composite* variable, we were interested in examining not only the number of supports a participant has available, but also whether the breadth of representation of those supports impacted participants' college outcomes. A few examples of the questions representative of each bucket of support types are as follows:

Categories of Support Types	Questions
Informational/ Connectional	How did you learn about college prep (family member or friend) (Yr1)
	What prompted you to join college prep (someone in life encouraged me) (Yr1)
	If learned about current or most recent job through (relative or friend) (Yr1)
	Support section: support with educational counseling, information or advice (Yr1, Yr4)
Logistical	If family offers help when tells about transitions (Yr1)
	If employer releases early/time off for attendance (if employed) (Yr1)
	Support section: support with transportation (Yr1, Yr4)
	Support section: help with childcare (Yr1, Yr4)
Emotional	Support section: help with household responsibilities (Yr1, Yr4)
	If family gave verbal support when tells about transitions (Yr1)
	If friends gave verbal support when tells about transitions (Yr1)
	If coworker gave verbal support when tells about transitions (if employed) (Yr1)
Academic	Support section: emotional support or advice (Yr1, Yr4)
	Support section: help with academics (Yr1, Yr4)
Financial	Number of other people in household working part time ($\frac{1}{2}$ point for each person) (Yr1, Yr2)
	Number of other people in household working full time (1 point for each person) (Yr1, Yr2)
	Support section: financial support or advice (Yr1, Yr4)

All of the support type buckets were compiled in largely the same way: we summed participants' affirmative responses and divided that figure by the total points applicable to that individual (depending on how many surveys were completed). However, the *Financial Support* bucket was the most complex to set up because of the diverse nature of its two primary components. For example, one factor we were interested was the income generated by participants' household members. Due to privacy concerns, participants were not asked to specify the exact details of family members' job titles, hours, or wages, but were rather asked to select a range estimating their household income and personal income. Unfortunately, when we went back to analyze these variables, we realized that they did not line up as easily as we expected. After much reflection, we chose to calculate the financial support bucket by separately calculating, standardizing, and then combining two different components: 1) the number of people working in household; and 2) the number of people on whom the participant can count for financial support or advice.

The first part of that bucket, the number of people working in the household, was calculated using data from surveys Year 1 and 2. First, full-time workers in the household were added together. Next, part-time workers in the household were summed and divided by two to represent the fact that their contributions were part-time in some capacity. Finally, the part-time and full-time figures were divided by the total number of people in the participant's household (which includes children), resulting in a number between 0 and 1. Our rationale for including children even though they are not contributing members of the household was that larger households typically need more money to live on, whereas smaller ones need relatively less. This process was done separately for Year 1 and Year 2 data, and then they were averaged together. For the second part of the bucket, the number of people on whom the participant could count for financial support or advice was calculated in the usual manner of the other categories: summing together all of the positive responses and dividing them by the total financial questions answered. Once this component was standardized, we averaged parts 1 and 2 of the bucket together to obtain participants' final financial support score (resulting in a range of 0-1). As always, there was also a baseline variable created for this bucket that utilized only the data drawn from the Year 1 survey and therefore did not have to combine variables from any other survey year.

One important element to note about the *Support Type Categories* variable is that some of the data used to compile it was drawn from the same grid-like support question used for the *Number of Supportive tasks identified* variable. Due to the way that particular section of the survey was structured, we wanted to be sure not to give it too much weight within the composite measure. For example, for the *Support Type Categories* variable if any support person in the participant's life was identified as providing childcare support, then they were given full credit for having the need of "childcare" filled in that grid section. It did not matter if the participant identified three people who provided childcare support or just one person. The reason is that it is very possible that the one person listed provides full coverage for that task; perhaps the support listed is the participant's mother, who cares for her daughter's children all day while she goes to work and attends college classes. It is also possible that three people referenced by another participant as potentially providing childcare support if needed are neighbors and friends who might be willing to look after the participant's children in case of an emergency, but who cannot provide regular childcare support. Since we could not easily quantify the nature of the support provided by the people listed in this survey section, we felt that it was most important for the *Support Type Categories* to reflect the overall breadth of coverage.

Once we finished compiling the support type buckets, we analyzed each category separately—logistical, financial, etc.—as well as the overall composite score for baseline data and for "all years" data.

Results for the variable *Support Type Categories Composite*: Interestingly, we found that neither the individual support type categories nor the compiled variable showing the breadth and depth of support types received was significantly related to any of our college outcome dependent variables. We are not sure why it is that having a broader support network of people helped participants pursue college more easily than having a broad set of assistance types. Perhaps having a strong, diverse social network of people you can turn to for help with each type of task as the need arises matters more than being able to more consistently count on help with general categories of aid such as financial, logistical, and emotional support. Or, perhaps it is simply that participants thought more critically when answering questions that related to the people in their lives than they did when considering questions about tasks with which they received support.

Hypothesis: Active vs. Passive Support

Participants who receive more active support (help with material, money, time, energy) than passive support will be more likely to enroll, persist, and succeed in college, and participants who receive more passive support (encouragement, moral support) will be more likely to enroll, persist and succeed in college than participants who receive no support at all.

Description of the variable *Active Support*: The *Active Support* variable addresses this hypothesis by examining all of the supportive tasks identified throughout the composition of the overarching support composite measures. *Active support* was defined as supportive activities and tasks that were or could be performed on behalf of the participant in order to make that person's life easier. There was also a second variable created, *Passive Support*, defined as any help or assistance that is offered in words but not deeds. For example, an offer to help with childcare would be considered an active support, whereas providing the participant with moral support would be classified as a passive support. The idea behind these two hypotheses is that participants who receive active support will be more easily able to go to college than participants who are only provided moral support or who do not have any support at all; at the same time, participants who at least receive passive support should be more likely to have better college outcomes than participants who do not receive any support or approval from their family, friends, and other social networks.

A few examples that illustrate the way in which we made the distinction between the *Active Support* and *Passive Support* variables may be seen below:

Independent Variable	Questions	Years Asked
Active Support	What types of support do you or could you get from each person? [support section: academics]	Years 1 and 4
	What types of support do you or could you get from each person? [support section: transportation]	Years 1 and 4
	What types of support do you or could you get from each person? [support section: help with household responsibilities]	Years 1 and 4
	If family offers help when tells about transitions	Year 1
	If friends offer help when tells about transitions	Year 1
	If employer releases early/time off for attendance (if employed)	Year 1
Passive Support	What types of support do you or could you get from each person? [support section: emotional support]	Years 1 and 4
	What types of support do you or could you get from each person? [support section: educational counseling or advice]	Years 1 and 4
	If family gave verbal support when tells about transitions	Year 1
	If friends gave verbal support when tells about transitions	Year 1
	If learned about current or most recent job through relative or friend	Year 1
	What prompted you to join college prep? (A: Someone in life encouraged me)	Year 1

The *Active Support* and *Passive Support* variables were calculated similarly to the *Number of Supportive tasks identified* variable, by adding up all of the relevant supports within either the active or passive categories, and then building on them further with a few additional questions as exemplified in the table above. Thus, essentially these two variables looked at depth, not breadth, of active or passive supports offered to the participant. As with the other variables discussed that covered this section, we removed any irrelevant questions from the participants' total possible score, such as if the participant did not have any need for childcare or assistance with work. This resulted in a standardized score for participants on both measures between 0 and 1.

The total number of points that may have been relevant to participants for each of the two measures is listed here:

Supports Identified in Survey(s)	Total Possible Points for Composite
Active Support	43 possible points (Yr1 only); 86 possible points (All Years)
Passive Support	18 possible points (Yr1 only); 30 possible points (All Years)

For participants who had neither children nor a job at any time during the study, the total possible *Active Support* points earned was 27 for the Baseline and 58 for the All Years version. This discrepancy between the possible denominators for participants is due to the surveys' large focus on childcare concerns and questions related to coworker and employer support offered to participants.

Results for variables *Active Support* and *Passive Support*: Neither the *Active Support* variable nor the *Passive Support* variable was found to be significantly related to any of our dependent variables. One hypothesis for the lack of significant findings here could be that this composite, unlike the support people categories composite, relied at least in large part on the same set of questions discussed earlier, which allowed participants to check off boxes in a grid indicating that assistance in each area was provided. For all the reasons stated earlier, including potential data skewing due to social desirability or the ease of simply marking off a box, it is possible that the data gathered from this section was inaccurate.

Furthermore, the support analyzed was not standardized within categories as it was for the *Support Type Categories* composite, resulting in a heavier weight within the measure for the areas covered most thoroughly in the survey, such as childcare. In contrast, for the *Active/ Passive Support* measures, we wanted to examine the results purely by looking at participants' total scores. We made this choice purposefully, because standardizing the points within each category implies at least some judgment that all types of support are equally important, even if this may not be the case. Therefore, we felt it would be beneficial to have two variables that examined the same construct but in two different ways. Nonetheless, since the questions asked of participants throughout the surveys were not distributed equally between categories of support, a participant with no childcare assistance but who had high levels of active support in all other areas may end up with a similar score to someone who only had help with childcare (but not with anything else). One may argue that this is a fair distribution of points owing to the fact that childcare needs may profoundly impact the participant's ability to attend college; however, it is difficult to know to what extent these measures were impacted by such imbalances.

Hypothesis: College-Attending Parent Support

Participants whose parents attended college will be more likely to enroll, persist and succeed in college.

Description of the variable *Parents' College*: Research indicates that for “traditional” college students, parents are a key and significant support in going to college, and having parents who went to college themselves is a tremendously helpful factor:

College enrollment rates vary considerably with parents' educational attainment. In 1999, 82 percent of students whose parents held a bachelor's degree or higher enrolled in college immediately after finishing high school. The rates were much lower for those whose parents had completed high school but not college (54 percent) and even lower for those whose parents had less than a high school diploma (36 percent). (Choy S. P., 2011, p. xviii)

We wanted to know whether our participants, adults themselves and non-traditional college students, received the same boost that younger, straight-from-high-school students received. Since we had asked, in the first interview, the highest level of education completed by mother, father, and other significant adult in participants' lives when they were children, we had information about whether or not one or both parents had ever attended at least some college. Since our hypothesis is based on parental support, reflecting largely knowledge of and experience in college, we were not concerned with graduation from college, only attendance. We developed a variable for number of parents with some college education: 0=neither parents attended college, 1=one parents attended at least some college, and 2=both parents attended at least some college. In the ATLAS sample, the majority of participants (121) had no parents with college experience, indicating that a significant proportion of ATLAS participants were first-generation college goers, and only 28 participants had two parents who both had college experience.

Results for variable *Parents' College*: This variable was not reliably significant when tested against our college outcome measures, but a closer look at the descriptive data proved quite interesting nonetheless. For example, below is a table that shows participants' college trajectories over the course of the study based on their parents' college enrollment:

Table 46: Participants' College Trajectories, by Parental Education Level

# of parents who attended college	Never attended college		Attended college but dropped out		Still enrolled or graduated		Total	
	#	%	#	%	#	%	#	%
None	48	39.7%	35	28.9%	38	31.4%	121	100%
1 parent	23	38.3%	16	26.7%	21	35.0%	60	100%
2 parents	5	17.9%	17	60.7%	6	21.4%	28	100%

As seen in the table above, the distribution of college enrollment outcomes is extremely similar for those participants who only had one parent attend college and those whose parents did not attend college at all. However, for participants who had two parents attend college, the results are somewhat mystifying: 23 of the 28 participants with two parents who had attended college did themselves enroll in college at least at some point in the study (82.1%) but of those who went to college, fewer people were able to stay enrolled than for the other two groups of participants. Considering that the pool of participants who had two parents enroll in college is much smaller, we are hesitant to draw too many conclusions from this distribution. However, both the odd college outcome for those participants with two parents who attended college, along with the fact that there is little distinction in college outcomes between participants with 0 versus 1 parent who attended college likely contributed to the lack of significant findings.

On the other hand, the distribution showing the number of participants who were able to achieve at least three college credits was much more in-line with what we had expected to see:

Table 47: Participants' Completing 3 College Credits, by Parental Education Level

# of parents who attended college	Did not complete 3 college credits		Completed 3 college credits		Total	
	#	%	#	%	#	%
None	58	47.9%	63	52.1%	121	100%
1 parent	24	40.0%	36	60.0%	60	100%
2 parents	7	25.0%	21	75.0%	28	100%

As seen here, successful college enrollment (as defined by having been able to complete at least three non-developmental credits) increases for each subsequent group, with those who had both parents attend college achieving the best results. Considering these straightforward figures, one may wonder: why was this variable not statistically significant when measured against this particular enrollment outcome? One possibility is that the analysis lacked power due to the large disparity in the number of participants who fell into each category (only 13.4% of participants had 2 parents who attended college at some point, versus 57.9% who had no parents who attended college). This discrepancy may have made it too difficult to show significant findings when the variable was included in a statistical model with at least seven other covariates.

Another possibility is that there may have been some shared variance between this factor and another covariate in the model, in which case it would have been much harder to see significant findings. For example, when considering the other covariates used in the model, one possibility we wondered about was whether participants who had parents who

attended college could have been more likely to complete the college transitions course in the first place. As previously discussed, the *College Transition Program Completion Status* variable was an incredibly strong one, and it could potentially have siphoned some of the power away from the *Parents' College* variable—although if that were the case, it would have also been weakened by the *Parents' College* variable in return. The descriptive data for the cross section between these two variables does in fact show a similar pattern; however, if there is indeed some shared variance between these two variables, it does not rise to the level of statistical significance, according to a simple analysis of the two factors.

Table 48: Participants Completing Transition Program, by Parental Education Level

# of parents who attended college	Did not complete college transition program		Completed college transition program		Total	
	#	%	#	%	#	%
None	45	35.7%	81	64.3%	126	100%
1 parent	18	29.5%	43	70.5%	61	100%
2 parents	5	17.9%	23	82.1%	28	100%

Nonetheless, even a small overlap in the data would likely have exacerbated the problem of limited power due to the highly disparate numbers of participants within each category. It is also possible that, to some minimal degree, *Parents' College* overlapped with another covariate, such as *High School Degree Type*. Based on these prospects, we are not ready to rule out the idea that participants' college enrollment may be influenced by their parents' previous college attendance. We hope that further research may continue to tackle this issue and that with a larger data sample the question might be answered more definitively.

Hypothesis: Social Capital

Participants with stronger social capital will be more likely to enroll, persist, and succeed in college.

Description of the variable *Social Capital*: The *Social Capital* variable was designed to investigate whether participants who have better social capital will be more likely to enroll, persist, and succeed in college. Social capital is:

...the extent to which individuals are able to access and mobilize resources in their social network. These resources can be tangible resources, such as financial aid or information, or more psychological in nature, such as social support. For college access issues, both informational and social support provisions are important. (Ellison, Wohn, Khan, & Fewins-Bliss, 2012, p. 3)

Research indicates that low-income and first-generation college students (and many ATLAS participants fall into both categories) lack access to social capital—high expectations, guidance and support, and previous “college knowledge” from parents and high school teachers—that they need to make the transition to college (Nagaoka, Roderick, & Coca, 2008).

This variable was constructed in order to characterize the quality of the social networks of all participants in the study. The *Social Capital* variable is meant to assess the diversity of participants’ social networks, at least in some measurable part and, if possible, to what extent they feel they are or could access such “capital”. It is also oriented towards gathering information on participants’ friends and families’ views about higher education, based on the idea that having people around one who are in favor of more education provides a specific type of social capital, particularly for people who come from families or friend networks where college is not the usual educational path.

The measure has a total of 11 possible points, which are drawn primarily from the Year 1 survey. The questions used to compose the variable are listed below:

Independent Variable	Questions	Years Asked
Social Capital	<i>(Inverted) Percentage:</i> of those people [who support you] would most of those people know each other if they didn’t know you?	Year 1
	<i>Percentage</i> of those people [who support you] who are a different race or ethnicity from you (the participant)	Year 1
	<i>Percentage</i> of those people [who support you] who are much wealthier than you	Year 1
	Beliefs of family/friends re: schools help everyone equally	Year 1
	Beliefs of family/friends re: going to school is a waste of time	Year 1
	Beliefs of family/friends re: people can’t be trusted	
	When the people that you spend time with and work with talk about ways to get ahead financially, what way do they mention most often? <i>(1 point if answers that the way to get ahead is to go to school)</i>	Year 1
	If participates in regular social activities	Years 1 and 4
	<i>Inverse relationship:</i> My friends and relatives don’t feel a college education is necessary	Year 4
	<i>Negative point:</i> If was teased or told something negative by family when informed would participate in transitions	Year 1
	<i>Negative point:</i> If was teased or told something negative by friends when informed would participate in transitions	Year 1

The majority of the questions above were asked of participants in Year 1 in a section directly following the portion of the survey in which participants were asked to name the top five most supportive people in their life. We then asked participants to keep that same set of supporters in mind when answering questions about their family and friends' beliefs.

Since our ATLAS team did not have much experience with the types of questions that might uncover information about participants' social capital, we took our lead from another longitudinal study of adult learners, LSAL¹⁹. Working with the LSAL researchers, we used a very similar set of questions to the ones they had used for social capital. In retrospect, we now feel that some of these questions were not relevant to our ATLAS sample. For example, some questions asked about participants' supporters' ethnicity; this question is directed at assessing the diversity of the group. According to research, we should expect more diverse social networks to be able to provide the participant more support, because it allows the participant to take advantage of different viewpoints. Yet, questions about the ethnicity and race of one's support network might not have been as relevant with a New England sample that was 80% U.S.-born, 81% speaking English as a first language, and 56% white. However, since we did not know the demographic characteristics of our sample before conducting our first questionnaire interviews with them, those questions stayed in.

The first question asked of participants is whether or not their supporters listed would know each other if they did not know the participant. The goal of this question is to gauge the diversity and breadth of the participants' network. If all of the supporters named are part of the same group, then the participant is more likely to be limited in the types of issues that can be addressed within that group. Participants are also asked about the relative wealth of their supports in comparison to him or herself. Although it is not a certainty that one's support network will share their resources, participants are more likely to be able to rely on financial and connectional support from people who have more money to go around. Therefore, being part of a network that is more diverse, wealthy, and spread out across groups would be considered a valuable social network to assist participants in going to college.

Participants were also asked about their friends and families' beliefs regarding education. We expected that those whose social networks advocated education as a means to advancement in one's life and career would be more likely to have better college outcomes overall. The participant whose family and friends consistently encourage him or her to

¹⁹ The Longitudinal Study of Adult Learning was part of the National Center for the Study of Adult Learning and Literacy (NCSALL) and conducted at Portland State University in Oregon. LSAL was a panel study focused on the literacy and economic development of adults without a high school diploma; The panel of 940 people who were interviewed in wave one were retained in the study and were interviewed once a year between 1998 and 2001 (waves 1 through 3) and once every two years for waves 4 through 6. The sample included adults who in 1998 when the study started were age 18-44, residents of the Portland (Oregon) metropolitan area, proficient but not necessarily native speakers of English, who did not have a high school diploma or GED and were not in high school.

keep going to class and to work towards achieving a degree one day is more likely to maintain his or her motivation to persist in college. In contrast, someone whose family actively discourages higher education and who refers to college as a pointless waste of time faces increased challenges in going to college. Not only must the participant expend energy in addressing such negative views, but he or she also lacks emotional support that might assist with staying in college even when times are tough. The *Social Capital* variable attempts to amalgamate all of these issues into one measure, in order to assess the overall strength of participants' social networks.

Results for variable *Social Capital*: We found that this composite variable was not significantly related to any of our college outcomes variables in our quantitative analyses. Perhaps this composite measure was not sensitive enough to differences between participants, because we also found that having a greater breadth of people a participant could or would call upon for support, by itself, was significantly related to some college outcomes (see Breadth of Support People Network section above). However, this particular protocol, as a whole, did not indicate that social capital was a significant support for ATLAS participants on any college outcome.

Support from College Transition Program

We posed several hypotheses, based on the research and the opinions of experienced transition program staff and technical assistants, about the ABE-to-College transition program/course factors that would support or positively influence adult students to enroll, persist and succeed in college.

The data used to create the transition program variables was primarily drawn from materials and information provided by the transition programs themselves, not from interviews with ATLAS participants. At the beginning of the study in 2007, the 11 cooperating transition-to-college programs were asked to make all of their staff members available for individual interviews with an ATLAS researcher. These interviews lasted for approximately one hour and were conducted using an interview protocol in a 1:1 setting. Two different protocols were developed and used for the interviews: one for program teachers and one for program staff members. The interviewer (an ATLAS researcher) delved into a wide range of issues, beginning with demographic data and progressing to more in-depth subjects such as the types of educational materials used by the teacher or the leadership practices of the staff member. We recorded these interviews and subsequently transcribed them.

In addition, each program was asked to submit any and all program documents and materials. The documents submitted varied widely by program and included any of the following items: class handouts, syllabi, recruitment materials, schedules, mid-term evaluations, student records, intake and exit forms, lesson plans, and written summaries. Some programs provided extensive records and materials but a few others submitted very

little documentation of their program's curriculum and structure, in which case we followed up with program administrators and staff to obtain additional information. We also poured through participants' sub-sample interviews from the first and second years of the study, to see if the participants made any references to their transition program's attributes or curriculum.

All the information gathered helped provide insight into the similarities and differences between transition programs, although there was a great deal of variety between curriculum and structure of the 11 programs. We had already identified three program-level factors of interest before the study began, but we were able to add more variables that could be analyzed based on adult education theories and given the data that we had available after combining all information gathered.

Our final step was to create comprehensive transition program profiles that documented objective qualities of the program, such as the length of transitions classes, the number of weeks of the program, whether the program assigned grades to its participants, and whether attendance was mandatory. This profile served as the basis for all program-level variables analyzed in the study; transition-to-college programs were not studied individually but rather assembled with other similar programs for each component type. For example, if programs A, D, E, and F assigned grades to participants whereas programs B, C, G, and H gave pass/fail marks only, then all participants from programs A,D,E,F were combined and compared to all participants from programs B,C,G,H in order to ascertain whether or not receiving grades made any impact on college outcomes. Due to the diversity of program submissions and the absence of third-party observations of program classes, we limited the variables used for analysis to those which could be verified in at least two sources of data. The following hypotheses on program-level factors were crafted subsequent to this extensive data review and program profiling, but before conducting any statistical analyses.

Hypothesis: Career Exploration Component

Participants who attended ABE-to-College transition programs that provide a career exploration component will be more likely to enroll, persist and succeed in college.

Description of the variable *Career Exploration Component*: This variable was divided into three levels:

- 1) *Low*: programs that spent two hours or less on it
- 2) *Medium*: programs that spent between three to eight hours on it
- 3) *High*: programs that spent nine hours or more on career development activities

Programs classified as *low* had little to no structured career planning segment. Some of the programs with a limited career component did have their participants meet one-on-one with a student counselor for one to two hours total over the course of the semester to discuss what they would like to do, at which point they received handouts with links to

online resources about resume writing. However, due to the fact that participants were not required to do the planning element of the *Career Planning* segment, (that is, seek out or acquire further knowledge of their intended career), such programs were still coded as *low*. Programs characterized as *medium* did some structured career planning activities with participants, but often embedded them into other class activities. For example, in these programs, during English/reading and writing class, participants would be asked to write one of their essays on their career goals. During computer class, participants would practice searching career sites online. The *medium* level programs also typically structured their career component as the following: administering to the group some type of personality test, providing some individual counseling to hear what the participant would like to do, and integrating possibly one or two activities into other course subjects. Programs classified as *high* had as many as eight sessions dedicated solely to participants' acquisition of skills related to career development, such as resume writing, learning interviewing skills, mapping out the necessary steps to attaining a desired career, and presenting details of that career such as typical salary levels and work schedules.

Results for the variable *Career Exploration Component*: This hypothesis was not supported. This does not necessarily limit the impact of the *Career Planning segment* on other important factors, such as improving participants' job prospects and personal income over time. We were extremely interested in examining participants' employment changes over the years to see if any transition course factors influenced those changes in a meaningful way. However, we ultimately realized that the timeframe of the study was much too short to be able to accurately assess participants' career changes. Many participants were still enrolled in college at the end of the study; few had already earned an associate degree and no one had yet earned a bachelor's degree. Of those who did earn an AD, many chose to continue on in pursuit of a BA rather than use their degree to make an immediate career change. While they were attending school, the majority of participants chose to stay at their previous job and reduce their hours, quit working entirely, or take a work-study position on campus. Therefore, it was too soon for us to be able to examine the impact of any college transition course components on participants' long term work and financial outcomes. Unfortunately, at this time all we can say is that the type and intensity of programs' career planning component, with information provided by programs and as coded by us, did not significantly impact participants' college enrollment, persistence, or success.

Hypothesis: Closer Connection to Community College

Participants who attended ABE-to-College transition programs that have a closer connection with (i.e., being housed in) a community college will be more likely to enroll, persist and succeed in college.

Description of the variables *Location of Transition Program* and *Association with Local College*: We created two different variables to examine this hypothesis. The first variable, *Location of Transition Program* had three levels. The transition programs were

characterized as being located on either a: 1) main college campus; 2) satellite campus; or 3) stand-alone program site. We chose to distinguish between programs that were situated on a college main campus versus a satellite campus due to feedback that we received from several participants who attended transition courses located on a college campus. These individuals noted that they felt much more confident about enrolling in college after having attending transition course classes on campus, thus removing some of the intimidation they might otherwise feel. In contrast, a few other participants commented that they wished their transition program was held on an actual college campus rather than in a separate location, despite the program's association with a college. Consequently, we felt that dividing this variable into three distinct groups was the most accurate way to examine the potential impact of program location on student outcomes. If the program was associated with a particular college but was not located next to any other college buildings, it was classified as being stand-alone.

In fact, some of the transition programs had developed close ties with a community college despite being entirely separate entities. Since we believed that the partnership between these institutions might be as important to participants' college outcomes as the physical location of the transition program, we created an additional variable, *Association with Local College*, to study that impact. The college association variable was primarily coded based on staff and teacher interviews discussing their relationship with nearby colleges, or on course curriculum components. The programs that were the easiest to code were those that had their students enroll in a predetermined class at their local college and earn college credit while they were still enrolled in the transition program. Facilitating such a set-up required cooperation and communication between staff members at the transition program and the college offering credit to participants. We also took into account participants' comments made during interviews, in which some students described feeling pleased or proud that they had completed their Accuplacer testing in an actual college facility as a group with their class, as they felt would reduce some of their anxiety in going to that same school later. Such a set up was accomplished through a transition program's coordination with a local college, indicating that they had a partnership at least on some limited basis.

Results for the variables *Location of Transition Program* and *Association with Local College*: Neither of these variables was significant when tested against our college outcome measures. Although it may be possible that some participants benefitted from their transition program's association with a local college, the results show that this factor did not play a substantive role in the overall sample's college enrollment decisions, nor in their ability to persist and succeed in college.

Hypothesis: Transition Program Completion Rate

Participants who attended ABE-to-College transition programs with higher completion rates (ratio of completers to dropouts was higher) will be more likely to enroll, persist and succeed in college.

Description of the variables *College Transition Program Completion Rate*: We examined transition program completion in two ways: individually and collectively. The idea behind the collective variable was to see whether participants who attended transition programs that had more participants graduate together at the end of the year saw better outcomes for their participants overall. That is to say, if a student attended a program that had a low dropout rate over the course of the semester, would this ultimately perpetuate better college outcomes over time for that individual than for a student who attended a program with a very high dropout rate? After all, seeing fellow students drop out in high numbers might lower morale substantially for those who remained. It could also be an indicator that something was not going well with the program's curriculum or administration.

The *College Transition Program Completion Rate* variable was calculated by dividing the number of students who completed a given transition program by the total number of students enrolled at the beginning of that term. There were 24 different transition program terms studied as part of the ATLAS project: each of the 11 transition programs had a fall and a spring session, and 2 programs offered a summer session. Once we identified completion rates for each term of each program, we assigned all participants who attended that term that same score. We then analyzed participants' outcomes to see whether or not the completion rate was related to their subsequent performance in college.

Results for the variable *College Transition Program Student Completion Rate*: This factor was significantly related to just one college outcome: the enrollment variable, *Earned 3 college credits (baseline data only)*. Participants who attended programs with higher rates of completion were more likely to have completed at least three transferrable college credits by the end of the study ($\beta=0.025$, $df=1$, $p=.005$, $n=180$, $\exp(\beta)=1.026$). Program completion rates (by term) ranged from 20 percent to 89.5 percent. The log odds from our analysis show that the odds of a participant who attended a program term with a 30 percent higher completion rate earning at least three college credits were over twice as large as the odds of a student who attended a program term with fewer graduates ($\exp(\beta)=2.117$). Furthermore, the odds of earning at least three college credits were 5.75 times larger for participants at the upper end of the spectrum (approximately 90% completion rate) than the odds of earning three credits for students who attended programs at the lower end of the spectrum (20% completion rate) ($\exp(\beta)=5.755$), indicating that participants at programs who graduate students at higher rates may be more likely to have increased success enrolling in college.

There could be multiple reasons for this outcome. Lower morale in certain programs where there is a high drop rate may make students less enthusiastic about pursuing their own

college plans. High student drop out from programs that they feel are ineffective or unhelpful, leading participants to feel as unprepared as ever for college enrollment. However, despite the fact that this outcome is an interesting one, we also want to be cautious in interpreting this result, because it was not significant against any other college outcome measures tested. We hope that this measure will be repeated in future studies so that it is easier to gauge the reliability of this finding.

Hypothesis: Participant Attendance, Compliance and Completion

Participants who attended the transition program for more hours and completed the program will be more likely to enroll, persist and succeed in college.

Description of the variables *Attendance Hours*, *Participant Attendance Compliance*, and *College Transition Program Completion Status*: There were three variables that we used (Condelli, Wrigley, & Yoon, 2008) to assess the way in which each student's individual pattern of attendance and transition program completion status influenced their individual college outcomes:

1. *Attendance Hours*: the total number of hours that an individual attended the transition course
- 1) *Attendance Compliance*: the ratio of hours attended the transition course out of the total hours offered by that program
- 2) *Completion Status*: whether the student completed the transition program or dropped out before its conclusion

For these variables, we used transition program attendance logs for each program and term, which gave us both attendance pattern and program completion²⁰. The 11 ABE-to-College transition programs participating in the study had widely varying attendance standards, with some programs ejecting students from the program immediately after two unexcused absences and other programs allowing even habitually absent students to continue on in the course. Therefore, in order to maintain relatively similar classification standards, we chose to implement a moderately strict standard of enrollment across all transition programs when coding these variables from attendance records:

²⁰ Originally we planned to rely on program staff members' notes on hours that each participant attended, but upon closer inspection we deemed these unreliable. The hours total often appeared to have been rounded to the nearest five or ten hours and notes from some programs showed substantial discrepancies. For example, more than 80% of students at one particular transition program were reported as having attended at least twice as many hours as the program even offered (as calculated using the program's course syllabus and other scheduling documentation submitted to us). Therefore, in the final year of ATLAS, we requested that all programs submit their actual attendance records, which was ultimately extremely beneficial as it allowed us to obtain the attendance hours for many additional participants instead of just those that completed the program. Unfortunately, since we originally did not realize the necessity of the actual records, we did not receive data for some programs that very likely would have been able to provide us with ample records to support our needs, had we only thought to ask sooner.

- Students who skipped three weeks of classes—either three full-day classes or six part-day classes—in a row were reclassified as having dropped out, even if their program originally identified them as having successfully graduated.
- For those cases in which we did not have participants’ actual attendance records, we relied on a combination of factors including completion of participants’ graduate survey form (indicating they were present on the last day of class); participant’s dropout forms indicating the date and reason of program departure; and participants’ total attendance hours as reported by staff members.

We used all documentation possible to ensure that participants who clearly had extensive absences were not counted as graduates. Ultimately, we were able to collect and substantiate the attendance records of 164 participants, and we chose to include only those participants in the final analysis of the attendance hours and compliance variables for the sake of accuracy.

The first variable, *Attendance Hours*, was a straightforward measure of whether students who were present for more instructional hours were more likely to enroll, persist, and succeed in college. Previous adult education research suggests that there is a minimum number of hours that must be met before it is possible to see significant results for student gains, although that research did not pertain specifically to transition-to-college programs (Condelli, Wrigley, & Yoon, 2008). On the basis of the hypothesis that “dosage counts”, we were curious to see whether there might be a similar link between *Attendance Hours* and participants’ college outcomes.

The second variable, *Attendance Compliance*, takes into account the number of instructional hours that were actually offered by the transition program. Transition-to-college program class schedules varied over the 11 programs and the timing of their program terms. For example, one student might have attended program A for 50 hours but attended 100% of classes offered, whereas another student attended program B for 80 hours but attended only 60% of classes offered. The program offering the fewest hours was the summer session for a program in Maine, which offered just 36 hours of total class time. In contrast, a transition program in Rhode Island offered over 170 hours of instruction over the course of their spring session. By examining the ratio of actual classroom hours attended to total possible instructional hours, we hoped to see whether attending the transition course with a high degree of regularity relative to hours offered led to better college outcomes overall. In this way, *Attendance Compliance* serves as a proxy for each student’s commitment to and regularity in participating in the transition course.

The variable *Completion Status* is a categorical variable for each participant that identifies whether they were a completer or non-completer (dropout) of the transition program. This variable is central to the main goal of the ATLAS study: to examine the transition program’s impact on students’ college outcomes. This variable is at once a measure of transition course “dosage”, participants’ commitment level, and turbulence in participants’ lives that might influence their regular attendance. This complex amalgamation of factors largely mirrors the same basic factors hypothesized as necessary for college enrollment,

persistence and success. In other words, if participants could successfully address the many personal and life obstacles to regularly attending and completing a transition course, this might be a signal of their ability or motivation to attend college as well.

Results for the variables *Transition Program Attendance Hours*, *Attendance Compliance*, and *Completion Status*:

All three of these variables had significant results. The strongest and most robust variable was *Completion Status*: participants who completed the transition program (as calculated by our measure) were significantly more likely to enroll, persist, and succeed in college. Over 75 percent of those who completed the college transition course subsequently enrolled in college, whereas less than 37 percent of those who dropped out of the transition program did so. The descriptive data in the table below shows the relationship between completing the transition program and participants' overall college trajectory:

Table 49: College Trajectory by Transition Program Completion

Completion Status (N=200)	College: never applied; not accepted; or accepted but didn't enroll		College: enrolled and attended but dropped out		College: still enrolled; or graduated certificate or AD program		Total	
	#	%	#	%	#	%	#	%
Did not complete College Transition Program	45	63.4%	14	19.7%	12	16.9%	71	100%
Completed College Transition Program	37	24.8%	57	38.3%	55	36.9%	149	100%

Omnibus test $\chi^2 = 40.859$, $df = 9$, $p < .000$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, 8) composite obstacles, and 9) country of birth: $\beta = -1.19$, $df = 1$, $p < .000$.

Detailed statistical results for all three transition program attendance variables is seen in the table below:

Table 50: Relationship between Transition Program Attendance, Compliance and Completion and College Outcomes

Independent Variable	College Outcome	Results
Completion Status (n=200)	Enrollment: Completing 3 credits (baseline) <i>**note: also significant for All Years</i>	$\beta=1.634, df=1, p<.001$; $\exp(\beta)=5.124$
(n=204)	Enrollment within 1 year	$\beta=2.210, df=1, p<.001$; $\exp(\beta)= 9.116$
(n=200)	Enrollment/Persistence: Trajectory Status	$\beta=-1.190, df=1, p<.001$; $\exp(\beta)=.304$
(n=220)	Success: Tipping point (achieving 30 college credits)	$\beta=1.207, df=1, p=.014$; $\exp(\beta)=3.343$
Attendance Hours (n=149)	Enrollment: Completing 3 credits (baseline)	$\beta=0.018, df=1, p=.002$; $\exp(\beta)=1.019$
(n=151)	Enrollment: within 1 year	$\beta=0.021, df=1, p<.001$; $\exp(\beta)= 1.022$
Attendance Compliance (n=135)	Enrollment: Completing 3 credits (baseline)	$\beta=0.030, df=1, p<.001$; $\exp(\beta)=1.031$
(n=137)	Enrollment: within 1 year	$\beta=0.028, df=1, p<.001$; $\exp(\beta)=1.029$
(n=135)	Enrollment/Persistence: Trajectory Status	$\beta=0.015, df=1, p=.032$; $\exp(\beta)=1.015$

Controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles *trajectory analyses also controlled for 9) country of birth

Program Completion Status was a significant factor for successful enrollment, trajectory, and success outcomes for completing the program:

- The odds of a participant who successfully **completed the transition program** continuing on to **complete 3 college credits** are 5 times the odds of a transition program dropout [$\exp(\beta)= 5.124$].
- The odds of a participant who successfully **completed the transition program** continuing on to **enroll in college within one year** are 9 times the odds of a transition program dropout [$\exp(\beta)= 9.116$].
- Due to the fact that ordinal regression analyses will not allow the direction of the analysis to be specified, the odds ratio for college trajectory status was calculated for college transition program dropouts rather than transition program completers. The odds of a participant who **dropped out of the transition program** were 70 percent

lower than the odds of a transition program completer to have had a **successful college trajectory status**, including: 1) less likely to have enrolled in college at all; 2) if did enroll in college, less likely to have stayed in school or to have graduated by the end of the study [$\exp(\beta) = .304$].

- The odds of a participant who successfully **completed the transition program** continuing on to **earn 30 college credits** are more than 3 times the odds of a transition program drop-out [$\exp(\beta) = 3.343$].

Total hours of attendance was a significant factor for enrollment:

- Increasing participants' attendance by 25 hours made their relative odds of completing 3 college credits increase by 57 percent [$\exp(\beta*25) = 1.568$]. Increasing participants' attendance by 40 hours made their relative odds of completing 3 college credits double [$\exp(\beta*40) = 2.054$].
- Increasing participants' attendance by 20 hours made their relative odds of enrolling in college within one year increase by 52 percent [$\exp(\beta*20) = 1.522$]. Increasing participants' attendance by 35 hours made their relative odds of enrolling in college within one year double [$\exp(\beta*35) = 2.085$]. The odds ratio for enrolling in college within one year was over 3 times higher for participants who attended class for an additional 55 hours.

Attendance compliance was a significant factor in enrollment and overall college trajectory:

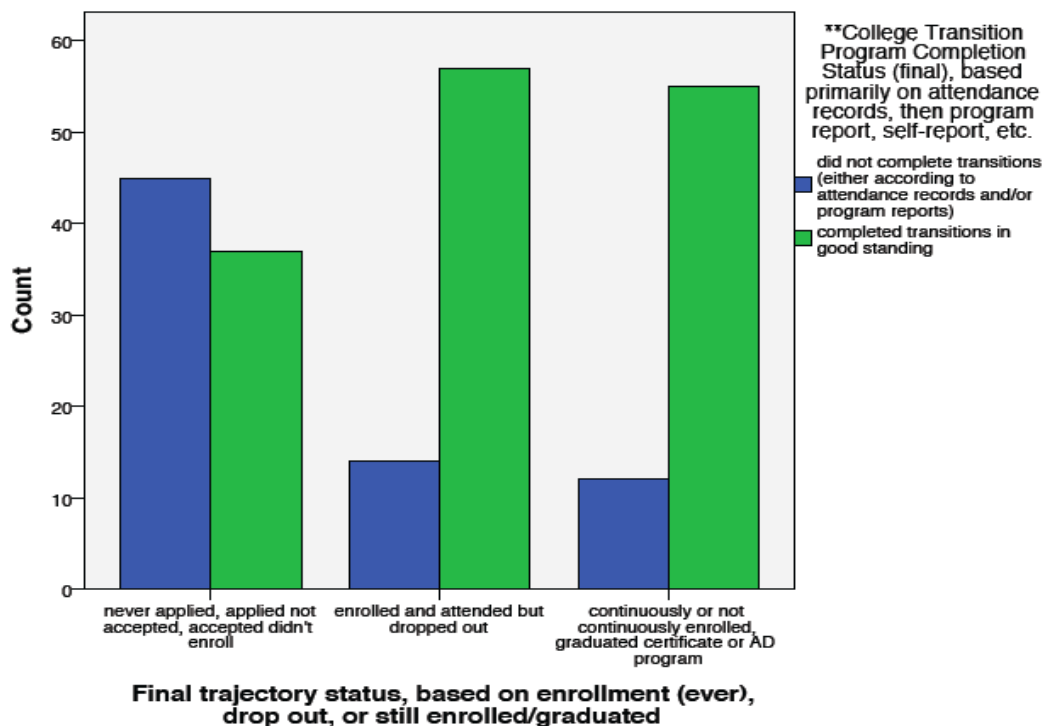
- The odds for completing 3 college credits were twice as large for participants who attended their transition program 25 percent more of the time in comparison with the odds of less-frequently attending classmates [$\exp(\beta*25) = 2.117$], and approximately 4.5 times larger for participants who attended 50 percent more of the time [$\exp(\beta*50) = 4.42$].
- The odds of enrolling in college within one year were twice as large for participants who attended 25 percent more of the time than less-frequently attending classmates [$\exp(\beta*25) = 2.014$], and four times as large for those who attended 50 percent more of the time [$\exp(\beta*50) = 4.056$].
- The odds of a participant who attended 50 percent more of the time than less-frequently attending transition program classmates were twice as large to have enrolled in college at all, and if enrolled in college, to have stayed in school or to have graduated by the end of the study [$\exp(\beta*50) = 2.117$].

Overall, attending for more hours (overall and as percentage of the program hours offered) and completing the transition program are significant factors. Attendance was related more strongly to enrollment, while completion was related to at least one outcome each across enrollment, persistence and success. *Attendance Compliance* was significant with one additional college outcome—college trajectory status—in comparison to *Attendance*

Hours. This is the only long-term college outcome measure that had any significant results for an independent variable related to attendance. However, the *Attendance Compliance* variable was substantially more limited in its sample due to our inability to procure more attendance records. Consequently, *Attendance Compliance* had an n of 135 to 137 depending on the outcome measure being tested, whereas the n for *Completion Status* ranged from 200 to 220. It may be that the smaller sample size limited power or that the participants who were excluded had some vital characteristic that failed to be tested. Or perhaps it is not participants' attendance compliance that matters but whether they are ultimately able to see the course through that really counts.

Interestingly, none of these three measures was significantly related to either the number of semesters completed or to total number of credits completed. Since these are the two dependent variables that were tested only with participants who enrolled in college, this result could potentially indicate that whatever the effects are of transition-to-college program attendance or completion, they wash out over the course of participants' college careers. However, it may be more likely that these results are due to limited power; out of those who attended college at some point, 112 completed the transition course whereas only 26 did not. Considering the significant relationship between *Completion Status* and *Tipping point momentum* (achieving 30 college credits), it seems reasonable to assume that this indeed might be the case. Figure 5 depicts the relationship between completing the transition program and college trajectory overall:

Figure 5: Relationship between Transition Program Completion and College Trajectory (n=220)



The reasons for attendance and completion effects are several. One explanation is that of **“dosage”**: that attending more hours means more hours of exposure to transition program coursework and the imparting of vital skills and knowledge. However, if it were a mere matter of time spent in the classroom, then the variable *Attendance Hours* would have been the strongest of the three variables. In fact, it was the weakest of the three, related only to the two baseline enrollment measures. When *Attendance Hours* was analyzed against longer-term outcome variables that incorporated data from additional survey years, the effects seen completely disappeared.

Another explanation is that of participants’ **motivation** levels: those students who dropped out or who failed to attend reliably may not have been willing to put forth the effort required. It is probable that some participants were simply not driven enough to persist in the program in the face of difficulty, such as completing challenging homework or needing to rearrange work commitments. Some participants faced myriad obstacles while receiving very little or no support, and yet they were able to persevere with the course; others encountered more minor obstacles or had more substantive support yet found it impossible to go on. Although we made our absolute best effort to quantify the difference between these two types of individuals’ circumstances, there will always be one intangible

element that is nearly impossible to assess objectively, which is participants' tenacity and commitment to succeed academically. Completing the program or attending for a greater percentage of offered hours may be a proxy for some participants' motivation levels to pursue their academic goals.

Another explanation is that those who completed were better able to **manage turbulence** in their lives. At least to some extent, greater attendance and completion are also a measure of how well participants found solutions to the obstacles they faced. Some students were unable to complete the transition course or to attend reliably due to upheaval in their own lives, through no fault of their own. Some participants had serious health challenges to work through or had to cope with the sudden loss of a loved one; other participants were unable to sufficiently accommodate their work hours or struggled with major transportation issues. Some of these problems were one-time issues that unfortunately happened to occur at the same time as the transition program, while others were indicators of more sustained difficulties that were likely to be repeated over the following years. Therefore, it may be that participants who struggled to be able to attend and complete the transition program were also more likely to face but overcome continued difficulties in subsequent years when enrolling in or attending college.

Other Transition Program Factors

In addition to the ABE-to-College transition program factors that were part of our original hypotheses, we also examined a number of different transition course factors that had not originally been hypothesized as important. The full list of program-level variables analyzed in the study may be seen below:

Independent Variable	Levels
Grading Policy	Informal. pass/fail
	Letter grades
Feedback Level on homework, essays	Low
	Normal
Attendance Policy	Expected but not mandatory
	Mandatory
Association with Local College	Stand-alone
	Part of College
Location of Transition Program	Stand-alone
	Satellite Campus
	Main College Campus
Mentoring component	Yes

Independent Variable	Levels
	No
Student Life Skills component	No, not at all
	Medium- skills integrated into classes
	High- substantial stand-alone segment
Career Planning segment	Low (less than 2 hours)
	Medium (3-8 hours)
	High (9 hours or more)
Computer class	Yes
	No
Earn college credit for some class component	Yes
	No
Scheduling: Intensity	1 day per week
	Multiple days per week

Four of these factors emerged as significant in predicting college enrollment or trajectories, although none of them was significantly related to the number of college credits attained or semesters completed once students enrolled in college. These factors included (1) grading policy, (2) mentorship component, (3) student life skills component, and (4) staff feedback level.

Grading Policy

Description of the variable *Grading Policy*: This variable was classified based on whether transition program teachers and staff scored participants on a formal rubric and assigned them a letter grade for their classwork and participation, or whether they received either no grade at all or a pass/fail mark. As described earlier in this section, we obtained the data from multiple sources including course syllabi and interviews with transition program staff members in order to make this determination.

Results for the variable *Grading Policy*: Of the 227 ATLAS participants, 106 (46.7%) participated in programs that graded using a “pass/fail” or “no grade” system, whereas 126 (53.3%) attended programs that gave grades during the transition course. Descriptive statistics show the relationship between attending a program giving grades and enrolling in college within one year:

Table 51: Relationship between Program Grading Policy and Enrollment in College Within One Year

	Did not enroll in college within 1 year of transition program		Enrolled in college within 1 year of transition program		Total	
	#	%	#	%	#	%
No grades or Pass/Fail	61	60.4%	40	39.6%	101	100%
Gave grades	116	52.7%	104	47.3%	119	100%

Omnibus test $\chi^2=51.910$, $df=9$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta=1.058$, $df=1$, $p=.002$.

For the 220 participants for whom we have follow-up data, it appears that attending a program that assigned grades was a strong predictor of enrolling in college, showing significant outcomes for all three college enrollment variables of (1) enrolling in college within one year, (2) acquiring at least 3 non-developmental, transferable credits, and (3) college trajectory, as show in the table below:

Table 52: Relationship between Attending a Transition Program that Gave Grades and Enrollment Outcomes

Independent Variable	College Outcome	Results
Grading Policy ($n=204$)	Enrollment: within 1 year	$\beta=1.058$, $df=1$, $p=.002$; $\exp(\beta)=2.881$
($n=200$)	Enrollment: Completing 3 credits (Baseline) <i>**note: also significant for All Years</i>	$\beta=0.948$, $df=1$, $p=.006$; $\exp(\beta)=2.581$
($n=200$)	Enrollment/Persistence: Trajectory Status	$\beta=-0.796$, $df=1$, $p=.006$; $\exp(\beta)=0.451$

The log odds [$\exp(\beta)$] indicate the following outcomes:

- The odds of a participant who attended a transition program that assigned grades continuing on to enroll in college within one year are 2.9 times the odds of a student who attended a pass/fail or no-grade course [$\exp(\beta)=2.881$].
- The odds of a participant who attended a transition program that assigned grades continuing on to complete 3 college credits are 2.5 times the odds of a student who attended a pass/fail or no-grade course [$\exp(\beta)=2.581$].
- Due to the fact that ordinal regression analyses will not allow the direction of the analysis to be specified, the odds ratio for college trajectory status was calculated for

those who attended college transition programs with no grades rather than those that assigned grades. The odds of a participant who attended a pass/fail or no-grade course were 55 percent lower than the odds of a participant who attended a graded transition program to have had a successful college trajectory status, including: 1) less likely to have enrolled in college at all; 2) if did enroll in college, less likely to have stayed in school or to have graduated by the end of the study [$\exp(\beta) = .451$].

These results indicate that the grading policy of transition programs may have a much stronger impact on students' college outcomes—particularly enrollment—than they realize. People are familiar with the concept of being graded in school according to their effort and performance, and so attending a transition course that gives grades might give their efforts in the course more legitimacy in participants' minds. Although the grades received by students do not become part of their permanent college record, it may be that students with graded coursework strive harder to do well. Adult students may put forth more effort when they know they will receive a grade for their work.

For example, imagine a scenario in which an adult student has a three-page paper to write. She has two children at home who need attention, dinner, bathing, and bedtime, as well as a job to attend during the day. At the end of this long day, how motivated will this student be to complete her assignment? If she knows she will not receive a grade for her work, because the policy of the course is that assignments should be done for their own sake, she may delay working on this task. She may tell herself that she will certainly get to it another day, when she has just a little more time and energy. Nonetheless, in this scenario it is easy for procrastination to become a pattern. If this student ultimately puts in much less effort into completing homework than a participant at a graded program, then she might also learn less over time. Although it may seem odd that participants care about earning a good grade when it bears no impact on any permanent records, it is possible that either students do not fully understand this distinction, or that they care about getting good grades for the sake of pride itself.

It may also be possible that receiving grades contributed to the participants' sense of self-efficacy and belief that they could be successful in college. Since college also uses grades as a measure of success, getting grades in the transition program may mirror what participants expect in college. When one works hard and receives a good grade, one's self-efficacy increases. Earning grades over the course of the program may continually serve as small milestones, allowing participants to acknowledge their own improvement and to see the fruits of their labor, allowing participants to think, *'Yes, I can do this- if I can be successful here, then perhaps I really can enroll in college.'* If marked success in the transition program does engender self-efficacy, then participants may be more likely to enroll in college earlier, to stay enrolled or return after stopping out, and to complete at least three college credits.

Mentoring Component

Description of the variable *Mentoring Component*: A few of the participating transition-to-college programs included a feature in which students were matched up with either a current staff member or former student or the program offered dedicated sessions where participants received mentoring help to address planning needs or life turbulence. This person served as a role model and mentor throughout the semester, with the idea that a new student could then turn to this person after the transition program's conclusion as well. The types of mentors varied by program: two programs used former transition program graduates as mentors, whereas another program assigned their own staff and teachers to be mentors for small groups of students. Due to the limited number (three out of 11) of programs that included an organized mentorship program, those two types of mentorship elements were combined and labeled as *Mentoring Component*; we then compared programs with this component to programs without a mentoring component available.

Results for the variable *Mentoring Component*: The majority of ATLAS participants, 156 students (68.7%), did not attend a program that offered mentoring. Only 1/3 of ATLAS participants (71 or 31.3%) had that opportunity. Similar to the *Grading Policy* variable, attending a program with a Mentoring Component was reliably associated with increased college enrollment, showing significant outcomes for (1) enrolling in college within one year, (2) college trajectory, and (3) acquiring at least 3 non-developmental, transferable credits. These results indicate that participants are more successful when they have someone consistent to turn to who can support them with questions about college life and obstacles. The descriptive data show this relationship between mentorship and enrolling in college within one year:

Table 53: Enrolling in College Within One Year, by Mentoring Component

	Did not enroll in college within 1 year of transition program		Enrolled in college within 1 year of transition program		Total	
	#	%	#	%	#	%
No mentoring component	85	57.0%	64	43.0%	149	100%
Offered mentors	31	43.7%	40	56.3%	71	100%

Omnibus test $\chi^2=50.701$, $df=9$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta=1.087$, $df=1$, $p=.004$.

The table below shows the significance of attending a program with an opportunity for mentoring:

Table 54: Relationship between Attending a Transition Program with a Mentoring Component and Enrollment Outcomes

Independent Variable	College Outcome	Results
(n=204)	Enrollment: within 1 year	$\beta=1.087$, $df=1$, $p=.004$; $\exp(\beta)=2.966$
(n=200)	Enrollment: Completing 3 credits (Baseline) <i>**note: also significant for All Years</i>	$\beta=0.971$, $df=1$, $p=.009$; $\exp(\beta)=2.641$
(n=200)	Enrollment/Persistence: Trajectory Status	$\beta=-0.732$, $df=1$, $p=.018$; $\exp(\beta)=0.481$

The log odds [$\exp(\beta)$] indicate the odds of a participant who attended a transition program that provided mentors were:

- 3 times higher to enroll in college within one year than a participant who attended a program without a mentorship component [$\exp(\beta)=2.966$].
- 2.6 times higher to earn three transferable college credits than a participant who attended a program without a mentorship component [$\exp(\beta)=2.641$].
- Due to the fact that ordinal regression analyses will not allow the direction of the analysis to be specified, the odds ratio for college trajectory status was calculated for those who attended college transition programs without a mentorship component rather than for those that did offer mentors. The odds of a participant who attended a course without a mentorship component were 52 percent lower than the odds of a participant who attended a program that provided mentors to have had a successful college trajectory status, including: 1) less likely to have enrolled in college at all; 2) if did enroll in college, less likely to have stayed in school or to have graduated by the end of the study [$\exp(\beta)=.481$].

Should a mentor necessarily be a former ABE-to-College Transition program graduate? Two of the three mentorship-offering transition programs adopted this model. Pairing current students with a transition program graduate who has already started attending college would serve to provide transition course students with hope that college success is possible, and also offer them the chance to connect with someone of similar circumstance who could empathize with their potential challenges. Program alumnus could also provide the current transition student with a friend at college should he or she choose to enroll in the same school (a situation that was very likely for certain transition courses that took place on college campuses). Since many transition course participants did not have any friends or relatives currently attending college, having a college-going mentor would

provide them with a confidence and comfort about their decision to enroll, offering them a source of advice from someone who has already been through the same processes.

However, when we asked program directors at sites that did not offer this feature whether they had ever considered it, they invariably said that it sounded like a good idea in theory, but in practice it presented a large number of obstacles. Some directors had implemented this type of program in the past and had faced problems with it. Some of the program graduates who served as mentors were unreliable about showing up for scheduled meet-ups, and some current students consistently failed to reach out to their assigned alumnus or would cancel at the last minute. This resulted in a loss of enthusiasm by the party who was let down, and soon the relationship would disintegrate. Disenchanted program directors said that each semester only a few student pairings developed strong bonds, and often these pairings made other students feel bad about their own self-worth or envious that they were not assigned a better mentor. Consequently, many transition course directors felt such a mentoring program was untenable.

Therefore, we find it interesting that the lone program offering mentoring by staff members via a small-group format was equally as successful as the student-alumnus pairing model. This program designated time as part of the weekly syllabus for small groups of three or four to meet with their assigned staff or faculty mentor. During this time, students were able to ask questions or seek advice from their mentor, and they were also asked to discuss open-ended school-related topics in order to stimulate participation from everyone. Although in this model students did not get individual attention unless they sought it outside of class hours, it still provided participants the opportunity to forge a relationship with a staff member on a deeper, more personal level. This in turn may have made participants more likely to turn to this staff member for assistance or advice both during the transition course and after its conclusion.

In order to test this theory, we looked at the support variable that we created to assess the strength of participants' college transition support network, both in the first year (baseline) and across the rest of the study years combined (All Years). When examining the mean score for each transition program for the *College Transitions Support Network* variable, we found that the program that offered mentoring by staff through this small group setting had the third highest mean out of the eleven programs in the baseline measure. However, over the course of the rest of the study, the mean score strengthened further and rose to be the highest of any transition program.

Thus, it seems that this transition program was indeed effective at creating lasting relationships between staff and students through a designated time and structure for mentoring in small groups. This model, then, may serve as a realistic option for programs that want to offer mentoring but do not want to rely on student alumni who are still going through a busy, challenging period in their lives (attending college) in order to have a

successful mentorship program. The one-to-one paired mentorship model is also successful, as the *Mentorship Component* variable shows. One of those two programs had similarly high mean scores for the *College Transitions Support Network* variable, ranking the second highest of all programs both in the baseline and All Years measures. Thus, it is appropriate for transition programs to believe that the effort to establish some form of mentoring is worthwhile.

Student Life Skills Component

Description of the variable *Student Life Skills component*: This variable refers to an ABE-to-College program curriculum element that explicitly teaches students self-monitoring and study skills. Examples of these types of skills include time management strategies, note taking, and study skills. Other activities considered as student life skills instruction could be lessons in how to budget money, understanding leadership in the classroom, and communication exercises for working in student groups. The *Student Life Skills* (SLS) variable has three levels:

- 1) *None*: no student life skills were explicitly taught in the transition program
- 2) *Medium*: student life skills were taught but the lessons were integrated into the coursework for other subjects
- 3) *High*: student life skills were taught in a specific curricular element that was separate from other subjects.

The decision on how to code these programs was based on program materials, syllabi, schedules, teacher and staff interviews from 2007-2008, and personal communications with program directors. One example of a *medium* classification code can be seen in the explanation from a program director, in a personal communication with an ATLAS researcher during follow-up in 2011:

The student life skills component was an important part of our program but it was not separate. It was integrated into everything we did. We emphasized this from the beginning of the 14-week college prep class when we presented the syllabi during orientation. We met with students individually to strategize life skills needed when students came late to college prep classes, when they were absent, when they turned in assignments late or not at all, when they failed tests, etc.

Although this description overlaps heavily with what one might describe as personal responsibility rather than student life skills, the program director clearly made a purposeful, ongoing effort to integrate the theme of SLS into the course curriculum. Programs that were coded as *high* for the SLS variable were those that had a substantive period of class time that was explicitly devoted to students' acquisition of these skills. Programs that were classified as *high* had three or more entire class periods or workshops during the semester that were devoted to teaching SLS. Programs classified as *medium* may have taught one or two of SLS components, such as how to use a daily planner, but did not

specifically emphasize it further or allot more than a few hours to SLS throughout the entire semester. Programs coded as *none* were those that made no mention either in staff interviews or program documents as working to impart any student life skills.

Results for the variable *Student Life Skills component*: This variable was significantly related to the two enrollment outcomes and to overall college trajectory. Interestingly, the more consistent relationship was the significant difference between transition programs that had no SLS component and those that had a medium level on students' college enrollment and trajectory outcomes. The table below demonstrates this relationship:

Table 55: Relationship between Student Life Skills Component and College Outcomes

Independent Variable	College Outcome	Results
<i>None vs. Medium</i> (<i>n</i> =200)	Enrollment: Completing 3 credits (<i>Baseline</i>)	$\beta=0.881$, $df=1$, $p=.048$; $\exp(\beta)=2.412$
(<i>n</i> =204)	Enrollment: within 1 year	$\beta=0.942$, $df=1$, $p=.040$; $\exp(\beta)=2.566$
(<i>n</i> =200)	Enrollment/Persistence: Trajectory Status	$\beta=-0.962$, $df=1$, $p=.018$; $\exp(\beta)=2.617$

Due to our belief that strong planning and time management skills are fundamental to students' academic success in college, we originally assumed that participants at programs that offered more hours of SLS instruction would be more successful in college. However, upon seeing the results, we began to wonder whether the programs that integrated the theme of SLS into their everyday curriculum were equally effective at teaching these skills as were programs that had an explicit focus on them.

For this reason, we then simplified the comparison between transition programs to either: a) some SLS component (high and medium levels combined); or b) no SLS component. When combining the programs in this manner, we found that participants who attended transition programs with some kind of SLS component were indeed more likely to have successful college trajectories and to have enrolled in college within one year of the transition program. The tables below illustrate the distribution of college outcomes based on the programs' SLS component. It also demonstrates the similarity between college enrollment outcomes for participants who attended a transition course with a medium SLS component versus a high level of SLS in comparison to programs with no SLS at all.

Table 56: Student Life Skills Component and Enrolling Within One Year

Student Life Skills Component	Did not enroll in college within 1 year of transition program		Enrolled in college within 1 year of transition program		Total	
	#	%	#	%	#	%
None	27	71.1%	11	28.9%	38	100%
Medium Level	51	50.5%	50	49.5%	101	100%
High Level	38	46.9%	43	53.1%	81	100%

Omnibus test $\chi^2=46.240$, $df=9$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta = 0.918$, $df=1$, $p=.036$.

Table 57: Student Life Skills Component and Overall College Trajectory

Student Life Skills Component	Never attended college		Attended college but dropped out		Still enrolled or graduated		Total	
	#	%	#	%	#	%	#	%
None	22	57.9%	10	26.3%	6	15.8%	38	100%
Medium Level	33	32.7%	32	31.7%	36	35.6%	101	100%
High Level	27	33.3%	29	35.8%	25	30.9%	81	100%

Omnibus test $\chi^2=45.446$, $df=10$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, 8) composite obstacles, and 9) country of birth: $\beta = -0.834$, $df=1$, $p=.030$.

For the third college outcome measure found to be significant, *Enrollment: Earned 3 college credits*, we were surprised to see that there was only one type of significant result SLS: medium versus low. In other words, the difference between combined medium SLS and high SLS programs and programs with no SLS was not significant. The mystery deepened further when we ran the crosstabs comparison, which can be seen the table below. The actual distribution of college outcomes for the two types of SLS programming was incredibly similar, as seen here:

Table 58: Student Life Skills and Completing 3 College Credits (Descriptive)

Student Life Skills Component	Did not complete 3 college credits		Completed 3 college credits		Total	
	#	%	#	%	#	%
None	23	60.5%	15	39.5%	38	100%

Medium Level	40	39.6%	61	60.4%	101	100%
High Level	32	39.5%	49	60.5%	81	100%

Therefore, we must assume that this particular analysis failed due to lack of power rather than because there is truly a substantive difference between programs offering a medium level of SLS in comparison to programs with a more extensive SLS curriculum. In fact, when this variable is run by itself (without covariates) it is indeed significant. Once our typical analysis framework is employed (with covariates), though, this variable loses its significance.

This is most likely due to two reasons: 1) there is a large disparity in the number of participants in the “no SLS” category (n=38) compared to the number in “any SLS” (high plus medium combined, n=182), reducing power overall; and 2) the covariates used in the analysis framework must have some degree of overlap with the SLS variable.

When considering this second reason and the other variables used as covariates that might theoretically measure, at least in part, something similar to the *Student Life Skills component* variable, the only logical possibility was the *College Transition Program Completion Status*. Therefore, we ran a simple chi-square analysis to see whether these two variables were correlated. The results showed that two variables were in fact significantly correlated [$\chi^2(1, 227)=4.30, p=.038$]. A closer examination of the intersection between these two variables shows that participants who attended a program that offered some degree of SLS were more likely to have completed their college transition course:

Table 59: Student Life Skills Component and Completing Transition Program

Student Life Skills Component	Did not complete College Transition Program		Completed College Transition Program		Total	
	#	%	#	%	#	%
None	19	46.3%	22	53.7%	41	100%
Medium Level	34	33.0%	69	67.0%	103	100%
High Level	21	25.3%	62	74.7%	83	100%

There are multiple possibilities for why these two variables are linked. We know from our qualitative data from participants’ yearly surveys that one common reason for dropping out of the transition program was that participants felt they were not benefitting enough to make course attendance worthwhile. Participants had a variety of different complaints about why they felt this was the case, but one common complaint was that they were not learning enough. Although all transition programs were free of charge, attendance still carried an “opportunity cost” to students in time and effort required to participate,

requiring, in some cases, rearranging work schedules, organizing child care, commuting long distances, and sacrificing time at home and with family in order to complete homework and assignments. Perhaps participants at programs that offered a SLS component felt they were learning more, and therefore chose to persist in their course attendance.

Thus, the relationship between completing the transition course and attending a program where they received instruction in student life skills may have been significant because improving their life and student skills was valuable to students, or because programs that included a SLS component were also generally more thoughtful and deliberate about their curriculum, rather than just offering the most basic package of remedial math, English, and some minimal career counseling (or a combination of both). Including SLS could be a marker of those programs where staff members were more concerned with designing the absolute best course possible, or where the staff was willing to spend more time working with students both inside and outside of class.

Whatever the explanation, the inclusion of the *College Transition Program Completion Status* variable, while necessary as a covariate, ultimately made it challenging to determine the level of impact that a SLS component had on participants' college outcomes²¹. However, we feel it is safe to assume that there is indeed enough evidence to support the conclusion that students who attended transition programs with both medium and high SLS were more likely to have positive college enrollment and trajectory outcomes. Furthermore, the log odds results likely underestimate the magnitude of the effect of SLS inclusion in the transition course, due to the loss of power for the *Student Life Skills component* variable resulting from its overlap with the covariate *College Transition Program Completion Status*.

The log odds [$\exp(\beta)$] indicate the following outcomes:

- The odds of a participant who attended a transition program that had some SLS component continuing on to enroll in college within one year are 2.5 times the odds of a student who attended a program without any student life skills instruction [$\exp(\beta) = 2.504$].

²¹ Many factors influenced participants' transition program experience, from their home life/obstacles, to the program design, to even the timing and distance traveled. The programs took place across so many different states and settings that it is very hard to compare them with any level of confidence. Therefore, *CT Program Completion* is an attempt to even out that experience in our analyses, to avoid falsely positive results that might actually be erased if this covariate were included. For example, without using *CT Program Completion* as a covariate, we get additional significant results for program factors such as class schedule (1 day/week vs. multiple days/week). However, when we looked deeper at this result, it was only one program where program classes were held one day per week, since participants from many locations often traveled 45 minutes or more to get to the program, often in bad winter weather, leading to higher dropouts among participants who struggled to attend class due to distance/weather traveled. Dropping out may have affected their motivation about going to college, or they may have missed valuable help from their transition course that would have assisted them more smoothly with the college transition. Thus, when the covariate *CT Program Completion* is included, the significant results showing that class schedule influences student outcomes disappear.

- Due to the fact that ordinal regression analyses will not allow the direction of the analysis to be specified, we calculated the odds ratio for college trajectory status was for those who attended college transition programs without an SLS component rather than for those that did offer SLS. The odds of having a successful college trajectory status (including: 1) less likely to have enrolled in college at all; 2) if did enroll in college, less likely to have stayed in school or to have graduated by the end of the study) were 56.6 percent lower for participants who attended a program with no SLS instruction compared to the odds of a participant who attended a program that provided some SLS instruction [$\exp(\beta) = .434$].
- The odds of a participant who attended a transition program that had an integrated (medium level) SLS component continuing on to complete 3 college credits are 2.4 times the odds of a student who attended a program without any student life skills instruction [$\exp(\beta) = 2.412$].

Based on the similarity of participants' college enrollment outcomes between programs that offered a medium level of SLS and those that offered a high level, we conclude that the exact degree and format for teaching student life skills does not matter as long as the program makes a point of including it in some significant manner (whether integrated into their English and math classes or as its own separate programming).

Staff Feedback Levels

Description of the variable *Staff Feedback Levels*: The variable *Staff Feedback Levels* was not part of our originally planned analyses. We did not have any specific questions addressing this issue on any participant questionnaire. We also never asked the transition program staff interviewed to evaluate their timeliness and feedback levels on their students' written work; however, a staff member at one program did spontaneously acknowledge during her initial interview with ATLAS staff that one of their teachers was frequently falling behind in this area. In addition, we received complaints from enough participants about this element of their program, in response to open-ended or unscripted parts of ATLAS yearly surveys and subsample interviews, that we decided to examine this factor more closely.

We classified programs as either *normal* or *low* on this variable based on two sources of data: 1) program documents indicating that teachers wrote up personal, detailed comments on their students' progress and achievements; 2) participant statements during sub-sample interviews or yearly surveys in which they commented on their teachers' level of feedback on homework and essays. If we did not have data from either of these sources for any particular transition program, we conducted follow-up phone calls with program participants to inquire directly about their perception of staff feedback levels. For any such cases, we asked at least two participants for their opinion on the level of staff feedback on

their written work to ensure agreement. We found no conflicting opinions between participants.

Ultimately, only three transition programs out of eleven were classified as having low levels of staff feedback. For these programs, multiple participants complained during participant interviews and surveys that instructors did not return their homework, tests, or essays in a timely manner (if at all) and that when they did receive their tests and papers back there were usually few markings on them.

Results for the variable *Staff Feedback Levels*: Students who attended programs with normal levels of staff feedback on their written work were significantly more likely to enroll in college within one year of transition course participation:

Table 60: Level of Staff Feedback and Enrolling in College Within One Year

Staff Feedback Levels on homework & essays	Did not enroll in college within 1 year of transition program		Enrolled in college within 1 year of transition program		Total	
	#	%	#	%	#	%
Low	37	69.8%	16	30.2%	53	100%
Normal	79	47.3%	88	52.7%	167	100%

Omnibus test $\chi^2=49.448$, $df=9$, $p<.001$, controlling for: 1) completing the transition program, 2) baseline TALS score, 3) single parenting, 4) age, 5) attendance of participants' parents to college, 6) type of secondary diploma (traditional diploma or other), 7) composite supports, and 8) composite obstacles: $\beta = 1.089$, $df=1$, $p=.006$.

One possible explanation for this finding is that receiving more consistent feedback on work increased participants' feeling of self-efficacy, enabling them to feel more confident about their ability to succeed in college, especially if the feedback from instructors showed them their skills were growing and improving. Research indicates that giving adult students the chance to see progress towards reaching their academic goals through mechanisms that allow them to monitor their skills advancement and determine achievement (Comings, Parrella, & Soricone, 1999; Comings, Soricone, & Santos, 2006). A more recent National Academy of Science review of research on adult literacy practices indicates that "fine-grained feedback" helps adult literacy students to increase self-efficacy (National Research Council, 2012), and that specific self-efficacy related to literacy tasks is positively related to adult student motivation and success in literacy-related endeavors.

It is probable that when students are able to see their academic growth, either through receiving grades, getting teacher feedback on papers, or improving their Accuplacer scores (as discussed earlier), they believe more strongly in their ability to learn and succeed in college, thereby increasing the likelihood of their college enrollment. This increased self-efficacy around learning may not translate to measurable college success once the student

is enrolled in college, since none of the three variables *Grading Policy*, *Accuplacer* scores, or *Staff Feedback Levels* is related to college credits earned or semesters completed. However, there seems to be a fairly consistent pattern showing an increased likelihood of enrolling in college and in doing so more quickly when students are given the opportunity to see and measure their progress and feel capable of improvement. Participants themselves commented that having little guidance from their instructor on how they were doing or how they could improve limited the amount they were able to learn from the program.

Another explanation for the relationship between the speed of college enrollment and *Staff Feedback Levels* could be that students who attended programs where they felt their instructor was invested in their work and success, as exhibited by giving feedback on work, were more likely to enroll in college soon after the program because they wanted to show that this investment was merited. Those participants who brought up the issue of low instructor feedback levels often stated that they felt disappointed by their teachers' seeming lack of interest in their work. Students may have lost motivation to put in effort to complete homework or study for quizzes and tests when they perceived that it did not matter to their instructors whether or not they completed their work. It is likely that participants who put in less effort also learned less over time, making them feel more insecure about their ability to be successful in college.

We found no relationship between *Staff Feedback Levels* and any other college outcome measures. Again, this may be partially due to the number of participants (24% of sample) classified as having attended a program with low feedback levels, thereby limiting the power of the analysis overall. Another limitation is that the data gathered on staff feedback was not systematic enough, since this variable was not originally planned. Therefore, the three programs classified as having low levels of feedback were originally identified only because participants at these sites were annoyed enough to bring the issue up on their own.

We recommend that this issue and its potential importance to students' enrollment outcomes be included in future studies with a more methodical collection of data, perhaps one that employs a more nuanced classification system for instructor feedback levels. For example, students could be asked to evaluate the timeliness and level of feedback provided to them on a rating scale for each different instructor, and staff members could be asked to rank their own performance (or their colleagues') for the semester. Better data on feedback levels might allow for a better analysis, or provide the ability to link students' academic growth on test scores for each subject to the specific teacher for that area, rather than looking at program feedback levels as a whole.

Participants' Ratings of Transition Program

Description of the variable *Participants' Rating of Transition Program*: Another set of data indicating support from the transition program comes from ATLAS participants

themselves. In Wave 2 and 3 of the questionnaire, we asked participants a series of questions about their impression of the transition program and how it had (or hadn't) helped them. Using a Likert scale format (1-5 scale), we asked participants about their overall rating of the transition program (very poor to excellent), and their ratings of how helpful the transition program had been overall and with specific college-preparation tasks; e.g., *Program helped me clarify my career goals*, *Program helped me to better understand about financial aid for going to college*, *Program helped me with college application*. We then tested these ratings against all six college outcomes.

Results for the variable *Participants' Ratings of Transition Program*: We found that participants' positive self-ratings of the transition program were only related to enrollment outcomes. Those participants who rated the program more highly overall and who rated the program as more helpful overall and with clarifying career goals, understanding financial aid, and helping with college applications were significantly more likely to enroll in college within one year. In addition, participants who agreed more strongly that the program helped them with their college application also were more likely to complete 3 transferrable college credits and to have a more positive college trajectory (a measure of enrollment and persistence). However, participants' self-ratings of the contribution of the transition program was not related to either of the success variables (total credits, reached tipping point of 30 credits) or to the number of semesters completed in college.

Based on these results, it appears that participants who felt that the transition program was more helpful to them were also more likely to have positive enrollment outcomes. The helpfulness of the program seemed to stop being a factor once participants had actually enrolled in college

Support from College

We investigated three hypotheses related to support participants might receive while in college:

1. Participants who receive financial aid to help with college costs will be more likely to enroll, persist and succeed.
2. Participants who receive more support specifically related to or while in college will be more likely to persist and succeed in college.
3. Participants who are more actively engaged in college or academic activities while in college will be more likely to enroll, persist and succeed in college.

In the sections below, we will present a description of each variable and the results of the analysis.

Hypothesis: Financial Aid

Participants who receive financial aid to help with college costs will be more likely to enroll, persist and succeed.

Description of the variable *Financial Aid*: Another support variable analyzed solely against the two college-only dependent variables (persistence and success) was the receipt of financial aid. Although financial aid could have and did come from a wide range of sources beyond financial aid from a particular college, such as Pell Grants, family or friends, or another type of institution, we chose to present receipt of financial aid as a college-type support because so many participants did get help from their college.

In every one of the follow-up surveys after Year 1, we asked all participants if they had received financial aid in the time period since we last spoke with them. We calculated this variable by assigning one point to participants for each year of college attendance in which they received financial aid, as reported to us by participants. As always, participants' total possible denominators were calculated by hand so that they were only measured using years in which they actually attended college; this resulted in a standardized score between 0 and 1 for all participants. That is to say, a student who received financial aid during the only year that he or she went to college would earn a score of 1.0 (1 point divided by 1 possible point) whereas a student who went to college for three years but only received financial aid during one of those years would receive a score of .33 (1 point divided by 3 points).

Since the impact of financial aid on participants' college outcomes was a particular area of interest for us, we made sure to ask detailed questions on this topic for every individual across Waves 2, 3, and 4, whether or not they had ever enrolled in college. Ultimately, however, we were not able to test the relationship between financial aid and enrollment in college. Although we could test to see whether participants who utilized financial aid once enrolling in college were more likely to persist and succeed, we could NOT test the effect of financial aid on college enrollment itself. Initially, we believed that we would be able to perform this latter analysis because we asked participants who had not yet enrolled in college each year to answer whether not receiving financial aid was a major obstacle, minor obstacle, or not an obstacle to enrolling college. This was the only question related to financial aid posed to those who did not enroll in college.

However, as our interviewers delved more deeply into each of these issues with participants, they realized that in many cases participants who classified their lack of financial aid as a major obstacle had not even tried applying for financial aid yet. Some participants were just daunted by the task of filling out the paperwork and others erroneously believed that they would not qualify, whereas only a minority of participants was able to actually point to specific reasons that their financial aid application had failed or would fail.

Thus, we realized too late that we had failed to distinguish in the survey between participants who had attempted but failed to obtain financial aid and those who were simply intimidated or confused by the application process. Consequently, we could not test whether participants who were unable to obtain financial aid were less likely to enroll in college, since we could not determine ourselves which participants were genuinely barred from accessing this resource. However, we were able to test participants' actual receipt of financial aid once enrolled in college against their total semesters and credits completed.

A final note about this variable is that we chose to use the variable *Household Income* as a covariate for all financial aid analyses. We did so because the financial means available to adult students through their household income may well influence their ability to enroll in college. For example, some participants reported a very high household income due to their spouse or other household member making a good salary and may therefore did need or desire financial aid. Other participants were completely reliant on financial aid but were unable to obtain it, perhaps due to having too much debt already or citizenship problems. We did not want these very disparate circumstances to be unfairly compared to one another.

Results for the variable *Financial Aid*: Out of the 134 participants who went to college and provided information for this question, approximately 4/5 of students stated that they did use some form of financial aid.

Table 61: Number of Participants Receiving Any Financial Aid

All Years (compiled): Did the participant receive financial aid at any point in college?	N = 134	%
No	27	20.1
Yes	107	79.9

The mean score for this variable overall was .667, indicating that the average participant had financial aid for two out of three years attending college. However, the most common score (mode) was 1.0, indicating that **participants were most likely to have received financial aid throughout the course of their college career**. More detailed information about participants' use of financial aid can be seen here:

Table 62: Amount of Financial Aid Received Overall

Amount of Financial Aid received while attending college	N = 134	%
None	27	20.1
Received aid for 1 out of 3 years in college (33.3%)	11	8.2
Received aid for 1 out of 2 years in college (50%)	8	6.0
Received aid for 2 out of 3 years in college (66.6%)	15	11.2
Received aid for all years that attended college (1 out of 1 years, 2 out of 2 years, or 3 out of 3 years: 100%)	73	54.5

When we tested the Financial Aid variable against our college outcome measures for persistence and success, we did not find any significant results. There may be multiple reasons for this. One explanation is that the number of years one received financial aid may not be as relevant a factor as having received it at all. Another reason may be the limited variation in the data, since the majority of ATLAS participants who ever attended college did receive financial aid, and the form of our questions did not allow us to distinguish between those who did not receive financial aid because they could not get it and those who did not need it.

We feel it is more likely that our questionnaire data just did not capture the true relationship between financial aid and ATLAS participants' college outcomes, so we would caution against drawing strong conclusions about the finding that financial aid (as we measured it) was unrelated to college persistence and success. Common sense tells us that it must play some role, but we are unable to determine what that role was.

However, another possibility may simple be participants' confusion—gleaned from comments during questionnaire administration and interviews—about financial aid itself and how to apply for it. These comments point to the possibility that at least enrollment may have been influenced by participants' lack of knowledge about financial aid, leading to inaccurate self-reporting on this issue. Some participants could not answer, when asked, whether they had received financial aid, or even if they had applied. Possibly their confusion led to a negative impression of receiving financial aid, or they did not want to admit this to an interviewer. Thus, even though ABE-to-College Transition Programs spent time educating participants about college applications and applying for financial aid, it appeared to us from participants' comments, especially those who did not enroll in college, that many were still confused about what it was or how to get it.

Hypothesis: College Support Network

Participants who receive more support specifically related to or while in college will be more likely to persist and succeed in college.

Description of the variable *College Support Network*: This variable was only pertinent to those participants who reported at any time in the study—Year 2, 3, or 4—that they had enrolled in college. It was not asked in Year 1, since participants were actively enrolled in the transitions program at that time and thus the vast majority was not yet enrolled in college. The *College Support Network* variable is designed in the same vein as the individual categories, or “buckets,” within the *Support People Network Composite* variable. It was set up in order to measure the extent to which individuals had access to support from people met specifically through college participation, including fellow students, instructors, or staff, and whether having increased levels of such support was related to earning more credits and complete more semesters over the course of the study.

Support People Category	Questions	Years asked
College	Support provided to attend college: 1 point if receiving help from fellow college student for anything (max 1 point)	Years 2 and 3
	If has joined or participated in clubs	Years 2, 3 and 4
	If spends time with college students doing social or study activities	Years 2, 3 and 4
	If mentions someone from the college category (e.g., college student, teacher, advisor, or staff) in their top 5 supportive people	Year 4

A few examples of the questions used to make up the variable may be seen below:

There were 14 possible points applicable to the *College Support Network* variable in total across the Year 2, Year 3, and Year 4 surveys. However, only participants who were enrolled in college at least part time throughout that period and who completed all three of these surveys would have been able to accumulate the maximum number of points, which is why we standardized the variable to account for only the survey years in which participants had attended college. This is due to the fact that when participants reported that they had not enrolled in college since their last ATLAS survey, they were not administered questions regarding their college experience. We did this for two reasons: first, to be respectful of those who had not attended college within that time period, and second, to ensure that we did not collect overlapping data on a short-term college experience.

For example, consider our hypothetical participant Jane, who attended college for one semester only in the second year of the study (2008). If Jane was a respondent on all four surveys and we continued to ask her through the fifth year of the study how often she spoke with her professors, spent time with her classmates, and utilized the library or computer lab back in 2008, we would be gathering repeat information each year on the same one semester of Jane's college career. However, instead of us collecting the exact same data, it is highly likely that her answers would change over time, since it would be more difficult with each passing year for Jane to remember exactly how often she went to the computer lab, especially considering the level of detail required by our surveys. Thus, if we indeed gathered data for all three years on the same questions, we would be inclined to average Jane's responses to ascertain her overall college activity level and engagement, despite the fact that it makes more sense to only use the data gathered immediately after Jane's college participation. Furthermore, being asked to continue answering such repetitive questions over a period of years on a now irrelevant topic might alienate Jane and decrease the likelihood of her further participation, damaging our data collection prospects in the long run.

Consequently, in each survey we were careful to ask participants only about their college experiences since completing their most recent ATLAS survey (for some participants that period might have been one year whereas for others it might have been as long as four years). Therefore, as with the other support "buckets" calculated, the denominator for the *College Support Network* bucket was calculated by hand for each participant and then scores were standardized so that they resulted in scores between 0 and 1.

Participants who never enrolled in college at any point during the study were not included in this analysis at all, for obvious reasons. The data was also corrected for participants who erroneously reported to us that they had enrolled in college during one or more surveys. Once we obtained students' transcripts, we realized that some participants had confused vocational school and college, and had reported to us all the details of their vocational coursework as if they were enrolled in college. Examples of this type of confusion included participants who went to massage school, attended truck driving school, or even took a correspondence class of photography methods. During data collection we erred on the side of caution and took participants' assertion that they attended a college program at face value; later, we obtained transcripts or investigated with schools directly, and removed the college data for confused participants. The reason for this stringency is that it was important to us that we not confound the responses of an individual who became a CNA in a two-month vocational program with one who was studying to be an RN in a two-year or four-year college program.

As a reminder, there was no baseline version of the *College Support Network* variable because participants were actively participating in the college transition program at the time of the Year 1 interview. There were only a few participants enrolled in college classes

on their own at the same time as attending the college transition program; most participants enrolled in college either at the conclusion of the transition program or in subsequent years (regardless of whether they dropped out or completed the transition course).

The *College Support Network* bucket could not be analyzed as part of the overall *Support People Network* composite variable because it would taint the analysis of any non-college dependent variable. Summing the points earned from the *College Support Network* bucket together with the other support network buckets in the composite measure would lead to higher scores overall for those participants who attended college. If we subsequently attempted to study whether participants with a higher composite support score had indeed been more likely to enroll in college, we would of course have discovered a highly significant correlation linking participants with more overall support to better college outcomes. However, that analysis would not be meaningful due to the effect of this data skewing. Therefore, the analyses that included college data could only be examined with the “college only” variables in which we excluded all those who never enrolled in college—number of semesters completed and number of credits earned—because college support would not even be possible unless and until a participant enrolled. Although we still would not be able to infer causation from a correlation between college supports and persistence or success, if it exists, it would still be an interesting effect worth exploring.

Results for the variable College Support Network: This hypothesis was supported for both our persistence and our success college outcome measures, as the table below shows:

Table 63: Relationship between College Support Network and College Outcomes

Independent Variable	College Outcome	Results
Support People Network: College Support Network (n=131)	Success: Number of credits (<i>College only</i>)	$b=45.332, p<.001$; partial $r=.360$
	Persistence: Number of semesters (<i>College only</i>)	$b=5.693, p<.001$; partial $r=.402$

This provides support to the idea that the more adult transition students connect with or gets support from fellow college students or instructors, the more likely they are to persist and earn more credits. Support from family/friends, work colleagues, community, and college transitions networks did not contribute to persistence (total number of semesters completed) or success (total number of credits completed) either individually or as a composite measure. **In other words, once participants ENROLL in college, support from other people at college becomes a more significant indicator of success than support from any other category of people.**

It seems likely that the stronger one's college network grows and the more one enjoys the college environment, the more likely it is that he or she would be able to persist and indeed thrive in college. Having access to a college social network surely provides participants with a more ready source of encouragement, understanding, and assistance, as well as a base of knowledge about how to seek out further resources as necessary. There are few things as comforting as having someone who truly comprehends a given situation available to listen to one's fears or complaints. Some participants may feel that few people in their personal lives grasp the unique challenges of college attendance; for those individuals, developing a stronger network around them of people who fully understand their obstacles and fears may provide a source of great strength.

One important note to make here is that we are not saying that having higher support levels from fellow college students and instructors is the direct cause of more successful college outcomes; we are simply identifying a correlation between the two. It may very well be that students who were more invested in their college careers made a bigger effort to embed themselves into their college environment, resulting in an improved college support network. In that case, it would likely be participants' level of commitment was the real determinant of college success, not the amount of support received from their college network.

Another explanation to consider is that perhaps participants who had more time to invest in extracurricular activities, study groups, or cultivating relationships were the ones who has less demanding work schedules or home responsibilities, allowing them to take an increased number of credits each semester. Over time, the difference between taking 12 credits per semester rather than just 6 credits results in a substantial gain. Of course, we did our best to account for this potentiality by holding participants' obstacles constant through a composite measure used as a covariate (discussed later in this report). It is also quite probable that the longer participants stayed in school, the more likely they were to build up their college network simply by dint of being on campus habitually. They may repeatedly see the same students in classes for their declared major, hear about an interesting club opportunity announced in class, or take a class from a professor who ends up serving as a mentor. Therefore, it makes sense that stronger support networks would be correlated with (but not causative of) a larger number of semesters in college purely due to their increased exposure.

Hypothesis: Engagement in College Activities

Participants who are more actively engaged in college or academic activities while in college will be more likely to enroll, persist and succeed in college.

Description of the variable *College Activity Level/Engagement*: Previous research indicates that non-traditional students who engage more in college activities report that they feel they learn more, and better develop their problem solving and scientific reasoning

skills (Graham & Gisi, 2000). We wondered then whether ATLAS participants who engaged more in activities while in college would have better college outcomes.

This variable was the second support composite that was only analyzed against our two college-specific dependent variables: *Number of Semesters Completed* and *Number of Credits Earned*. It was created in order to examine whether participants who were more active within college, once enrolling, were more likely to persist or succeed. The difference between this variable and the *College Support Network* composite is that the engagement variable gauges the level of the participant's activity (including frequency), rather than the amount of support perceived to be available as a result of college attendance.

One aspect of this variable to note is that the *Engagement* variable also included some questions pertinent to participation in the college transition course. The relationships made during the transition course and the effort used to maintain those relationships may be as important as the new activities in which participants engage subsequently in their college careers. After all, some transitions students will go on to become fellow college classmates, and knowing other students in college might provide participants with a sense of confidence or expose them to additional extracurricular activities. College transitions staff members may actually be employees of the college, and they may be knowledgeable about the resources that students can access in college. At the very least they can offer much insight into college life, and since they know the transitions participants they might potentially provide personalized suggestions about ways to get involved. Moreover, we believed that a pattern of deeper engagement with the college transition program itself could be indicative of the effort and time commitment a participant is willing and/or able to make after enrolling in college.

A few examples of the questions used to calculate this variable are included in the table below:

Independent Variable	Questions	Years Asked
College Activity Level/ Engagement	If keeps in touch with other ABE-to-College Transition course students	Years 2 and 3
	If keeps in touch with Transition program staff	Years 2 and 3
	Number of college clubs joined or participated in (Years 2, 3 and 4
	Number/frequency of social or study activities the participant spends time doing with other college students	Years 2, 3 and 4
	How much student speaks with college instructor outside of class	Years 2, 3 and 4
	How much the student used college resources such as library, computer lab, etc.	Years 2, 3 and 4

Although there is some overlap in the survey questions used to determine the *College Activity Level/Engagement* and *College Support Network* variables, the way in which we calculated the two measures differed substantially. For the *College Support Network* variable, participants were awarded either 0 or 1 point based on their answers. For example, participants might be asked whether or not they had joined any clubs in the past year, which is a survey item that contributed to both measures. For the *College Support Network* variable, if the participant had joined one or more clubs, he or she was awarded one point, total. In contrast, for the *College Activity Level/Engagement* variable, a participant who had joined five different clubs would be awarded five points, and so on. The reason is that in the support variable, our goal was to identify whether or not a particular area of college support was being accessed at all by our participants; however, we did not feel that we could easily quantify the exact amount of support gained through each activity. For example, it is possible that joining five clubs makes it harder to cultivate deep friendships due to the fact that one's schedule might be too hectic. Joining just one club might allow a participant to make more meaningful friendships, and in turn, that might lead to the participant receiving increased support. Or, it could easily be the reverse. Due to this ambiguity, we felt the wisest course of action when compiling the *College Support Network* variable was to boil each element of participants' college lives down into one question: is the area of potential support covered at least in part or not covered at all?

On the other hand, the *College Activity Level/Engagement* variable was constructed to capture the degree of participants' immersion in college life. It is much easier to quantify the amount of effort that each participant expended through his or her actions. Here, we are interested in the distinction between a student involved in one club and one involved in three. We are interested in the frequency of participants' social and study outings with fellow students and in the regularity of their usage of college facilities such as the library, dining hall, writing center, and career center. This variable is designed to answer the question: are participants who make a stronger effort to make friends at school and embed themselves into the college culture more likely to persist and succeed in college?

One important caveat though is that as calculated above, the *College Activity Level/Engagement* variable is also, at least in part, a measure of what resources and extracurricular opportunities were available to the students. Some participants who attended their college classes in the evenings complained that the computer lab and library were closed by the time they arrived on campus, yet they could not get away from work during the daytime in order to utilize those resources. Certain colleges may have had a more diverse range of clubs and workshops available to their students than at other institutions, or longer hours of operation for their student resources.

Results on the variable *College Activity Level/Engagement*: We found that participating in and engaging more in college activities was significantly and positively related to total

number of credits acquired ($b = 36.010, p = .014$; partial $r = .222, n = 131$). These results indicate that a participant who scored a 1.0 on the *College Activity Level/Engagement* composite would have accrued, on average, 36 more college credits over the course of the study than someone who scored a 0.0. Of course, it would have been almost impossible for someone to obtain a perfect score for this variable because it would mean that this person had engaged in every single activity and utilized every resource available to the fullest degree. The actual highest score obtained on this measure was 0.88 and the lowest score was 0.0, with an average score of 0.29. This indicates that the average participant accessed about 30% of campus facilities and opportunities. The most common type of engagement was using the school library and computer lab. However, there was a range of other opportunities for academic assistance and extracurricular activities that some participants engaged in as well.

The *College Activity Level/Engagement* variable was also significantly related to total number of semesters completed ($b = 4.699, p = .004$; partial $r = .259, n = 131$). This means that someone who obtained a perfect 1.0 on the *College Activity Level/Engagement* would have completed an average of 4.7 more semesters than a person who scored a 0.0. As noted above, the highest score actually earned on this composite measure was a 0.88, meaning that these participants utilized their college facilities and participated in extracurricular activities on a routine basis (engaging in 88% of the resources and opportunities available on campus) during the time that they were enrolled in college. A student who participated in 80% of the college activities under discussion would have completed an average of 3.75 more semesters than a student who was not involved in any clubs and who did not utilize campus resources to any degree.

This supports the hypothesis that **the more participants participate or engage in college activities, including more frequent meetings with fellow students or instructors and use of college facilities, the more likely they are to persist in college and acquire more credits.**

There could be many explanations for these results. One is that engagement with other college students and professors must surely provide access to increased levels of encouragement, understanding, and assistance, which might be critical to adult students' ability to overcome obstacles while enrolled in school. Being embedded within the college culture also allows for substantial growth in students' knowledge base about how to seek out further resources as necessary, because they can draw on information offered by their friends and teachers.

However, there are also other explanations for these correlations that have much less to do with the support gleaned through college engagement. For example, it is possible that colleges with more resources available are the very same institutions that attract the best students. Or, it could be that the *College Activity Level/Engagement* variable has a

significant confounding factor: student motivation. If students who are more motivated to succeed in college are also the ones who take the most advantage of their college experience and who push themselves harder to engage with the community of students and professors, then this variable could actually be measuring student commitment rather than the support gleaned through participating in college activity levels. If either of these explanations is true, it would indicate that the significant correlations identified for this variable may simply indicate that students with more dedication, ability, or passion for learning are already the ones who are likely to utilize college resources to a higher degree.

Qualitative data indicates, though, that some adult students don't come in to college automatically having an ability to reach out to others in college but, perhaps encouraged by transition program staff or curriculum, need to learn how to engage with others in college. Consider this quote from an ATLAS participant about learning to talk with professors:

One of the professors I talked to a lot... I was the type of person that I would never ask. I was always too shy to ask. So, I've learned how to ask questions. As soon as I entered, you know... I got, like, one on one with the professors. Then, when I got stuck or anything and needed extra help, they were there. Everybody was helpful... right after class. Or, before class if I went in a little earlier I would see them before the class starts... Sometimes I staid after.

Ultimately, finding this correlation to be significant leaves us with many unanswered questions. We cannot exactly identify the line between participants' own choices of activities or level of engagement and the choices that were made for them, such as resource availability. Furthermore, the constraints on an individual's time and ability to participate will always blur inextricably with their motivation level to expend the effort required. Nonetheless, we felt that examining this variable, to the degree that we were able, was an important first step for further research.

Hypotheses related to Obstacles

This section addresses the obstacles participants face as they attempt to enroll and succeed in college. The table below shows the full list of hypotheses regarding participants' obstacles. As usual, two types of variables were created for all hypotheses: the baseline version and the All Years version.

Independent Variable	Range
Obstacle Type: Health	composite score
Obstacle Type: Academic	composite score
Obstacle Type: Familial	composite score
Obstacle Type: Financial	composite score
Obstacle Type: Logistical	composite score
Obstacle Type: College Culture	composite score
Obstacle Type: Work	composite score
Full-Time Worker Status	each year that the participant was working at least 32 hours per week, for at least 9 months of the year
Composite Obstacles (All Categories)	composite score representing the number and breadth of the obstacles faced by the participant

The hypotheses surrounding participants’ obstacles were examined using an overarching composite measure along with individual variables looking at specific obstacle types. As described earlier in the Supports section, one major objective of the ATLAS study was to identify the supports and obstacles that assisted or hindered participants in their college journey. Deciding how to analyze participants’ supports was a much more complex process because there were both supportive *tasks* and supportive *people* to consider. Participants’ obstacles are rarely specific to a particular person, and even less so to a group of people. Certainly, it would be extremely unusual for a person to describe an entire category of people in their life as an unadulterated negative influence, such as if someone were to say “my family members are nothing but an obstacle: they make my life more difficult in every single way.” Relationships with people are by their nature more complex; friends, family members, teachers, community members, and bosses almost all take different actions that help or hinder us in achieving our goals.

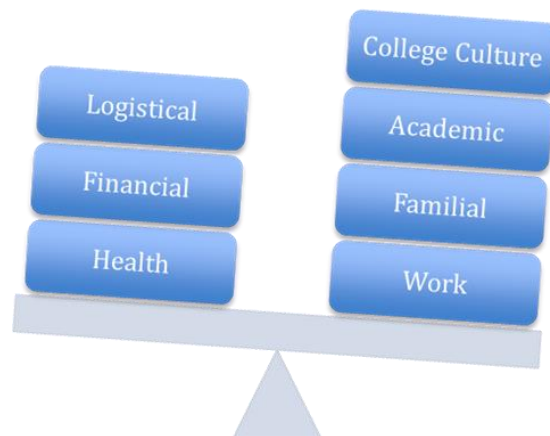
Participants’ primary obstacles in life are much more likely to be area-specific rather than person-specific, such as financial obstacles, academic obstacles, or health obstacles. For example, a participant may state that a family member, such as a parent or spouse, is hindering them from enrolling in college by refusing to provide financial support. Nonetheless, the main obstacle in this scenario is in fact a financial one, not a family member obstacle; if the participant had the money to go to college on his or her own, then no assistance from a family member would be needed. Furthermore, this family member’s refusal to help will already be represented as an area of absence in the supports composite. Thus, for the variables examining participants’ obstacles, we focused on identifying the primary area or category of the problem being discussed, not on the people involved in participants’ lives.

In this sense, analyzing participants' obstacles was much more straightforward than analyzing their supports. We did, however, maintain the same basic structure in the obstacles composite as we did with both major support composites. As with the supports composites, all of the obstacle category "buckets" were analyzed separately to see if any obstacle type impacted participants' educational outcomes by itself. Two types of composite measures were created for all obstacle category variables: a baseline and an All Years version. Both measures used many different pieces in each survey, although the All Years version is considerably more complex since the individual components are repeated across every survey year. For example, consider a question used to make up the health obstacle composite variable: in the Year 1 survey, participants were asked to provide an overall health rating each year on a 5-point scale from "excellent" to "poor." This item was then repeated each year in surveys 2- 4. Since participants may end up with between 1- 4 responses for the same question across study years, their scores for this item were averaged together across surveys. This same procedure was repeated for any other duplicate items. Finally, all the pieces of the composite were added together to provide a total sum score for the health bucket. For more information on which questions related to participants' obstacles were used during each survey year, please refer to the table in the *Composite Obstacles* section.

Hypothesis: All Obstacles

Participants who face more obstacles and challenges will be less likely to enroll, persist, and succeed in college.

Description of the variable *Composite Obstacles (All Categories)*: This variable was structured to represent the number and breadth of obstacles that participants faced across the various facets of their lives. The format that we used for compiling this variable was parallel to the way in which we documented the variable *Support Type Categories* composite. It allowed us to quantify the depth and breadth of difficulties confronting participants across the areas of *Health Obstacles*, *Academic Obstacles*, *Familial Obstacles*, *Financial Obstacles*, *Logistical Obstacles*, *College Culture Obstacles*, and *Work Obstacles*. Depicted in the figure below, each of those subjects was considered to be a separate "bucket" that sum together to provide the total "weight" of the obstacles that participants must carry on their shoulders as they work to progress on their educational journey.



Many of the questions utilized to create the obstacle buckets were drawn from the section on participants' college trajectories, which differed depending on participants' college status. In this section, participants were asked about the reasons and challenges behind their present college trajectory status. For example, suppose that our participant Jane reported that she had not yet applied to college. She would then be asked whether any of 13 different reasons contributed in a major way, minor way, or not at all to the fact that she had not yet applied to college. She would then be asked about whether she struggled with a lack of financial aid, whether she was unsure where or how to apply to college, whether her job scheduled conflicted with classes, etc. If our other participant Bob reported that he was presently enrolled in college, he would be asked to report whether any of 11 different factors was a major challenge, minor challenge, or not a challenge to staying in college. He would then be asked about difficulty with academics, difficulty affording college, difficulty fitting in to college life, and so on. Each of the college trajectories had a corresponding series of questions that were inquired of the participants during every survey year, depending upon each participant's trajectory status over the past 12 months. This question determined the skip pattern for the entire middle portion of the survey.

Although many of the questions overlapped from one trajectory to another, there were also questions that pertained only to one section or another because they would not have been relevant across all educational outcomes. Furthermore, those participants who did enroll in college at some point were asked an additional series of questions about whether they experienced any difficulty with fitting into college life, using new technology, understanding instructors' expectations, or obtaining academic support. After all, we felt that the best approach to designing our yearly survey was to obtain the most comprehensive view possible of participants' challenges across any and all relevant aspects of their lives, rather than use one that would be predetermined by participants' commonalities. Consequently, in order to maintain equality in our analysis across all obstacle categories, each "bucket" was standardized based on the number of relevant questions for each participant. As explained in the supports section, we did not want the

mere fact of having posed more questions on a particular topic to result in that bucket being given more weight in the total composite configuration.

In the event of participants having completed all four yearly surveys, the maximum possible points per obstacle category (before standardization) may be seen here:

Obstacle Categories	Maximum Possible Points
Health	6 possible points (Yr1 only); 30 possible points (All Years)
Academic	2 possible points (Yr1 only); 5 possible points (All Years)
Familial	4 possible points (Yr1 only); 13 possible points (All Years)
Financial	3 possible points (Yr1 only); 9 possible points (All Years)
Logistical	2 possible points (Yr1 only); 9 possible points (All Years)
College Culture	3 possible points (Yr1 only); 15 possible points (All Years)
Work	3 possible points (Yr1 only); 9 possible points (All Years)

As described previously, participants’ actual possible points per obstacle category largely depended on their college trajectories. The college trajectory that resulted in the biggest discrepancies between participants’ maximum possible points was that of having been rejected from college. This question was not easily relatable to any typical obstacle category, because the questions were mainly directed at examining choices that the colleges made (not accepting a given student), not at choices participants made or specific challenges that they faced. For example, participants were asked to assess the reasons for which they were not accepted when they applied to college, such as their academic record, their scores on the entrance exam, their age, race, ethnicity, gender, religion, or legal status. The vast majority of reasons that a participant could choose from for this section were directed at why the college failed to select the participant, not why the participant failed to select the college. Fortunately for our participants though, only a few people reported having their college application rejected. Further variations in the maximum possible points were produced by participants completing differing numbers of ATLAS surveys, and having varying college trajectories each year. Therefore, it was necessary to meticulously calculate each participant’s total possible points per bucket (i.e., the variable’s denominator) by hand.

One element of the obstacle bucket calculations that was much more straightforward than the support variables was that we did not have to worry about any non-applicable questions for participants. That is to say, if our hypothetical participant Jane did not have a job at any point of the study, we scored her work obstacles as being minimal rather than as non-applicable. Therefore, she would earn a score of zero on the scale documenting work challenges, out of a range of 0 to 1 point possible for the bucket. On the contrary, if she had been asked if she had any supports at work that made her job easier and Jane had no job, then this would have been considered not-applicable, and it would have been removed entirely from the composite for her score. The reason is that if Jane has no work obstacles

to overcome, this is indeed relevant to the overall composite view of her combined obstacles, and it may well have implications for her educational journey. It is very possible that it is easier for Jane to attend college than a full-time worker due to the very fact that she does not have scheduling restrictions or work duties to worry about. On the other hand, for the supports section we removed any non-applicable questions rather than scoring them as zero, because in this case a score of zero would bring down the participants' overall supports score. It does not matter if Jane does not have anyone to help her with her job, because she has no job and thus no need for work support; consequently, it would not make sense to punish her with a low composite support score simply because she does not have a job.

As will be discussed later, these individual obstacle buckets were also analyzed separately, to see if any one category had a particularly salient effect on students' college outcomes. Some examples of the questions that comprised those categories are listed in the table below:

Obstacle Categories	Questions	Years Asked
Health	Overall health rating, (1=poor, 5=excellent)	All years
	Health conditions: 2 dimensions: Severity + Duration	Years 2, 3 and 4
	Mental health conditions	Years 2, 3 and 4
	Has the participant experienced any of the following: Physical handicap; Emotional problem; Mental health problem; An illness that lasted a long time; Experience with violence or abuse	Year 1
	What might make it difficult to go to college and prep program: Poor health	Year 1
	What makes it difficult to apply/enroll/persist in college: Poor health	Years 2, 3 and 4
Academic	What might make it difficult for you to go to college and prep program: Academics too difficult	Year 1
	What makes it difficult to apply/enroll/persist in college: Didn't feel academically ready/Academics too difficult	Years 2, 3 and 4
	If didn't get accepted to college, why: Scores on entrance exam too low	Years 2, 3 and 4
	If participant has learning problems or disability; Speech problems or disability	Year 1
	If participant reports "other" difficulty with applying/enrolling/persisting in college such as: Managing workload, organization, technology; Poor performance in school, etc.	Years 2, 3 and 4

Obstacle Categories	Questions	Years Asked
Familial	What might make it difficult for you to go to college and prep program: Needing childcare; Family illness	Year 1
	If in the past year: Participant's spouse died; Went through divorce or separation; If family member was sick or died	Years 2, 3 and 4
	What makes it difficult to apply/enroll/persist in college: Family situation; Child care	Years 2, 3 and 4
	If participant reports "other" difficulty with applying/enrolling/persisting in college such as: Major traumatic household event- family member arrested, children taken away, etc.	Years 2, 3 and 4
Financial	What might make it difficult for you to go to college: Existing debt; Cost of tuition/fees	Year 1
	What makes it difficult to apply/enroll/persist in college: Tuition and costs; Lack of financial aid	Years 2, 3 and 4
	If participant had to move in past year because was evicted or home foreclosed	Years 2, 3 and 4
	If participant reports "other" reason for not applying to college, or for dropping out of college: Previous college loan debt that must be cleared first	Years 2, 3 and 4
Logistical	What might make it difficult for you to go to college and prep program: Lack of time	Year 1
	If didn't apply to, enroll in, or stay in college, why: Couldn't find a college with the right program; Transportation problems; Moved away	Years 2, 3 and 4
	What makes it difficult to attend college- Getting to college (transportation)	Years 2, 3 and 4
	If moved twice or more in the past 12 months	Years 2, 3 and 4
	If reports "other" reason for not applying to college: Was either in jail or army; Was going through major legal battles	Years 2, 3 and 4
	If reports "other" challenge for staying in college: College's scheduling, which constantly changes; School resources only available until 5pm	Years 2, 3 and 4
College Culture	What might make it difficult for you to go to college and prep program: Difficulty "fitting in" with other students	Year 1
	If no one in immediate family (mother, father, brother, sister) had ever been to college	Year 1

Obstacle Categories	Questions	Years Asked
	What makes it difficult to apply to college: Weren't sure where to apply; Weren't sure how to apply	Years 2, 3 and 4
	What makes it difficult to stay in college: Fitting into college life; Using technology that is new to me; Understanding instructors' expectations; Getting academic support	Years 2, 3 and 4
	If reports "other" difficulty with applying to or staying in college: Long waitlist for classes; Discouraged by length of school, procedures, or courses available	Years 2, 3 and 4
Work	What might make it difficult for you to go to college and prep program: Job demands	Year 1
	If didn't apply to, enroll in, or stay in college, why: Job schedule or requirements conflict with classes	Years 2, 3 and 4
	What makes it difficult to stay in college: Juggling work schedule	Years 2, 3 and 4
	If the participant been working full-time over the past year	Years 2, 3 and 4

A final note about the set-up of the obstacle category variables is that we made much more habitual usage of the half point designation when calculating participants' scores for obstacles than we had for supports. Here, we often assigned the $\frac{1}{2}$ point instead of 1 point, for example whenever participants selected the response "*minor challenge*" instead of "*major challenge*." The response, "*not a challenge*" continued to receive 0 points. We also utilized the "floating point" more frequently. The floating point awards participants 1 point towards their total score (the variable numerator) without adding to their total maximum possible score (denominator). We used this construct when participants suggested their own answers during the survey in one of the "other" response locations. For example, suppose that in her Year 3 survey, Jane noted that a major reason that she could not apply to college, in addition to the ones already listed, was due to the fact that she was focused on winning her children back from the state and removing them from foster care. Although we did not want to add a point to everyone's total possible score for this "other" response suggested, we did feel that Jane pointed out a significant barrier to her being able to attend college that merited inclusion in her *Familial Obstacle* bucket. Thus, we assigned her a floating point, increasing the total points in the numerator calculated for the *Familial Obstacle* variable. This was done for any participant who referenced a serious or substantial difficulty with any obstacle categories in one of the "other" spaces. This same method of assigning a floating point was used on a few occasions when calculating the support bucket variables as well; however, it was much less common due to the fact that

we had already allowed for every participant to suggest at least one “other” help in the support tasks section in the denominator for all participants.

Results for the variable *Composite Obstacles (All Categories)*: The *composite obstacles* variable was not significant against any of our college outcome measures. We are not exactly sure why this is the case, since of course we still believe that participants must be impacted at least to some degree by the obstacles that they face in life. One explanation to consider is that perhaps standardizing all seven obstacle categories and giving them equal weight within the composite measure was a problematic set-up. One major reason for doing this is, of course, due to the practical issues that we detailed earlier, but a second important reason is that we had no scientific basis on which we could predetermine the relative weight of each type of obstacle category being assessed. It may very well be that health obstacles are more challenging to overcome than college culture obstacles, for example, and that they should not be weighted equally. After all, health is an issue one has less power to control compared to learning about college culture.

Nonetheless, creating a methodologically sound variable that assigned relative weights to each of the seven obstacle categories was impossible without having any prior research on which we might base that judgment. Any such determination on our part might have led to the creation of an unscientific, invalid measure. Even if we had seen some type of significant results with such a measure, we would not be able to trust in their meaning. Nonetheless, the way that we compiled the variable as it stands may have ultimately obscured potentially significant results by lending equal power to all participants’ concerns, no matter how minor or major someone else might view them externally.

Another potential factor that may have made it harder to see results is that, as usual, the variable *College Transition Program Completion Status* was included as a covariate for this analysis. As previously discussed, this variable likely already accounts for at least some degree of participants’ obstacles and challenges; furthermore, it likely encompasses what we believe might be an even more important yet unquantifiable factor: that of participants’ internal drive and resilience to overcoming those challenges. It is possible that analyzing the *Composite Obstacles* variable at the same time as another strong, partially overlapping measure took power away from the obstacle composite.

In fact, to check this theory we tested the correlation between the two variables to see if they were at all related, and we found that there was indeed a weak but significant relationship between the *College Transition Program Completion Status* and *Composite Obstacles (All Years)* ($r = -.132, p = .047; n = 227$), showing that those who dropped out of the transition program early were also slightly more likely to report facing increased obstacles over the years of the study. Although the correlation between these two variables is a minor one, it likely still served to diminish the power of the *Composite Obstacles* variable in

the analyses with our college dependent variables. After all, conducting straightforward correlations between *Composite Obstacles (All Years)* and many of the college outcome measures do suggest significant albeit very minor relationships. Out of the four significant dependent variables *Earned 3 college credits*, *Enrolled in college within 1 year*, *College Trajectory Status*, and *Tipping Point Momentum*, the strongest correlation is with *Enrolled in college within 1 year*, which is still only a minor one ($r = -.205, p = .002; n = 220$). Once the covariates are introduced into our analysis framework, however, this relationship no longer shows statistically significant results—possibly simply because the relationship is not strong enough to begin with.

Interestingly, there was no relationship whatsoever between participants' *Composite Obstacles (Baseline only)* and their *College Transition Program Completion Status*. This might be because participants filled out their first ATLAS survey right at the beginning of the transition program, well before anyone dropped out of the course. However, we believe it is most likely due to the fact that the baseline composite measure is not as reliable as the All Years composite measure, as it relies on dramatically fewer data points. It is possible that the baseline obstacles composite was founded on too few questions for it to be a truly valid measure. In the subsequent section, we will provide further detail on the questions that provided the foundation of the obstacle “buckets,” each of which constituted $\frac{1}{7}$ of the *Composite Obstacles* variable. This will allow our readers to see the number and range of questions applicable to each obstacle type in the first year, and to draw their own conclusions.

It is a colossal challenge to accurately quantify and compile participants' perceptions of their obstacles across all the many facets of their lives, a challenge which should not be underestimated. We drew a large number of questions regarding participants' obstacles from the LSAL study in order to provide ourselves with a starting place, and then we worked to improve upon those questions further. We had originally used these LSAL questions specifically because we hoped to benefit from the research and expertise that went into drafting their surveys, so that we might avoid missing anything important. However, in hindsight, the structure of gathering obstacle data through the various college trajectories ended up being so uneven for some obstacle category types that we believe it may have obscured their impact on students' college outcomes. It is impossible to say whether this issue was a widespread problem or whether it played only a minor role in participants' total scores. In the following section, we will provide in-depth information about the questions used to compile participants' obstacle category scores. Some of the obstacle categories were drawn from a sizeable pool of questions, whereas others were based on just one or two questions during each survey year. As will be discussed, this may have resulted in decreased sensitivity for the individual obstacle “buckets,” which, once they were compiled together, may have led to inaccurate *Composite Obstacles* scores.

It is our hope that other researchers will continue moving this effort forward, such that each additional study may continue to improve the ability to precisely represent the breadth and depth of participants' challenges. Once that goal is attained, we believe there is a strong likelihood that it will show statistically significant results that demonstrate the connection between the load that people carry in life with the educational outcomes they are able to achieve.

Hypothesis: Health Obstacles

Participants who report fewer **health obstacles** beginning year 1 and during the course of the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: Health*: Below, we have provided descriptive statistics on the items that comprise the *Obstacle Type: Health (baseline)* variable. We hope this will allow the reader to gain a better understanding of how the health obstacle bucket was structured and to better estimate the range of participants' answers across years. The configuration of the All Years obstacle type composite variables is extremely complex, and it is therefore impossible to offer meaningful descriptive information on each individual component (since each question was averaged across survey years before compilation into the composite). However, the pieces that make up the baseline version are much more clear-cut.

Table 64: Responses to Health Questions, Year 1 Survey

Health Questions	N= 227	%
Please rate your overall health:		
<i>Excellent</i>	47	20.7%
<i>Very good</i>	82	36.1%
<i>Good</i>	68	30.0%
<i>Fair</i>	30	13.2%
<i>Poor</i>	0	0%
Diagnosed with: Physical handicap or disability?		
<i>No</i>	214	94.3%
<i>Yes</i>	13	5.7%
Diagnosed with: Emotional problem or disability?		
<i>No</i>	186	81.9%
<i>Yes</i>	41	18.1%
Diagnosed with: Mental health problem or disability?		
<i>No</i>	198	87.2%
<i>Yes</i>	29	12.8%
Diagnosed with: An illness that has lasted a long time?		
<i>No</i>	182	80.2%
<i>Yes</i>	45	19.8%
Diagnosed with: An experience with violence or abuse?		
<i>No</i>	163	71.8%
<i>Yes</i>	64	28.2%
What might make it difficult for you to go to college? (Response): Poor health		
<i>No</i>	222	97.8%
<i>Yes</i>	5	2.2%
What makes it difficult for you to attend the college prep program? (Response): Poor health		
<i>No</i>	214	94.3%
<i>Yes</i>	13	5.7%

The primary source of additional data on participants' obstacles that was not included on the first ATLAS survey were the classifications made by participants in their statements about their college trajectories each year. For example, in regards to this particular variable, participants were asked yearly as to whether health problems presented a major, minor, or not a challenge for them to apply to/enroll in/stay in college. Since college

trajectory questions were not relevant in the first year of the study (while participants were still enrolled in the transition program), these questions were not posed until the Year 2 survey.

As previously discussed, one major limitation of the baseline obstacle variables is that many of them had very little relevant data to draw upon in the Year 1 survey. Due to the fact that there were relatively few questions in Year 1 about participants' obstacles, we are including a sample of the additional questions posed beginning in Year 2 (i.e., items that were posed from the first year of the study onwards will not be included in these tables a second time). The majority of these questions were tied to participants' then current college trajectory. Unfortunately, our response rate for the Year 2 survey was the lowest of any of the four surveys: only 149 participants completed the survey, and an additional 5 began the survey but never finished it. For the sake of consistency, this Year 2 data is the survey year that will be depicted in these tables; however, it is important to note that the questions regarding participants' obstacles continued to be repeated and even expanded upon further in Years 3 and 4. This allowed us to gather information for a larger number of total participants, and for us to gain a more complex understanding of participants' variation over the years in the type of obstacles they faced. Of the original 227 participants, 216 of them completed either a Year 3 or Year 4 survey, with 189 completing a Year 3 survey and 208 completing a Year 4 survey.

Table 65: Responses to Health Questions, All Years Composite

Health Questions	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): Your health didn't permit	n=43	
<i>Major reason</i>	8	18.6%
<i>Minor reason</i>	3	7.0%
<i>Not a reason</i>	32	74.4%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): Your health didn't permit	n=19	
<i>Major reason</i>	2	10.5%
<i>Minor reason</i>	2	10.5%
<i>Not a reason</i>	15	78.9%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): Your health didn't permit	n=8	
<i>Major reason</i>	2	25.0%
<i>Minor reason</i>	0	0.0%
<i>Not a reason</i>	6	75.0%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Your health didn't permit	n=79	
<i>Major challenge</i>	3	3.8%
<i>Minor challenge</i>	21	26.6%
<i>Not a challenge</i>	44	55.7%
<i>Not applicable</i>	11	13.9%

After adding up participants' scores across all health-related items, each total (sum) score was standardized using the total number of possible points for that particular participant (a process previously described in more detail in the supports section). Consequently, the final composite scores had a possible range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single health obstacle questioned about at the worst extreme (poorest possible health) whereas a score of 0.0 would indicate that the participant faced no health challenges at all at any point over the course of the study. Across the participants ($n=227$), composite scores fell across the complete range of 0.0 to 1.0, with a mean of 0.212 =for the baseline version, and a mean of 0.197 for the All Years version. A score of 1 is

incredibly rare, since it indicates serious, ongoing health problems. For the All Years version, we just had one participant who scored a 1.0, which was actually only a carryover from the baseline version (if participants did not complete any year 2, 3, or 4 surveys, their baseline score was the same as their All Years variable score. However, since such participants did not have any outcome data, they were not included in the analysis). In fact this participant did indeed have grave health issues—sadly, he passed away as a result of poor health before the second year of the study. The next highest score for the All Years health obstacle composite was 0.87.

Results for the variable *Obstacle Type: Health*: The baseline version of our health obstacle variable was tested against the standard two dependent variables, *Enrolled in college within 1 year* and *Earned 3 college credits*, but neither analysis was significant. In contrast, the All Years version of the *Obstacle Type: Health* variable was significant against all college outcome variables tested, as shown in Table 66 (Basch, 2010) (Ding, Lehrer, Rosenquist, & Audrain-McGovern, 2006) (Drekmeier & Tilghman, 2010) below:

Table 66: Relationship between Health Obstacles to College Outcomes

Health Obstacles	College Outcome	Results
(n=200)	Enrollment: Completing 3 credits (<i>All Years</i>)	$\beta=-2.114$, $df=1$, $p=.022$; $\exp(\beta)=.121$
(n=200)	Enrollment/Persistence: Trajectory Status	$\beta=-2.030$, $df=1$, $p=.015$; $\exp(\beta)=.131$
(n=138)	Success: Number of credits (<i>College only</i>)	$b=-27.407$, $p=.035$; partial $r=-.185$
(n=138)	Persistence: Number of semesters (<i>College only</i>)	$b=-2.995$, $p=.046$; partial $r=-0.175$
(n=220)	Success: Tipping point (achieving 30 college credits)	$\beta=-3.599$, $df=1$, $p=.012$; $\exp(\beta)=.027$

The odds ratio for the binary logistic regression and ordinal regression analyses are below 1.0, implying that the relative odds of having successful college outcomes decreases with worsening health problems. Specifically, the odds ratio indicates the following:

- The odds of a person who faced every single obstacle related to health at maximum strength (a score of 1.0) over the course of the study are only 12.1 percent as large as the odds of someone who faced no health obstacles (score of 0.0) to **complete at least 3 credits** [$\exp(\beta)=.121$]. In other words, the relative odds of someone who did not face any health challenges would be over eight times higher than someone who faced every health challenge to earn at least 3 transferrable college credits [$1/\exp(\beta)=8.281$].

- For the **college trajectory status**, the log odds for the health obstacle variable were $\exp(\beta)=.131$, indicating that the odds of someone who scored a 1.0 on this measure (facing every health challenge) were only 13.1 percent as large as the odds of a participant who scored a 0.0 (no health challenges) for each of the following relationships: 1) still enrolled or has graduated college by the end of the study, versus having enrolled but dropped out; 2) enrolled in college but dropped out, versus never having attended college at all.
- The relative odds of a participant who had a score of 1.0 (every health challenge possible) to **achieve at least 30 transferrable college credits** were only 2.7 percent as large as the odds of someone who had a score of 0.0 (no health challenges at all) [$\exp(\beta)=.027$]. This means that relative odds of the participant with no health challenges to earn 30 credits were 36.5 times larger than those of the participant facing maximum health challenges [$1/\exp(\beta)=8.281$].

However, as we noted previously, it is extremely rare for someone to face every single health obstacle surveyed, so we also examined the difference in relative odds for participants who were separated by just .5 points, rather than those who were at both extremes. For example, the average health obstacle score was 0.21. Comparing those who scored towards the higher end of the health obstacle spectrum (0.71) to those who had an average amount of health challenges (0.21), the log odds results show that:

- Relative odds of the participants who faced higher health obstacles **earning at least 3 college credits** were only 34.7% as high as participants with average health challenges [$\exp(\beta*.5)=.347$].
- Relative odds of the participants who faced higher health obstacles to have a more **successful college trajectory** (see the trajectory comparisons previously listed) were only 36.2% as high as participants with average health challenges [$\exp(\beta*.5)=.362$].
- Relative odds of the participants who faced higher health obstacles **completing at least 30 college credits** were only 16.5% as high as participants with average health challenges [$\exp(\beta*.5)=.165$].

The linear analyses on the **number semesters completed** (persistence) and the **number of college credits earned** (success) also show interesting results. The analysis examining the impact of participants' health obstacles on the length that a participant stayed enrolled in college showed a slope of $b=-2.995$, and the analysis on the number of credits earned had a slope of $b=-27.41$. This indicates that on average:

- Participants who scored a 1.0 on the health obstacle measure (facing maximum health challenges) completed 3 fewer semesters than those who scored a 0.0 (no health challenges at all).
- Participants who scored a 1.0 on the health obstacle measure (maximum health challenges) earned 27 fewer credits than the average number earned by someone who scored a 0.0 (no health challenges).

This analysis indicates poor health had a markedly detrimental effect on students' college enrollment, persistence, and success. This finding is also supported by previous research, which has indicated that health can be a significant obstacle to progress in education, at any level (Basch, 2010; Ding, et al, 2006; Drekmeier & Tilghman, 2010). Unlike health challenges, many of the other obstacles we examined can be resolved with outside assistance from friends, family, or other supporters in participants' lives. Those who have transportation problems might borrow a friend's car, and those who have money problems may be able to work increased hours at their jobs; however, there is very little that anyone can do to mitigate the effects of serious health challenges. Even high-quality medical care is often not sufficient to substantially mitigate many types of illnesses and conditions. Therefore, it is unsurprising that health had such a pervasive effect on all types of participants' college outcomes.

Hypothesis: Academic Obstacles

Participants who report fewer academic obstacles beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: Academic*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: Academic (baseline)* variable.

Table 67: Academic Obstacles, Year 1 Survey

Academic Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Academics too difficult		
<i>No</i>	195	85.9%
<i>Yes</i>	32	14.1%
What makes it difficult to attend the college prep program? (Response): Academics too difficult		
<i>No</i>	208	91.6%
<i>Yes</i>	19	8.4%
Have you been diagnosed with or do you have any of the following conditions? (Response): Learning problems or disability		
<i>No</i>	184	81.1%
<i>Yes</i>	43	18.9%
Have you been diagnosed with or do you have any of the following conditions? (Response): Speech problems or disability		
<i>No</i>	217	95.6%
<i>Yes</i>	10	4.4%

Table 68: Academic Obstacles, All Years Composite

Academic Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You didn't feel academically ready	n=43	
<i>Major reason</i>	10	23.3%
<i>Minor reason</i>	14	32.6%
<i>Not a reason</i>	19	44.2%
Which of the following do you feel was a reason <u>you weren't accepted</u> when you applied to college? (Response): Your academic record	n=4	
<i>Major reason</i>	3	75.0%
<i>Minor reason</i>	0	0.0%
<i>Not a reason</i>	1	25.0%
Which of the following do you feel was a reason <u>you weren't accepted</u> when you applied to college? (Response): Your scores on the entrance exam	n=4	
<i>Major reason</i>	3	75.0%
<i>Minor reason</i>	0	0.0%
<i>Not a reason</i>	1	25.0%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): You didn't feel academically ready	n=19	
<i>Major reason</i>	2	10.5%
<i>Minor reason</i>	8	42.1%
<i>Not a reason</i>	9	47.4%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You didn't feel academically ready	n=8	
<i>Major reason</i>	0	0.0%
<i>Minor reason</i>	1	12.5%
<i>Not a reason</i>	7	87.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty with the academic demands	n=78	
<i>Major challenge</i>	14	17.9%
<i>Minor challenge</i>	31	39.7%
<i>Not a challenge</i>	33	42.3%

As with all other obstacle type variables, the final academic obstacle composite scores had a possible range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single academic obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant faced no academic challenges at all. Across the participants ($n=227$), composite scores were distributed across the entire possible range of 0.0 to 1.0, with a mean of 0.225 for the baseline version, and a mean of 0.313 for the All Years version.

Results for the variable *Obstacle Type: Academic*: This variable was not significant against any of our dependent variables. It is possible that this obstacle type was not sufficient to impact students' outcomes. However, it is also quite possible that the lack of significant findings here is due to the limited number of questions used to make up the composite overall; aside from the few questions asked in Year 1, there was just one question related to students' academic challenges per college trajectory type each year. Consequently, it is possible that we weren't able to dig deeply enough into participants' skill levels and feelings about academics due to the limited time available to administer each survey. We also may have seen less diversity in participants' scores than we otherwise would have.

Nonetheless, we did have some areas on the survey where participants could provide an unscripted answer about their obstacles, if desired. If responses were provided, we paired them with the corresponding obstacle category and used them as "floating point." This means that the scores of participants who did not offer such a response were not lowered, but rather we simply added an extra point for participants who reporting facing additional challenges in a given area. For example, some of the responses that translated into floating points for the academic obstacle composite were when participants reported an additional reason that contributed to their choice to drop out of college, such as lack of focus, poor performance in school, or that had taken on too many classes at once with a bad result. Some of the additional challenges that participants who were still enrolled in college reported were difficulty managing their workload, keeping up with school, or meeting the expectations of themselves or their teachers. The ability to earn a floating point, along with the limited number of academic-related questions overall, helps explain why eight of the participants reached the ceiling score of 1.0 on even the All Years measure, which is typically unusual for a composite score that is averaged across multiple years. The spontaneous responses provided by participants also serve as excellent examples of the types of questions that could be asked of all survey respondents in a future study, in order to provide a greater wealth of academic obstacle data.

Hypothesis: Familial Obstacles

Participants who report fewer **family-related obstacles** beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: Familial*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: Familial (baseline)* variable.

Table 69: Family Obstacles, Year 1 Survey

Family Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Childcare		
<i>No</i>	187	82.4%
<i>Yes</i>	40	17.6%
What do you think might make it difficult for you to go to college? (Response): Family illness		
<i>No</i>	224	98.7%
<i>Yes</i>	3	1.3%
What makes it difficult to attend the college prep program? (Response): Childcare		
<i>No</i>	203	89.4%
<i>Yes</i>	24	10.6%
What makes it difficult to attend the college prep program? (Response): Family responsibilities and obligations		
<i>No</i>	211	93.0%
<i>Yes</i>	16	7.0%

Table 70: Family Obstacles, All Years Composite

Family Obstacles	N	%
In the past 12 months did you experience any of the following? (Response): Your spouse or partner died	n=154	
<i>Yes</i>	2	1.3%
<i>No</i>	152	98.7%
In the past 12 months did you experience any of the following? (Response): You divorced or separated from spouse or partner	n=154	
<i>Yes</i>	16	10.4%
<i>No</i>	138	89.6%
In the past 12 months did you experience any of the following? (Response): Someone in your immediate family or someone very close to you died	n=154	
<i>Yes</i>	32	20.8%

<i>No</i>	122	79.2%
In the past 12 months did you experience any of the following? (Response): Someone in your immediate family or someone very close to you had a major illness	n=154	
<i>Yes</i>	35	22.7%
<i>No</i>	119	77.3%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): Your family situation didn't permit (e.g., no childcare, sick family member, etc.)	n=43	
<i>Major reason</i>	17	39.5%
<i>Minor reason</i>	6	14.0%
<i>Not a reason</i>	20	46.5%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): Your family situation didn't permit (e.g., no childcare, sick family member, etc.)	n=19	
<i>Major reason</i>	4	21.1%
<i>Minor reason</i>	3	15.8%
<i>Not a reason</i>	12	63.2%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): Your family situation didn't permit (family member had illness, etc.)	n=8	
<i>Major reason</i>	5	62.5%
<i>Minor reason</i>	0	0.0%
<i>Not a reason</i>	3	37.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty juggling family situation (e.g., no childcare, sick family member, etc.)	n=79	
<i>Major challenge</i>	20	25.3%
<i>Minor challenge</i>	25	31.6%
<i>Not a challenge</i>	26	32.9%
<i>Not applicable</i>	8	10.1%

As with all other obstacle type variables, the range of potential familial obstacle composite scores was from 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single family-related obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant faced no familial challenges at all. Across the participants ($n=227$), the lowest actual composite scores were 0.0 for both the All Years and baseline measures. The highest score obtained on the baseline measure was 0.75, and the mean

score was 0.109. For the All Years composite, the highest score was 0.77 and the mean 0.245.

Results for the variable *Obstacle Type: Familial*: There were no significant findings for this variable, neither for the All Years nor the baseline composite. Unlike the academic obstacle composite, the familial obstacle variable was based on a fairly large number of items, and these questions were repeated each survey year. In total, there were a total of 13 points possible across the four surveys, as well as additional floating points possible for participants providing spontaneous answers. Some examples of the additional points recorded were for participants who reported experiencing major family-related problems over the past year, including having a family member being sent to prison, having one's children taken away by social services, or having a child diagnosed with major behavioral or emotional issues. Other examples are participants who said provided "other reasons" for not enrolling in college, or for dropping out of school including being concerned about their ability to attend college due to family demands and responsibilities (in addition to the questions pertaining to family already included in the survey), or having too much instability and uncertainty in their personal lives.

Considering the substantial number of items pertaining to family obstacles included in the surveys, it seems less likely that the composite variable was insignificant due to a lack of depth in its structure, and more likely that having family obstacles is simply not a reliable predictor of college enrollment, persistence, and success. Perhaps that is because the challenges that participants face in this area are successfully off-set by their support networks; alternatively, it could be that the only family-related obstacles that really impact college outcomes are the traumatic ones, which affect a very small percentage of people overall.

Hypothesis: Financial Obstacles

Participants who report fewer **financial obstacles** for self or family beginning year 1 and continuing throughout the study will be more likely to enroll persist and succeed in college.

Description of the variable *Obstacle Type: Financial*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: Financial (baseline)* variable.

Table 71: Responses for Financial Obstacles, Year 1 Survey

Financial Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Existing debt		
<i>No</i>	222	97.8%
<i>Yes</i>	5	2.2%
What do you think might make it difficult for you to go to college? (Response): Cost of tuition/fees		
<i>No</i>	126	55.5%
<i>Yes</i>	101	44.5%
What makes it difficult to attend the college prep program? (Response): Existing debt		
<i>No</i>	210	92.5%
<i>Yes</i>	17	7.5%

Table 72: Responses for Financial Obstacles, All Years Composite

Financial Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You couldn't afford tuition and costs	n=43	
<i>Major reason</i>	24	55.8%
<i>Minor reason</i>	8	18.6%
<i>Not a reason</i>	11	25.6%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You didn't receive financial aid	n=43	
<i>Major reason</i>	13	30.2%
<i>Minor reason</i>	5	11.6%

<i>Not a reason</i>	25	58.1%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): You couldn't afford tuition and costs	n=19	
<i>Major reason</i>	8	42.1%
<i>Minor reason</i>	4	21.1%
<i>Not a reason</i>	7	36.8%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): You didn't receive financial aid	n=19	
<i>Major reason</i>	3	15.8%
<i>Minor reason</i>	6	31.6%
<i>Not a reason</i>	10	52.6%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You couldn't afford tuition and costs	n=8	
<i>Major reason</i>	3	37.5%
<i>Minor reason</i>	1	12.5%
<i>Not a reason</i>	4	50.0%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You didn't receive financial aid	n=8	
<i>Major reason</i>	1	12.5%
<i>Minor reason</i>	0	0.0%
<i>Not a reason</i>	7	87.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty affording tuition and costs	n=79	
<i>Major challenge</i>	28	35.4%
<i>Minor challenge</i>	27	34.2%
<i>Not a challenge</i>	22	27.8%
<i>Not applicable</i>	2	2.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty getting financial aid	n=79	
<i>Major challenge</i>	26	32.9%
<i>Minor challenge</i>	17	21.5%
<i>Not a challenge</i>	31	39.2%
<i>Not applicable</i>	5	6.3%

As usual, the financial obstacle composite had a possible score range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single financial obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant faced no financial challenges at all. Across the participants ($n=227$), composite scores were distributed across the entire possible range of 0.0 to 1.0, with a mean of 0.197 for the baseline version, and a mean of 0.353 for the *All Years* version.

Results for the variable *Obstacle Type: Financial*: The financial obstacle variable was significantly and negatively related to the *College Trajectory Status* variable, with those who reported more financial hardship having less successful college outcomes [$\beta=-1.223$, $df=1$, $p=.033$, $n=200$]. The odds ratio was $\exp(\beta)=0.294$, indicating that the odds of someone who scored a 1.0 on this measure (every financial hardship possible) were only 29 percent as large as the odds of someone who scored a 0.0 (no financial challenges at all) for each of the following relationships: 1) still enrolled or has graduated college by the end of the study versus having enrolled but dropped out; 2) enrolled in college but dropped out versus never having attended college at all. Of course, it should be remembered that only a minority of participants scored at the very top and bottom of the range of this measure. Although there were 27 participants who scored a 0.0 for the measure, there were only 2 participants who scored a 1.0. Interestingly, neither of those participants scored very high on the baseline financial obstacle measure, which means that in order to reach a ceiling score for the All Years version they must have earned some floating points due to increased financial hardship in later years. Some examples of the floating points for this obstacle category type were for participants who had to move due to home foreclosure or eviction, and those who reported job loss or serious financial issues during the past year. Other examples are participants who said provided “other reasons” for not applying to college including already having existing debt from student loans, or who reported “other challenges” staying enrolled in college due to difficulty affording supplies needed for school, and having a major difficulty paying bills such as for food and utilities due to the cost of school and/or decreased work hours. Of course, it makes sense that participants who were focused on managing such challenges would have less capacity to enroll in or persist in school.

Hypothesis: Logistical Obstacles

Participants who report fewer logistical obstacles (transportation, moving, scheduling, etc.) beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: Logistical*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: Logistical (baseline)* variable.

Table 73: Responses for Logistical Obstacles, Year 1 Survey

Logistical Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Lack of time		
<i>No</i>	190	83.7%
<i>Yes</i>	37	16.3%
What makes it difficult to attend the college prep program? (Response): Lack of time		
<i>No</i>	181	79.7%
<i>Yes</i>	46	20.3%

Table 74: Responses for Logistical Obstacles, All Years Composite

Logistical Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You moved away	n=43	
<i>Major reason</i>	2	4.7%
<i>Minor reason</i>	3	7.0%
<i>Not a reason</i>	38	88.4%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): You moved away	n=18	
<i>Major reason</i>	1	5.6%
<i>Minor reason</i>	1	5.6%
<i>Not a reason</i>	16	88.9%

In the Year 3 and Year 4 surveys, we added more questions to the trajectory section that were designed to assess participants' logistical obstacles. Due to the fact that so few logistical-related questions were asked in the Year 2 survey, we are also including a sample of the new Year 3 trajectory questions that were added, below (**items that were repeated from the Year 2 survey are not represented below*):

Table 75: Responses on Logistical Obstacles, Year 3 Survey

Logistical Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You could not find a college with the right program	n=72	
Major reason	7	9.7%
Minor reason	11	15.3%
Not a reason	54	75.0%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): Getting to college was tough (in terms of transportation)	n=75	
Major reason	10	13.3%
Minor reason	16	21.3%
Not a reason	49	65.3%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): You could not find a college with the right program	n=9	
Major reason	1	11.1%
Minor reason	2	22.2%
Not a reason	6	66.7%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): Getting to college was tough (in terms of transportation)	n=9	
Major reason	3	33.3%
Minor reason	0	0.0%
Not a reason	6	66.7%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): The college did not have the right program	n=32	
Major reason	2	6.3%
Minor reason	3	9.4%
Not a reason	27	84.4%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): Getting to college was tough (in terms of transportation)	n=32	
Major reason	4	12.5%
Minor reason	3	9.4%
Not a reason	25	78.1%

Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty in getting to college (in terms of transportation)	n=70	
<i>Major challenge</i>	2	2.9%
<i>Minor challenge</i>	13	18.6%
<i>Not a challenge</i>	48	68.6%
<i>Not applicable</i>	7	10.0%

As with all other obstacle type variables, the final logistical obstacle composite scores had a possible range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single logistical obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant faced no logistical challenges whatsoever. Across the participants ($n=227$), composite scores were distributed across the entire possible range of 0.0 to 1.0, with a mean of 0.229 for the baseline version, and a mean of 0.226 for the All Years version.

Results for the variable *Obstacle Type: Logistical*: This variable had no significant effect on any of the college outcome variables. It appears that the types of obstacles in this category such as difficulty finding childcare, transportation, or moving around did not play a significant role in determining students' college enrollment, persistence, and success. One explanation for this result could be that these are the types of tasks that one can receive assistance with most easily from family and friends, so perhaps our participants were able to cope with these types of problems more easily than with other obstacle categories. Another explanation could again be that we did not have enough time to delve deeply into this area, so we did not collect data on the exact nature of participants' logistical challenges and the types of solutions they employed. Perhaps if we had done so, we would have been able to more clearly highlight the differences between outcomes for participants who were able to get support to accommodate their logistical difficulties and those who could not.

Hypothesis: College Culture Obstacles

Participants who report fewer **obstacles to understanding or fitting into college** beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: College Culture*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: College Culture* (baseline) variable.

Table 76: Responses for College Culture Obstacles, Year 1 Survey

College Culture Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Difficulty "fitting in" with other students		
<i>No</i>	223	98.2%
<i>Yes</i>	4	1.8%
What makes it difficult to attend the college prep program? (Response): Difficulty "fitting in" with other students		
<i>No</i>	221	97.4%
<i>Yes</i>	6	2.6%
Has anyone in your immediate family (mother, father, brother, sister) ever attended college?		
<i>No</i>	99	43.6%
<i>Yes</i>	128	56.4%

Table 77: Responses for College Culture Obstacles, All Years Composite

College Culture Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You weren't sure where to apply	n=43	
<i>Major reason</i>	4	9.3%
<i>Minor reason</i>	3	7.0%
<i>Not a reason</i>	36	83.7%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): You weren't sure how to apply	n=43	

<i>Major reason</i>	3	7.0%
<i>Minor reason</i>	4	9.3%
<i>Not a reason</i>	36	83.7%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty understanding instructors' expectations	n=79	
<i>Major challenge</i>	4	5.1%
<i>Minor challenge</i>	19	24.1%
<i>Not a challenge</i>	50	63.3%
<i>Not applicable</i>	6	7.6%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty getting academic support (help with school work)	n=79	
<i>Major challenge</i>	4	5.1%
<i>Minor challenge</i>	16	20.3%
<i>Not a challenge</i>	57	72.2%
<i>Not applicable</i>	2	2.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty fitting in to college life or getting along with fellow students	n=79	
<i>Major challenge</i>	1	1.3%
<i>Minor challenge</i>	14	17.7%
<i>Not a challenge</i>	62	78.5%
<i>Not applicable</i>	2	2.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty using technology that is new to me	n=79	
<i>Major challenge</i>	7	8.9%
<i>Minor challenge</i>	22	27.8%
<i>Not a challenge</i>	46	58.2%
<i>Not applicable</i>	4	5.1%

Due to the fact that there were only two college trajectories in the Year 2 survey for which college culture-related questions were posed, we are also including a sample of the new Year 3 questions that were added for a third college trajectory, below (**items that were repeated from the Year 2 survey are not represented below*):

Table 78: College Culture Obstacles, Year 3 Survey

College Culture Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You had difficulty understanding instructors' expectations	n=32	
<i>Major reason</i>	1	3.1%
<i>Minor reason</i>	7	21.9%
<i>Not a reason</i>	24	75.0%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You did not get enough academic support (help with school work)	n=32	
<i>Major reason</i>	3	9.4%
<i>Minor reason</i>	8	25.0%
<i>Not a reason</i>	21	65.6%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You had difficulty using or applying new technology	n=32	
<i>Major reason</i>	1	3.1%
<i>Minor reason</i>	6	18.8%
<i>Not a reason</i>	25	78.1%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): You had difficulty fitting in with college life or get along with fellow students	n=32	
<i>Major reason</i>	0	0.0%
<i>Minor reason</i>	5	15.6%
<i>Not a reason</i>	27	84.4%

As usual, the final college culture obstacle composite scores had a possible range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single college culture obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant reported no college cultures challenges at all. Across the participants ($n=227$), composite scores for the baseline variable ranged from a low of 0.0 to a high of 0.67, with a mean of 0.160. For the All Years version, scores ranged from 0.0 to 0.72, with a mean of 0.167.

Results for the variable *Obstacle Type: College Culture*: There were no significant results for this variable. Unlike a few of the other obstacle category types, the college culture obstacle composite was drawn from a fairly large pool of questions overall. However, the number of questions administered to a given participant varied widely depending on his or

her yearly college trajectory. The participants who had the most opportunity to express fears, concerns, or difficulty with college life were those who had attended college at some point during the year. Participants who had not yet applied to college were only asked two questions in Years 2-4 about this obstacle type: whether they had difficulty knowing how or where to apply. Participants who were not accepted into college or who applied and were accepted, but chose not to enroll in college, were not asked any college culture obstacle questions for that survey year. Participants' scores were all standardized based on the number of points available to them overall when combining trajectory types with the number of surveys completed. Therefore, participants' scores were not penalized if they belonged to a college trajectory where there were no applicable points available to them to earn. Nonetheless, this discrepancy resulted in a measure that was much less refined for participants who never enrolled in college than it was for those who enrolled in college at some point during the study. Therefore, the college culture obstacle scores for those participants who never attended college were based on very few questions overall, resulting in a potential loss of accuracy.

For example, consider again our hypothetical participant Jane, who was in her fifties. She did not apply to college because she felt intimidated by the prospect of joining so many young people on campus, all of whom seemed to walk cheerfully around campus with an air of confidence and a sense of belonging. Perhaps Jane was also fearful about being required to use computers for her coursework, since she had never owned a computer in her life and was not exposed to a computer class in her transition-to-college program. Plus, she tended to struggle with math and wasn't sure she would be able to get any academic support at college. However, Jane did have a very helpful, kind transition program staff member who told her she would be happy to assist her with applying to college when she was ready, and who gave her recommendations on where to apply. In spite of that kind offer, Jane was still too intimidated to apply to college, because of the reasons previously mentioned. On the ATLAS survey, the two questions related to college culture administered to Jane would have been whether she had any difficulty knowing where or how to apply to college. Jane would have answered "not a challenge" to these questions each year, resulting in an extremely low college culture obstacle composite score (suggesting that she had few if any college culture-related obstacles). Jane would not have been asked whether she was concerned about "using technology that is new to me," having "difficulty getting academic support," or "fitting into college life." All three of those questions were found only in the trajectory sections for those who were already enrolled and attending college, or for those who attended college for a time but then dropped out. Thus, even though in fact Jane's fears and concerns about college life and culture did play a significant role in deterring her from college enrollment and success, we would not be able to see that reflected in Jane's score. Of course, not only would this lower score influence Jane's *Obstacle Type: College Culture* score, but her overall *Composite Obstacles* score would also be lower than it should be. This example illustrates the potential pitfalls of having too few survey questions dedicated to a given area of interest, because it lends too much weight to just a few questions while

potentially missing other important facets of participants' lives. Furthermore, inaccuracies at the individual obstacle category level may have contributed to the lack of any significant analysis results for our overall *Composite Obstacles* variable.

Hypothesis: Work-related Obstacles

Participants who report fewer **obstacles managing job schedules and work demands** beginning year 1 and continuing throughout the study will be more likely to enroll, persist, and succeed in college.

Description of the variable *Obstacle Type: Work*: The table below shows descriptive statistics on the items that comprise the *Obstacle Type: Work (baseline)* variable.

Table 79: Responses for Work Obstacles, Year 1 Survey

Work Obstacles	N=227	%
What do you think might make it difficult for you to go to college? (Response): Job Demands		
<i>No</i>	185	81.5%
<i>Yes</i>	42	18.5%
What makes it difficult to attend the college prep program? (Response): Job Demands		
<i>No</i>	192	84.6%
<i>Yes</i>	35	15.4%
Did the participant have a full-time job for the majority of the past year? (at least 32 hours per week, for at least 9 months of the year)	n=226	
<i>No</i>	143	63.3%
<i>Yes</i>	83	36.7%

Table 80: Responses for Work Obstacles, All Years Composite

Work Obstacles	N	%
Indicate whether each of the following was a reason you had for <u>not applying to college</u> ? (Response): Your job schedule or requirements conflicted with classes	n=43	
<i>Major reason</i>	13	30.2%
<i>Minor reason</i>	9	20.9%
<i>Not a reason</i>	21	48.8%
Indicate whether each of the following was a reason you had for <u>not enrolling in college</u> ? (Response): Your job schedule or requirements conflicted with classes	n=19	
<i>Major reason</i>	8	42.1%
<i>Minor reason</i>	2	10.5%
<i>Not a reason</i>	9	47.4%
Indicate whether each of the following was a reason you had for <u>dropping out of college</u> ? (Response): Your job schedule or requirements conflicted with classes	n=8	
<i>Major reason</i>	1	12.5%
<i>Minor reason</i>	2	25.0%
<i>Not a reason</i>	5	62.5%
Indicate whether each of the following factors makes it difficult to <u>stay in college</u> ? (Response): Difficulty juggling work schedule or responsibilities	n=79	
<i>Major challenge</i>	19	24.1%
<i>Minor challenge</i>	29	36.7%
<i>Not a challenge</i>	27	34.2%
<i>Not applicable</i>	4	5.1%

As usual, the final work obstacle composite scores had a possible range of 0.0 to 1.0; a score of 1.0 would indicate that the participant faced every single job-related obstacle discussed in the survey, whereas a score of 0.0 would indicate that the participant faced no work challenges whatsoever. Across the participants ($n=227$), composite scores were distributed across the entire possible range of 0.0 to 1.0, with a mean of 0.235 for the baseline version, and a mean of 0.322 for the All Years version.

Results for the variable *Obstacle Type: Work*: Participants with higher levels of job-related obstacles were significantly less likely to have attained at least 30 transferrable college credits by the end of the study [$\beta=-1.915$, $df=1$, $p=.018$, $n=220$, $\exp(\beta)=0.147$]. The

mean work obstacle composite score for those who were able to attain at least 30 credits (*Tipping Point Momentum*) was 0.259, versus a mean work obstacle score of 0.343 for those who did not attain that milestone. The odds ratio tells us that the odds of a participant who faced maximum work-related obstacles (a score of 1.0) were only 14.7 percent as high as the odds of someone facing no work obstacles at all (a score of 0.0) to have attained at least 30 credits [$\exp(\beta)=0.147$]. Examined another way, this means that the odds of a participant with no work obstacles were 6.8 times larger than the odds of a participant with maximum work obstacles to have attained 30 credits or more [$1/\exp(\beta)=6.787$]. Of course, as with other standardized variables, it was rare for a participant to have attained a score of 1.0 for an All Years obstacle composite variable. For the work obstacle All Years composite, only 1 participant attained a score of 1.0 whereas 38 participants attained a score of 0.0. In contrast, only 18 participants had a work obstacle score higher than 0.70.

One small note about the *Obstacle Type: Work* analysis is that we did not include one of our standard covariates: *Full-Time Worker Status*. The reason is that there was too much overlap in the two variables in terms of the type of obstacle measured. For example, it is common sense to assume that a participant who has a full-time job is more likely to experience job-related obstacles than someone who is only working part-time or who is not working at all. Indeed, conducting a simple correlation between the two variables revealed highly significant results [$r=0.838, n=227, p<.001$].

We are not sure why *Tipping Point Momentum* was the only significant college outcome for the work obstacle variable. One possibility is that the relatively low number of total job-related questions across surveys resulted in a lack of sensitivity for the composite as a whole. It is also possible that there was not enough variability in work obstacle scores among those who actually enrolled in college such that it was impossible to tie the number of credits and semesters completed to the amount of job-related challenges faced by participants. Or, perhaps participants' work obstacles are simply not predictive of certain types of college outcomes.

Hypothesis: Full-time Workers

Participants who do not work full-time will be more likely to enroll, persist, and succeed in college.

Description of the variable *Full-Time Worker Status*: In order to calculate this variable, we had to consider the participants' weekly work hours as well as the total number of months that they had worked in the past calendar year. We considered an individual to be working full-time if he or she had worked at least 32 hours per week during at least 9 months of the past year. For each survey year that participants completed, we evaluated their work history over the past year according to this formula, and assigned either a 0 or 1 based on whether they met the minimum full-time work criteria. We then averaged participants' scores across all surveys completed. The final calculation resulted in a

continuous variable between the ranges of 0 to 1, which allowed us to approximate participants' work demands over the course of the study.

Identifying the cut-off points for the number of months worked per year and the number of hours worked per week was somewhat challenging. Based on our literature review, we found support for the use of either 32 hours or 35 hours as the minimum criteria to be considered a worker as full-time. Due to the fact that we believed even working just four days per week would still present a significant obstacle to attending college, we elected to use 32 hours per week as our minimum qualification. Although we could have used that figure alone to assign *Full-Time Worker Status*, we thought it was also important to include the number of months of the previous year that the participant had been working, whenever the information was available to us. We chose nine months as our minimum criteria because it indicates consistency for the majority of the year while still affording some leeway for someone who may have experienced a period of illness or injury, or who was forced to seek new employment after losing a job or completing seasonal work.

Consider our participant Jane, who took her Year 3 survey in June, 2009. When we inquired about her activities over the last 12 months, she reported attending college full-time for the past two semesters. She also stated that she was presently working 60 hours per week at her local grocery store. At first glance, it may appear pretty extraordinary that Jane could be working so many hours per week and yet still manage to attend school full-time. However, a closer examination of her work history revealed that Jane only worked at the grocery store on her summer break; during the school year, her only job was a 15-hour per week work-study position provided through her college. Therefore, by our calculations, Jane would not be considered a full-time worker since she only works more than 32 hours per week during four months of the year.

We only had time to document participants' detailed work history over the past 12 months on the Year 1 and Year 4 surveys; for the Year 2 and Year 3 surveys, we had to accept participants' weekly hours total as the sole criteria for determining their full-time worker status. The Year 1 and Year 4 surveys were by far the most comprehensive, taking an average of 60-100 minutes to complete. In contrast, the Year 2 and Year 3 surveys were only about 20-40 minutes long, so we had to make some sacrifices regarding which data would be gathered for those years. It was important to us to maintain the cooperation of our participants over the long-term and we felt that we would be risking high levels of attrition should we ask participants to complete a long exhaustive survey for all four years of the project.

Results for the variable *Full-Time Worker Status*: The *Full-Time Worker Status* variable was significantly related to both the college success and tipping point dependent variables. Participants who were working full time during more years of the study were likely to have earned fewer total college credits [$b = -12.134$, $p = .030$; partial $r = -.191$, $n = 138$]. They were

also less likely to have earned at least 30 credits before the completion of the study [$\beta = -1.484$, $df = 1$, $p = .006$, $n = 220$, $\exp(\beta) = 0.227$]. The log odds for this analysis indicate that the odds for participants working full-time throughout the study to have earned 30 college credits were only 22.7 percent as high as the odds for those who not working full-time.

These findings were expected, as those participants who must balance a full-time work schedule with college classes are understandably less able to enroll in as many classes per semester as their peers. Although this does not appear to deter students from enrolling or persisting in college despite the heavy load on their schedules, it is more likely to extend the number of years needed for them to graduate college.

Discussion and Conclusions

In this section, we discuss the major findings, and we provide some implications for ABE transition-to-college practice, policy and future research. Recall that our research questions were the following:

1. *What are the outcomes of participating in the ABE-to-College Transition Program?*
 1. **Educational trajectory:**
 - a. never enrolled;
 - b. enrolled but dropped out;
 - c. enrolled and either graduated or still enrolled by end of study (includes those who were continuously enrolled or who “stopped out” and re-enrolled)
 2. **Enrollment outcomes:**
 - a. completed at least 3 non-developmental education credits in college
 - b. enrolled within one year of participating in the transition program
 3. **Persistence outcome:** total number of college semesters completed
 4. **Success outcomes:**
 - a. Total number of college credits acquired
 - b. Achieving “Tipping point” momentum: completed at least 30 non-developmental education credits in college
2. *What are the factors that influenced those outcomes?*
 1. **Goals and motivations:** types of motivation, strength of motivation, financial motivation, career and college goals
 2. **Individual characteristics:** cognitive, non-cognitive, demographic factors
 3. **Supports:** people, transition program, college supports
 4. **Obstacles:** health, academic, familial, financial, logistical, college culture, work-related factors

We will first summarize the college outcomes of ATLAS participants. Then, we will present and discuss the most significant factors related to college outcomes, using our conceptual framework and then using an alternative framework.

Summary of College Outcomes for ATLAS Participants

Sixty-three percent of all ATLAS participants enrolled in college at some time during our longitudinal study. Almost half of all ATLAS participants enrolled in college within one year of participating in the transition course (whether or not they finished it). Over half—125 participants out of 220—of **all** the ATLAS participants completed at least 3 transferable credits. This means that 125 out of the 138 participants who ever enrolled in

college earned three transferable credits. Table 81 below reviews the college outcomes for ATLAS participants.

Table 81: Summary of College Outcomes

Outcome	Percentage of whole sample (220)	Mean for those ever enrolled in college (138)
Never attended college	37%	
Enrolled in college but dropped out	32%	
Enrolled in college and still enrolled or graduated	31%	
Completed at least 3 non-developmental (transferable) credits	57%	
Enrolled in college within one year of the end of the transition course	47%	
Reached “tipping point” momentum (30 transferable credits)	21%	
Mean semesters completed		4.20
Mean credits completed		25.15

Since we had no control group for this study, we cannot fairly compare ATLAS participants with a comparison group of non-traditional adult students who had not participated in the ABE-to-College Transition program, since motivation to participate in the program could be the key factor in being motivated to enroll in and succeed in college. A control group of adults who applied to the transition program, but weren’t able to participate for some reason, would have made this study a randomized control trial (RCT) rather than a panel study following one group over time. An RCT would have allowed us to determine the specific influence of attending a transition course among adults who all were motivated to participate. However, ATLAS participants’ outcomes look promising for the role of transition programs in positive college outcomes.

Summary of Most Significant Factors Influencing College Outcomes

Although multiple factors played a significant role in participants’ enrollment, persistence and/or success in college, we identified the three or four factors with the biggest effect size for each of the six dependent variables (college outcomes), in order to provide a clearer picture of those factors that were particularly strong in influencing ATLAS participants’ college outcomes. The most significant factors for each college outcome are presented in the tables below.

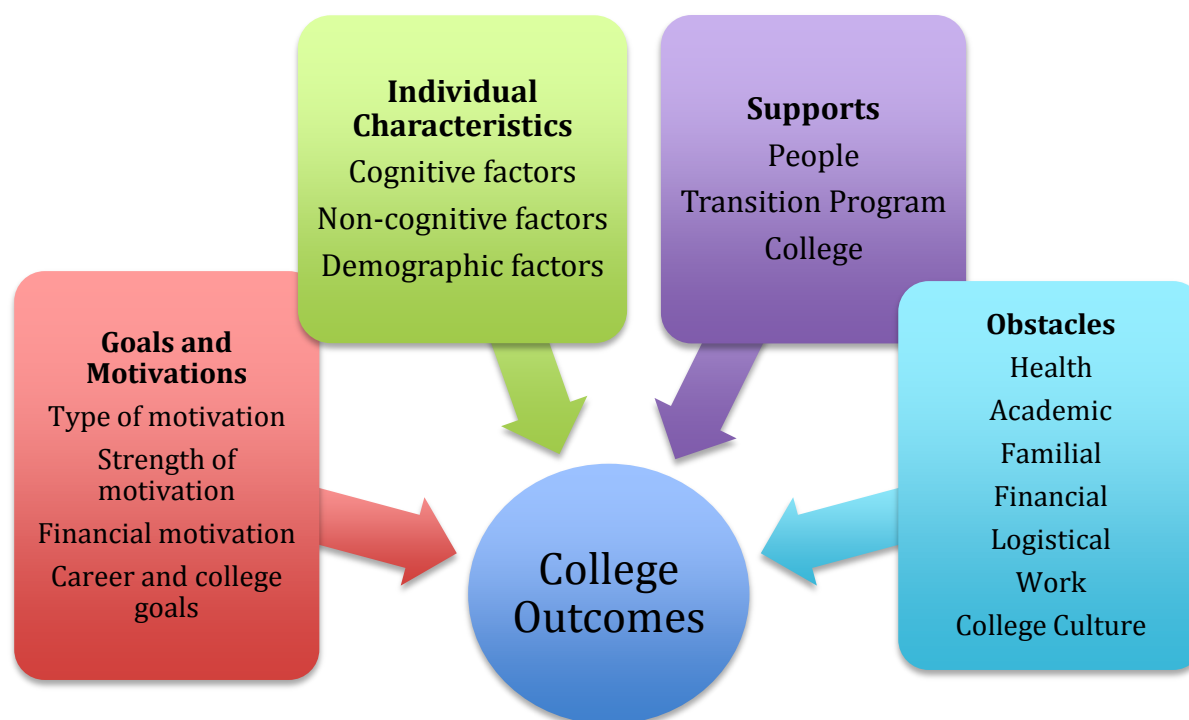
Binary Log & Ordinal Regression Table

Dependent Variable	Independent Variable (IV) of Interest	n	b	Exp(b)	p	mean	max score	dif. btwn mean & max (aprox)	Exp(b=dif. btwn mean & max)	Inverse exp(b dif.)
Enroll: 3 credits	Career Planning Skills	200	3.731	41.706	0.004	0.41	0.86	0.45	5.360	
Enroll: 3 credits	Health Obstacle	200	-2.114	0.121	0.022	0.20	1.00	0.80	0.184	5.435
Enroll: 3 credits	College Transitions Support Network	200	4.344	76.995	0.000	0.24	0.83	0.60	13.550	
Enroll: 3 credits	Transition course completion	200	1.472	4.359	0.000	n/a	n/a	n/a	4.359	
College Trajectory	Career Planning Skills	200	2.536	12.629	0.017	0.41	0.86	0.45	3.131	
College Trajectory	Health Obstacle	200	-2.030	0.131	0.015	0.20	1.00	0.80	0.197	5.076
College Trajectory	College Transitions Support Network	200	3.001	20.106	0.000	0.24	0.83	0.60	6.053	
College Trajectory	Transition course completion	200	-1.190	0.304	0.000	n/a	n/a	n/a	0.304	3.287
Enroll within 1 yr.	Improvement in Accuplacer Arithmetic Scores During Transition Program	107	0.033	1.033	0.009	14.93	76.00	50.00	5.207	
Enroll within 1 yr.	Transition course completion	204	2.210	9.116	0.000	n/a	n/a	n/a	9.116	
Enroll within 1 yr.	Transition course Mentoring Component	204	1.087	2.966	0.004	n/a	n/a	n/a	2.966	
Enroll within 1 yr.	Transition course Staff Feedback Level	204	1.089	2.973	0.006	n/a	n/a	n/a	2.973	
Tipping Point	Improvement in Accuplacer Arithmetic Scores During Transition Program	109	0.044	1.045	0.001	14.93	76.00	50.00	9.025	
Tipping Point	Career Planning Skills	220	3.681	39.705	0.010	0.41	0.86	0.45	5.241	
Tipping Point	Health Obstacle	220	-3.599	0.027	0.012	0.20	1.00	0.80	0.056	17.857

Linear Regression Table						
Dependent Variable	Independent Variable (IV) of Interest	n	b (slope)	p	Partial-r	Notes
Success: Total Credits	Ratio of earned credits to attempted credits	132	47.300	0.000	0.598	standardized: possible range= 0 to 1
Success: Total Credits	GPA	126	10.865	0.000	0.431	
Success: Total Credits	College Support Network	131	45.332	0.000	0.360	standardized: possible range= 0 to 1
Success: Total Credits	# of Classes enrolled in 1st semester	127	7.639	0.000	0.356	
Persistence: Total Semesters	Ratio of earned credits to attempted credits	132	4.152	0.000	0.466	standardized: possible range= 0 to 1
Persistence: Total Semesters	College Support Network	131	5.693	0.000	0.402	standardized: possible range= 0 to 1
Persistence: Total Semesters	GPA	126	0.977	0.000	0.348	
Persistence: Total Semesters	Career Planning Skills	138	5.604	0.001	0.300	standardized: possible range= 0 to 1

Discussion of Most Significant Factors Using Conceptual Framework

We return here to our conceptual framework as a way to understand why some participants enrolled, persisted and succeeded in post-secondary education and others did not. Below is the conceptual framework for ATLAS, as introduced in the Methodology section:



In the sections below, we discuss the findings related to each of these constructs.

Goals and Motivations

We come away from this study recognizing how difficult it is to measure motivation through questionnaires on a large scale. Multiple hypotheses about motivation and goals were not confirmed, such as type of motivation (material, identity, fulfillment) and strength of motivation. Whether this is because those motivations are not influential in better college outcomes, or because our measures were insufficient, we do not know. Future research could perhaps find better ways than we did to measure motivation of adult transition students.

Some outcomes went in the opposite direction of our hypothesis. For example, we anticipated that participants who felt more financial pressure to attend college because family depended on their income would have better college outcomes, when in fact participants whose families were less reliant on their income were more likely to earn 3 credits and have a more positive overall trajectory. Similarly, we anticipated that participants with lower ideal job goals (on the job hierarchy scale) would have better college outcomes, when the opposite was true: those whose ideal job was higher on the job hierarchy scale were more likely to earn 3 credits and have a more positive overall college trajectory. However, although we found that aiming higher in career goals overall was significantly correlated with better enrollment outcomes, this result should be considered with caution; it is possible that part of this effect may be at least partly explained by participants' amount of forethought into their own career goals, as gauged by their career planning skills, which were significantly related to better enrollment, persistence and success outcomes.

Finally, we thought that those whose college degree goals were more within reach (an Associate's Degree or Vocational Certification as compared to a Bachelor's or Master's degree) would have better college outcomes. However, have higher college goals, such as a BA or MA, was significantly related to both success—earning more credits overall—and persistence—more semesters completed; and that having a goal of getting an Associate's degree rather than a vocational certificate was significantly related to earning more credits. However, we do not feel that this is an indication that transition program staff should simply tell participants that if they have higher goals they will be more successful, because this may ultimately decrease motivation for participants who do not have a strong rationale for needing a high level of education.

Individual Characteristics

Certainly it makes sense that adults students interested in going to college bring a wide range of personal, situational, and dispositional characteristics to bear on their actions to enroll, persist and succeed in college. We below describe our findings related to our hypotheses about the cognitive, non-cognitive, and demographic factors that may play a role in successful transition to college.

Unsupported hypotheses

Specific hypotheses about individual characteristics were not supported by our findings. **Literacy skills**, as measured by the Test of Applied Literacy Skills (TALS), either at the beginning of the study, at the end of the study, or the change between scores, were not related to any college outcomes.

Hypotheses about the influence of having a **positive outlook** or having increased **self-efficacy** (as measured by specific protocols) also were not supported. Similarly, personal planning skills and time management (as measured by the specific protocol) were also not related to any college outcomes, although we did find that transition program staff ratings of participant' time management skills at their exit from the program were related to all three enrollment outcomes and to reaching the 30-credit tipping point (a success outcome). In other words, the more highly program staff rated a participant's time management skills, the more likely s/he was to enroll sooner, complete 3 credits, have a more positive college trajectory, and reach tipping point momentum.

We also found no support for the hypothesis that greater household income would be related to better college outcomes. In fact, we found no relationship at all, although we feel that our measures of household income, being self-reported and not as specific as we would like, may be in part responsible for this unsupported hypothesis. Future research could focus more specifically on how to gauge personal and household income in order to better understand the role of financial stability or instability in supporting enrollment, persistence or success.

Partially supported hypotheses

Other hypotheses were partially supported: individual characteristics that were related to a limited number of college outcomes. For example, of the 200 ATLAS participants for whom we have this data, the 22% who reported having a **learning disability** were significantly less likely to enroll in college and earn 3 transferrable credits: the odds of those with a learning disability earning three college credits are only 33 percent as large the odds of doing so for students without a learning disability; not having a learning disability made students three times more likely to acquire 3 non-developmental credits. However, having a learning disability was not related to any other college outcome: although LD participants were less likely to enroll and, if enrolled, more likely to take developmental education classes, overall enrollment patterns of those LD participants who chose to enroll in college show that they were just as likely to stay enrolled for as many semesters and did not earn significantly fewer credits overall in comparison to their non-LD peers.

Another partially supported hypothesis revolves around **leadership experience and non-cognitive factors** such as preferring long-range goals, confidence, and feeling like a leader. We found that participants who scored higher on the non-cognitive factors composite were significantly more likely to earn 3 college credits (a measure of enrollment). Participants who reported having more leadership experience were significantly more likely to acquire more total college credits (a measure of college success). However, our measures for these non-cognitive factors and for leadership were not related to any other college outcomes.

We also found only partial support for particular individual demographic factors, such as age, country of birth, or having children. For **age**, we found that it mattered only for one college enrollment outcome: earning 3 college credits. The odds ratio for an age difference of 10 years meant that the odds of successfully earning three credits are 31% less for the older participant in comparison with his or her younger peer; and the odds ratio for an age difference of 20 years between participants meant that the odds of successfully earning three credits are 52% less for the older participant in comparison with his or her younger peer. In other words, the odds of a 25-year-old participant earning at least three transferrable college credits are twice as large as the odds of a 45-year-old participant doing the same. However, age was not significantly related to any other college enrollment, persistence or success outcome. Thus, while age may indeed influence whether or not a transition student might enroll in college and successfully complete three non-developmental credits, age is not a strong determinant of quick enrollment after the transition program, length of enrollment, number of semesters or credits earned. The implications of this for transition programs are that older ABE-to-College transition program participants may need more encouragement and support to enroll, and staff should look for opportunities to help increase the self-efficacy and planning skills of older participants.

Another hypothesis only partially supported related to country of birth. We had anticipated, based on the research literature, that immigrants would have more positive outcomes than participants born in the U.S., and this was partially born out in the case of college trajectory: participants who were born in the United States were less than half as likely as participants who were immigrants to have enrolled in college or, once enrolled, to stay enrolled or to stop out and return. However, being born in another country was not significantly related to any other dependent variables, including success and persistence.

Our hypothesis that **having children**, especially young children, would be an obstacle to participants' enrollment, persistence and success, was not supported but, in fact, the opposite hypothesis was partially supported. Having children was positively related (although the relationship was borderline significant) to two enrollment outcomes: enrolling in college within one year, and having a more positive college trajectory. The odds of enrolling in college within a year for participants with young children were more than twice the odds of enrolling in college for those with no children. Indeed, the odds of parents of children of any age enrolling in college within a year were also over twice as large as the odds of their childless peers to do the same. Having older children versus younger children was significantly related to the college trajectory outcome, but in a surprising way: participants with at least one child under the age of 12 at some point during the period of the study were more than twice as likely to enroll in college as participants who were parents of children older than 13 years of age. Furthermore, once enrolled, parents of young children were more than twice as likely to stay enrolled in college as were participants with older children. However, having children was not

significantly related to any other college outcome. The explanation for this may be that parents, especially parents of young children, may be more motivated to enroll in college in order to serve as a role model for their children. Finally, being a single parent of young children, surprisingly, was not significantly related to any college outcome.

Other outcomes emerged from the data without our having hypothesized their influence. For example, we found that being married or having a domestic partner was significantly related to earning more total college credits (a success outcome) and, in some analyses, was related to completing more semesters. However, there was no relationship between marital status and any other college outcome.

We also found no evidence that type of secondary degree (traditional high school diploma, alternative diploma, or GED) was related to any college outcome.

Finally, our college participation variables were a mixed bag of results. For ATLAS participants who had ever enrolled in college and for whom we had transcripts, we found no relationship between any previously earned college credits and either success or persistence. Participants who enrolled in a higher number of classes in their first semester were more likely to have achieved higher totals of transferrable college credits over the course of the study, but we did not find any significant relationship between the first semester workload and the number of semesters that participants completed once enrolled in college.

Participants who took more developmental education classes completed more semesters overall, although with a small effect size, but they were not more likely to earn more college credits (a success measure). This makes sense because those who take developmental education classes, if they don't drop out, will naturally have completed more semesters in college than those who didn't take such classes. Similarly, participants who had a higher number of classes flunked, repeated or withdrawn were more likely to complete more semesters, again probably because they are taking classes repeatedly or classes for which they get no credit.

Key Individual Characteristics

The following factors emerged as significant factors across multiple college outcomes.

Cognitive Factor: Improvement in Accuplacer Arithmetic Scores During Transition Program

This variable **was one of the four strongest individual characteristics for two of our six college outcomes:** enrolling in college within one year, and reaching the 30-credit tipping point. Although increases on both individual, total and compiled Accuplacer scores

in multiple test areas was significant for education outcomes, our analysis shows that when looking at *changes in individual test scores from intake to exit*, we found that a 10-point increase in a participant's arithmetic score between the person's intake and exit Accuplacer tests increased the relative odds of completing 3 credits by 58 percent; his/her relative odds of enrolling in college within 1 year by approximately 40 percent; and his/her relative odds of completing 30 credits by 55 percent.

For *individual tests at intake and exit*, we found that a 15-point increase on a participant's intake sentence skills score increased the relative odds of completing 3 credits by approximately 40 percent; a 15-point increase on a participant's exit sentence skills score increased the relative odds of completing 30 credits by approximately 45 percent; and a 15-point increase in a participant's exit arithmetic score, increased the relative odds of completing 3 credits by 57 percent.

Remembering that total score combines scores on all four individual tests (algebra, arithmetic, reading comprehension, and sentence skills), and compiled score combines scores from three individual tests (arithmetic, reading comprehension, and sentence skills), our analysis found that a 30-point increase in a participant's total exit score increased the relative odds of completing 3 credits by approximately 40 percent; and a 30-point increase in his/her compiled exit score increased the relative odds of completing 3 credits by approximately 40 percent.

When looking at *changes in compiled test scores* (arithmetic, reading comprehension and sentence skills) *from intake to exit*, we found that a 20-point increase in a participant's compiled score between the person's intake and exit Accuplacer tests increased the relative odds of completing 3 credits by 58 percent; and his/her relative odds of enrolling in college within 1 year of transition course by approximately 50 percent. Finally, a 15-point increase in a participant's compiled score between the person's intake and exit Accuplacer tests increased the relative odds of completing 30 credits by approximately 40 percent.

We have multiple hypotheses for why increases in arithmetic scores on the Accuplacer test from the beginning of the transition course to the end is such a strong factor. Perhaps doing better in math allowed these participants to skip developmental math courses and complete 30 credits sooner than other participants. Perhaps the effect that we are detecting is not causality but rather an observed effect in which those participants who are able to pick up these type of math skills most easily are also the ones who are able to succeed most readily in college classes overall, thereby allowing them to complete more credits. Those participants who were more successful learners in the immediate term may have been more likely to pass their college classes than their slower-learning peers, thereby accruing more credits more quickly (since they would not have to repeat as many failed classes). Or, perhaps the importance of improving math skills is not the math learning acquired but the sense of self-efficacy gained from having been able to improve

one's scores. This might explain why this variable is strongly related to enrolling in college within one year: participants who improved their math skills felt more ready and had the confidence that they would be more successful in college as a whole. Perhaps this initial experience of success in the transition program, especially in an area that often inspired a feeling of dread in our participants, engendered a feeling of confidence and willingness to work hard in college, which in turn engendered more success.

Non-cognitive Factor: Career Planning Skills

Our hypotheses about career planning and goal-setting skills were supported, and the relationship between these two variables and college enrollment, persistence and success outcomes were particularly strong. Being more specific about how to go about getting one's ideal job or how to plan to meet goals of any kind was significantly related to better college outcomes. Specifically:

Ideal job specificity: Moving up just 1 point in this average 1-4 score (e.g. someone who is undecided vs. someone who knows the general desired field of work) increases the log odds of completing at least three credits by almost 2.5 times or enrolling within one year by 1.5 times. A participant averaging two points higher than another student (e.g., someone who specifies both a job title and focus, such as pediatric nurse, vs. someone who only knows the general desired field, such as health/medicine) has odds of earning at least three credits almost 6 times the odds of the participant with a score two points lower. Those who ever enrolled in college and had higher average scores on job specificity were also significantly more likely to earn more college credits overall and to persist for more semesters. This finding indicates that those adult students who more clearly know the specific type of job they are aiming to get are more likely to enroll in college, persist and be successful.

Goal-setting skills: The odds ratio of a participant who earned a perfect score of 1 on the scale (compared to someone who scored a 0) was approximately 17 times larger to earn 3 college credits; nine times larger to have a positive college trajectory; 100 times larger to reach the tipping point of 30 credits. Those who ever enrolled in college and who scored higher on the goal-setting skill composite were also significantly more likely to earn more overall credits and persist for more semesters.

Career planning skills: This variable was the **strongest of the non-cognitive variables we tested**; it was among the top three or four strongest variables for four of the six college outcomes: completing three credits, overall college trajectory, reaching the tipping point of 30 credits, and completing more semesters in college.

the odds ratio of participant who earned a perfect score of 1 on the career-planning skills scale (compared to someone who scored a zero) was 41.7 times larger to earn 3 transferrable credits; 12.6 times larger to have had a successful college trajectory status

(more likely to have enrolled in college at all, or if ever enrolled in college, more likely to have stayed in school or to have graduated by the end of the study); 39.7 times larger to reach the tipping point of earning 30 credits. Those who ever enrolled in college and who scored higher on the career planning skills measure were also significantly more likely to earn more overall credits and to persist for more semesters.

What implications might these findings about college goals, career goals, goal-setting skills and career planning skills have to college transition programs? Stating higher career and college goals are related to enrollment but not to success or persistence, but personal goal-setting and planning were strongly related to enrollment, persistence and success outcomes. Career planning skills—as measured by our composite—was strongly related to a range of college outcomes.

On the other hand, there was no relationship between the nature or intensity (low, medium or high) of the career planning component offered by the different transition programs and better college outcomes. Perhaps these results are related more to individuals' capacities to set high goals and make more specific plans for reaching them, but it also seems unlikely that there is nothing a transition program can do to help adult students improve their college and career planning skills.

However, it is also possible that measures for coding career exploration components in the 11 transition programs were not sufficient to show an effect, or that numbers are too low for a robust analysis of career exploration components and positive outcomes. Thus, one should be cautious about throwing out the career planning components of transition programs. Perhaps these components should focus also on general goal-setting skills or make more explicit how and why planning skills are critical. Perhaps sharing the findings from this research with future college transition program students might prompt greater motivation to learn such planning skills. Or perhaps transition program career planning components, regardless of time and emphasis, work best for participants who already come to the program with strong planning skills. In any case, our findings indicate that it is not unreasonable for transition courses to continue to spend time in class or with individual participants helping them to develop specific career goals, to map out the educational path required to attain those goals, and to support overall goal-setting skills.

College Participation Variable: Grade Point Average

One variable strongly related to college success was grade point average in college, for those ATLAS participants who ever enrolled in college. We found that having a higher College GPA was significantly related to earning more total college credits, such that for every 1.0 increase on a participant's overall college GPA including remedial coursework (for example, a 3.0 GPA versus a 2.0), the student earned an average of 10 additional credits in comparison to his or her lower performing peer. Similarly, a higher College GPA

was significantly related to completing more total college semesters; for every 1.0 increase on a participant's overall college GPA (for example, a 2.8 GPA versus a 1.8), the student would have completed 1 additional semester in comparison to the lower performing student. These findings are not surprising; adult students who do better in college are more likely to stay longer and earn more credits. However, why some students perform better in college is still unknown, whether it is because they have more time, fewer responsibilities, better study skills, stronger self-efficacy, or more capacity to manage life and personal challenges in ways that allow them to continue concentrating on their studies.

College Participation Variable: Ratio of Earned to Attempted Credits

This college participation variable, a measure of efficiency in college, was significantly related to both earning more overall credits and completing more semesters in college: a student who only took for-credit classes and who was able to maintain a 1:1 ratio of classes taken to classes passed will have earned on average 47 more credits than someone who either only took developmental classes or who was unable to successfully complete any for-credit courses before dropping out. Similarly, a higher *Ratio of Earned Credits to Attempted Credits* was significantly related to completing more total college semesters: a participant who earned a 1.0 for the *Ratio of Earned Credits to Attempted Credits* variable would have completed approximately 4 more semesters than someone who had a score of 0.0. Again, common sense would tell us that someone who is able to successfully pass more of the courses they attempt to take might stay in college longer and acquire more credits, regardless of their grade point average.

Supports

This section summarizes and discusses findings on our hypotheses about the people, transition, and college supports that were significantly related to ATLAS participants' enrollment, persistence and success.

Unsupported hypotheses

People Supports: There were multiple hypotheses about potential supports for college transition that were not supported in our findings. We found no relationship between participants' **social capital** (as measured by our protocol and the composite score on these questions). Nor did we find that participants who reported having more **active vs. passive support**, or participants who had passive support vs. no support at all, were more or less likely to have positive college outcomes. Neither the total **number of support people**, the **number of tasks** with which participants got support (child care, transportation, etc.), nor the **number and breadth of support types** (logistical, financial, etc.), were related to any college outcomes.

Surprisingly, having none, one or two **parents who had themselves attended some college** was not significantly related to any college outcomes, although this could be due to so few ATLAS participants having two parents with any college experience, limiting the power of the analysis. We did see interesting descriptive data indicating that greater numbers of participants having two parents who had attended any college completed 3 college credits and also greater numbers who completed the transition course, although neither of these variables were statistically significant. Future research, perhaps with greater numbers, should investigate this factor further.

College Transition Program Supports: We did not find support for the hypothesis that the type and intensity of Career Exploration Component offered by the transition program would be related to college outcomes; this variable was not significantly related to any dependent variable. We also did not find support for our hypotheses that the physical location of the transition program (main campus of a college, satellite campus, or stand-alone transition program) was related to better college outcomes. Finally, the hypothesis that a transition program with a stronger association with a local college was also not supported.

College Supports: Of the three hypotheses we had about college supports—that better outcomes would be related to getting financial aid, more support from people in college, and more engagement in college activities—we found that getting **financial aid** was not related to any college outcome, surprisingly.

Partially supported hypotheses

People Supports: Participants who reported a **broader support network** combined across all categories of people—family and friends, college transitions, work, and community over a long-term period was related to three college outcomes: successfully enrolling in college (completing at least one 3-credit course), having a more positive college trajectory, and reaching the tipping momentum of acquiring 30 college credits. It was not merely the network of people who were available to help the participant at the time of the study’s initiation that mattered, but rather the network of people who were consistently supportive to our participants over the entire course of the study. Yet Having either a broader network of support people was not significantly related to earning more overall credits or completing more semesters in college.

More **community support** also made participants more likely to reach that tipping point, but was not related to any other college outcome. Thus, having broader support across categories of people, and having stronger support from within the college transitions and community networks, was more important to enrolling and staying in college long enough to earn 30 credits than was having the support of family and friends or of people at work.

Transition Program Supports: Our hypothesis that participants who had attended transition programs where a higher proportion of students completed the course would have better college outcomes was partially supported. **Program completion rates** (by term) ranged from 20 percent to 89.5 percent across programs and terms. Attending a program with higher rates of completion was significantly related to one college outcome: completing at least three transferrable college credits by the end of the study. The odds of a participant who attended a program term with a 30 percent higher completion rate earning at least three college credits were over twice as large as the odds of a student who attended a program term with fewer graduates). Furthermore, the odds of earning at least three college credits were 5.75 times larger for participants at the upper end of the spectrum (approximately 90% completion rate) than the odds of earning three credits for students who attended programs at the lower end of the spectrum (20% completion rate), indicating that participants at programs who graduate students at higher rates may be more likely to have increased success enrolling in college. There are multiple explanations for this: programs with higher overall completion rates could be higher quality, more convenient or relevant to participants, or better at helping participants learn how to deal with personal and life challenges and responsibilities enough so that more participants could complete the transition course. However, program completion rate was not related to any other college outcome.

College Supports: Our hypothesis that ATLAS participants who reported being more **engaged and involved in college activities** would have better college outcomes was partially supported. The actual highest score obtained on this measure was 0.88 and the lowest score was 0.0, with an average score of 0.29. This indicates that the average participant accessed about 30% of campus facilities and opportunities. The most common type of engagement was using the school library and computer lab. We found that participating in and engaging more in college activities was significantly and positively related to total number of credits acquired: a participant who scored a 1.0 on the *College Activity Level/Engagement* composite would have accrued, on average, 36 more college credits over the course of the study than someone who scored a 0.0. The *College Activity Level/Engagement* variable was also significantly related to total number of semesters completed: someone who obtained a perfect 1.0 on the *College Activity Level/Engagement* variable score would have completed an average of 4.7 more semesters than a person who scored a 0.0. A student who participated in 80% of the college activities we listed would have completed an average of 3.75 more semesters than a student who was not involved in any clubs and who did not utilize campus resources to any degree. This supports the hypothesis that the more participants participate or engage in college activities, including more frequent meetings with fellow students or instructors and use of college facilities, the more likely they are to persist in college and acquire more credits.

Other Transition Program Supports

Although we had not formed specific hypotheses about other transition program factors, such as their grading policy, presence and type of a mentoring component, presence and type of student life skills component, staff feedback levels on participants' work/assignments during the transition course, or participants' own ratings of the transition course in the time after they finished participating in the program, we nonetheless found these factors significantly related to at least some college outcomes.

Grading Policy: Attending a transition program that assigned grades, which 53% of the ATLAS sample did, was a strong predictor of enrolling in college, showing significant outcomes for all three college enrollment variables of (1) enrolling in college within one year, (2) acquiring at least 3 non-developmental, transferable credits, and (3) college trajectory. The odds of a participant who attended a transition program that assigned grades (compared to the odds of a participant attending a transition program that gave no grades or pass/fail only) to enroll within one year are 2.9 times greater; and the odds of a graded participant completing 3 college credits are 2.5 times greater. Conversely, the odds of a participant who attended a pass/fail or no-grade course were 55 percent lower (compared to the odds of a participant who attended a graded transition program) to have had a more successful college trajectory status. Although adult learning theories often claim that adult learners are more intrinsically motivated by a desire to learn, these results show that, at least for adult students interested in going to college, getting extrinsic feedback such as concrete grades is significantly related to college enrollment outcomes. Adult transition students with graded coursework may work harder and increase their self-efficacy and belief that they can succeed in college, where grades are important. Receiving grades may provide transition course participants with feedback that acknowledges their efforts and improvements.

Student Life Skills Component: Participants who attended transition programs with some kind of SLS component—covering time management strategies, note taking, study skills, how to budget money, understanding leadership in the classroom, and communication exercises for working in student groups—were indeed more likely than participants attending programs with no SLS component to have successful college trajectories and to have enrolled in college within one year of the transition program (odds 2.5 times greater). The odds of having a successful college trajectory status were 56.6 percent lower for participants who attended a program with no SLS instruction compared to the odds of a participant who attended a program that provided some SLS instruction. Whether student life skills are integrated into academic coursework or are offered as a stand-alone component, learning SLS is significantly related to at least two college enrollment outcomes.

Participants' Own Ratings of Transition Program: Finally, ATLAS participants who rated the transition program highly overall and helpful in specific ways (in subsequent years after participating in the program) were significantly more likely to have better enrollment outcomes, although high ratings for the program were not related to success (tipping point, total credits) or number of semesters completed. In particular, participants who agreed more strongly that the program helped them with their college application were more likely to enroll within a year, complete 3 transferrable college credits and to have a more positive college trajectory (ever enroll, or if enrolled, stay in school or stop out and return). This is an indication that direct assistance with college enrollment-related tasks, such as filling out the college application or applying for financial aid, are important parts of a transition program's activities, at least for helping participants to enroll.

Participants' Attendance (Hours and Compliance): These findings indicate that “dosage counts”. In other words, participants who attended more total hours during the transition course or who “complied” by attending a greater proportion of the course hours offered by their program, were significantly more likely to have positive enrollment outcomes. Specifically, increasing participants' attendance by 25 hours made their relative odds of completing 3 college credits increase by 57 percent, and increasing their attendance by 40 hours made their relative odds of completing 3 college credits double. Similarly, increasing participants' attendance by 20 hours made their relative odds of enrolling in college within one year increase by 52 percent, and increasing attendance by 35 hours made their relative odds of enrolling in college within one year double. The odds ratio for enrolling in college within one year was over 3 times higher for participants who attended class for an additional 55 hours.

Attendance compliance was a significant factor in enrollment and overall college trajectory. Attending 25% more of the time (compared to less-frequently attending participants) increased participants' doubled the odds for completing 3 college credits or enrolling within one year. Attending 50% more of the time quadrupled their odds of completing 3 credits or enrolling within one year. The odds of a participant who attended 50 percent more of the time were twice as large to have enrolled in college at all, and if enrolled in college, to have stayed in school or to have graduated by the end of the study. Although it is possible that participants who couldn't attend were also participants who were not able to organize their lives to enroll in college, this finding supports the efforts of transition program staff to help and support adult students to attend more hours of the transition course, whether by improving the quality or relevance of the course or by providing referrals for assistance for personal and life factors that may prevent adult students to attend a transition course regularly.

Key Supports

Support from College Transition Program: Participant Completion

Completing the ABE-to-College transition course was a strong predictor of enrollment in college, as measured by enrolling within one year of the course, of completing three transferable credits, of a more successful college trajectory, and of reaching the 30-credit tipping point. In fact, this variable was **one of the strongest in the study, being in the strongest four factors for rapid enrollment, completing 3 credits, and overall college trajectory.**

Specifically, the odds of a completing participant completing 3 college credits are 5 times the odds of a transition program dropout; the odds of enrolling within one year 9 times greater; and the odds of earning 30 college credits are more than 3 times greater. The odds of a participant who dropped out of the transition program were 70 percent lower than the odds of a transition program completer to have had a successful college trajectory status.

These findings may at first indicate the effectiveness of transition programs. If participants who complete were more likely to enroll, then perhaps the programs are having an impact on preparing adults to enter college. The issue of motivation doesn't seem to play a role in this case; if the motivation to attend the course in the first place were an explanation for why participants in transition courses are more likely to attend college, this same motivation would have ensured that even non-completers would have enrolled in college. However, there are other rival hypotheses for this result.

Transition course staff often tell adult participants that if they can manage their lives well enough to complete the transition course, then they can manage their lives well enough to go to college. Perhaps enrollment is higher among completers because they either came in to the transition course as good managers of their lives or they acquired those skills, whereas the non-completers did not have or could not acquire those skills and hence dropped out. In other words, completers may have intrinsic or acquired life management skills that also allowed them to enroll in college soon after completing the transition course and stay enrolled long enough to complete at least three credits. However, it also may have nothing to do with skills, but with a more complicated life situation (health problems, eviction, etc.) for which dropouts did not get the support they needed to allow them to continue in the transition program. This may be another rationale for a policy and practice that supports dedicated case managers in transition programs who can help link adult students with the public or other assistance they need to solve life crises—whether temporary or permanent—long enough to complete the transition course. Another explanation is that self-efficacy played a role for completers; i.e., their success at

completing the transition course gave them the belief that they could enroll in college and be successful.

Support from College Transition Program: Support Network

Our analysis shows that there is a connection between the social supports provided to participants at the college transition course and students' ultimate college enrollment and success, since having more support from people associated with the college transitions course was significantly related to earning 3 college credits, staying enrolled in college (college trajectory), and reaching the tipping point of acquiring 30 credits. For those individuals at the top range of the **college transitions support network** score (compared to those participants who had an average college transitions support network score), the odds of earning at least 3 non-developmental college credits were 13.5 times greater; of having a more positive college trajectory (ever enroll, or if enrolled, stay enrolled) 6 times greater; and of completing at least 30 non-developmental college credits 3.5 times greater. The analysis of the strongest factors for each college outcomes indicates that strong transition program support networks are among the top four strongest factors for both completing 3 credits and for college trajectory. Transition program staff can consider this when planning activities that may help adult students strengthen their connections to other students and to transition program staff.

Support from College Transition Program: Level of Staff Feedback

Participants who attended programs with normal levels of staff feedback on their written work, as compared to participants in the three programs where level of staff feedback on work was rated as low, were significantly more likely to enroll in college within one year of transition course participation. In fact, the level of staff feedback was one of the four strongest factors related to enrolling in college within one year of the transition program (along with completing the transition course and attending a transition program with a mentoring component). This supports other research on adult literacy student motivation, indicating that getting “fine-grained feedback” on one’s work from teachers increases students’ motivation and self-efficacy (National Research Council, 2012). Along with giving grades, this finding supports the idea that transition programs should pay attention to providing consistent feedback through grades and comments to adult students if they want to increase the likelihood of participants enrolling soon after being in the program.

Support from College Transition Program: Mentoring Component

Our analysis found that attending a program with a Mentoring Component—whether that was one-on-one mentoring with a former transition student or small group mentoring

offered by a transition program staff member—was reliably associated with increased college enrollment, showing significant outcomes for (1) enrolling in college within one year, (2) college trajectory, and (3) acquiring at least 3 non-developmental, transferable credits. Specifically, attending a program with a mentoring component increased the odds of enrolling in college within one year 3 times higher; and the odds of completing 3 college credits 2.6 times higher. The odds of a participant who attended a course without a mentorship component were 52 percent lower than the odds of a participant who attended a program that provided mentoring to have had a successful college trajectory status. This variable was one of the four strongest factors for enrolling in college within one year.

Support from College: College Support Network

For ATLAS participants who ever enrolled in college, those who reported a stronger network of people with whom they interacted at college (fellow students, professors, etc.) were significantly more likely to complete more total semesters in college and acquire more credits overall. This variable was one of the four strongest variables related to both success (total credits) and persistence (total semesters).

These findings support the idea that the more adult transition students connect with or gets support from fellow college students or instructors, the more likely they are to persist and earn more credits. Support from family/friends, work colleagues, community, and college transitions networks did not significantly contribute either of these two college outcomes, either individually or as a composite measure. Once participants enroll in college, support from other people at college becomes a more significant factor for success or persistence than support from any other category of people. The implications of this finding are that both transition programs and colleges need to find mechanisms to help adult students feel capable of creating a strong college network.

Obstacles

The section below summarizes hypotheses about obstacles that were unsupported partially supported, or emerged as key obstacles related to college outcomes for the ATLAS participants.

Unsupported hypotheses

Neither the composite variable for all obstacles combined nor the academic obstacles variable was significantly related to any college outcomes. Similarly, our hypotheses that family-related issues, logistical issues, and college culture issues would be significant obstacles were not supported; none of these factors was significantly related to any college outcomes.

Partially supported hypotheses

Financial obstacles: The financial obstacle variable was significantly and negatively related only to college trajectory as an outcome. The odds of someone who faced every financial hardship possible were only 29 percent as large as the odds of someone who reported no financial challenges at all for an unsuccessful college trajectory. However, financial obstacles were not related to any other college outcomes.

Work-related Obstacles: Participants with higher levels of job-related obstacles were significantly less likely to have attained at least 30 transferrable college credits by the end of the study. The odds of a participant with no work obstacles were 6.8 times larger than the odds of a participant with maximum work obstacles to have attained 30 credits or more. Work-related obstacles, however, were not related to any other college outcomes.

Full-time Workers: Working full-time while in college was significantly and negatively related to both the college success outcomes. Participants who were working full time during more years of the study were likely to have earned fewer total college credits. The log odds indicate that the odds for participants working full-time throughout the study to have earned 30 college credits were only 22.7 percent as high as the odds for those not working full-time. However, working full-time was not related to any enrollment outcomes or to the number of semesters completed.

Key Obstacle

The only obstacle we tested consistently related to poorer college outcomes was having more health problems.

Health problems

Having poorer health was one of the top four strongest obstacles related to completing 3 transferrable credits, as well as being one of the top four major obstacles to a positive overall trajectory (enrolling in college or, once enrolled, staying in college). It emerged as one of the top three obstacles to reaching the 30-credit tipping point. The analysis showed that the relative odds of participants who faced higher health obstacles, compared to participants with average health challenges, of earning at least 3 college credits were only 34.7% as high; of having a more successful college trajectory were only 36.2% as high; and of completing at least 30 college credits were only 16.5% as high.

Poorer health was also significantly related to earning fewer overall credits and completing fewer total semesters in college, although for these college outcomes, other factors such as having a higher GPA, a strong college support network, and stronger career planning skills were more significant. Participants who faced significant health challenges, compared to

participants who had no health challenges at all, completed an average of 3 fewer semesters and earned an average 27 fewer credits.

In fact, the only college outcome that was not related to health status was enrolling in college within one year of participating in the transition program, perhaps because this was a time-bound outcome. In this sense, a longitudinal study is better able to demonstrate that poor health can interfere with college persistence and success over the long term.

This analysis indicates poor health had a markedly detrimental effect on students' college enrollment, persistence, and success, a finding that support previous research on the connection between health and education. Why would health have such a detrimental effect on enrolling, persisting and succeeding in college? Unlike health challenges, many of the other obstacles we examined can be resolved with outside assistance from friends, family, or other supporters in participants' lives. Those who have transportation problems might borrow a friend's car, and those who have money problems may be able to work increased hours at their jobs; however, there is very little that one can do to mitigate the effects of serious health challenges that make it difficult to sit in class, have energy to do study, and be able to focus enough to do academic work. Here is Catherine, who dropped out of college, talking about how her health problems were an obstacle to staying in college:

There are two things that are extremely important in every person's life. It's good health and a good job because with good health you have the strength to go to work and enough money for you and your family...the part that I have no control is when you get sick...it affected my life a lot because if I hadn't gotten sick, probably I would have gone to college at night. But I was more tired, going back and forth to doctors...still today that's the story. Oh, I was so depressed that I was sick.

In addition, chronic health conditions may cause students to drop out while they reassess their career goals. One ATLAS participant, Alma, in her late 40s was going to college to become an RN but had neck surgery, back problems, and was diagnosed with chronic fibromyalgia. Now, being unable to do the lifting and standing required of a nurse, she has dropped out, is working as a medical technician, and has changed her career goal to that of becoming a medical social worker:

I am more determined [to finish college] now with my illness and everything... To get out of this job that I'm at now...constantly on my feet and bent over.

It is worth noting that we collected our data from ATLAS participants several years before the Affordable Care Act (also known as Obamacare) went into effect. We did not collect information from participants about whether they had access to health insurance coverage, but given the fact that many participants worked in low-paying jobs without access to

benefits, it is likely that some proportion did not have coverage for health costs. The role that this may have played in exacerbating health problems for our study participants is unknown but should be a focus of future research in adult students' transition to college.

Discussion of Most Significant Factors Using An Alternative Framework

A framework put forth by Cynthia Zafft of the National College Transition Network is another way to organize discussion around our findings²². Zafft proposes four areas of “readiness” that adults should have for a successful transition to college:

- personal,
- career,
- academic, and
- college readiness.

We did not collect data through ATLAS for these specific variables, as Zafft defines them, but we do have quantitative and/or qualitative data related to some of these categories.

Personal Readiness

Zafft characterizes “personal readiness” as:

- *anticipating challenges, and securing supports and services proactively*
- *juggling multiple commitments (e.g. work, family, relationships, school) while managing stress and time*
- *accessing income supports, benefits, and supplementary assistance as needed*
- *preparing for the added financial burdens of education, including hidden costs (e.g. transportation, books, childcare, reduced work hours)*
- *financial planning, budgeting, and timely completion of financial aid applications*
- *communicating needs and concerns, self-advocacy and conflict resolution skills*

This component of college readiness is difficult to gauge; to date there are no tested protocols or concrete indicators for characteristics such as anticipating day-to-day challenges, juggling commitments or communicating one's needs. However, two findings from our study shed light on the importance of this component.

²² Note: This framework was not developed as we began our study in 2007; therefore, we did not use it as the primary conceptual framework for ATLAS. However, we include the discussion of key findings from ATLAS, based on this framework here, since this framework is likely to be a guiding model in the years ahead. All quotes are from Zafft, n.d., www.collegetransition.org/rsources.ccrmodel.html

First, we found that ATLAS participants who attended transition programs that offer **mentoring components** were significantly more likely—almost 3 times as likely—to enroll in college within one year. In some programs, mentoring was a formal component, where a former student or a staff member took time to counsel and guide participants about how to manage time, commitments and other aspects of their daily life, as one participant describes here:

The mentoring class...it's a class inside. The instructor, she comes and they give you homework too. They give you quizzes to answer...And then she has to give you empowering speeches...and asks you questions too. What would be an obstacle in your life to complete everything? You talk and actually give you solo answers...not tell you what to do but talk about solutions for bad situations and we all hear, and sometimes whenever a person is saying where they have problems will be mine too...It's part of the class...she used to come, like, once every two weeks, but that's enough...they know things that we don't know...with the regular classes where they do mathematics and they do English and all that stuff, but those two classes...they keep you motivated.

Maria, Wave 4 interview

The mentoring component, at least for participants like Maria, helped her to build skills to deal with personal challenges in her life that could interfere with her ability to enroll in college.

Second, in relation to personal readiness, we found that those participants who were **rated as more likely to succeed by transition program staff** on participants' exit questionnaire were also more likely to enroll within one year, complete 3 transferrable college credits, and have a more positive overall college trajectory than participants that staff rated as less likely to succeed.

Finally, also in relation to program staff ratings, one of the most surprising but consistent factors predicting ATLAS participants' college outcomes was the ABE-to-College Transition program **staff's perception of barriers participants would face by way of personal and/or psychological barriers**. This data comes from program data, specifically the survey transition staff completed for each participant when they completed the transition program. In that survey, staff were asked to rate, on a scale of 1-5, the extent to which they believed that particular factors would be a barrier to the participant's college success. Factors listed included "financial difficulties", "family responsibilities", "work responsibilities", etc. One factor listed was "participant's personal or psychological issues". Since this was not data that the ATLAS project itself collected, we cannot know what staff interpreted this factor to mean, since it is a broad and somewhat vague statement of the factor, nor even whether some staff were rating a participant on their "personal" issues, their "psychological" issues, or both.

We ended up with both staff ratings and college outcome data for 132 to 139 ATLAS participants. When we ran each of these factors in the regressions, we were startled to see that there was a significant relationship between staff's ratings of the extent to which participants would face personal and/or psychological barriers and the participant's college outcomes in four areas. The table below shows that staff's perception of personal and/or psychological problems were strongly related to four college outcomes.

Table 82: Staff Perceptions of Student Personal/Psychological Issues

Dependent Variable	Independent Variable (IV) of Interest	n	b	Exp(b)	p	Inverse exp(b)
3 Credits, y/n: Year 1 only	Transition course forms: Staff rating on extenuating circs: Personal/Psychological Issues	132	-1.925	0.146	0.000	6.849
College Trajectory	Transition course forms: Staff rating on extenuating circs: Personal/Psychological Issues	132	1.047	2.849	0.009	
Tipping Point	Transition course forms: Staff rating on extenuating circs: Personal/Psychological Issues	139	-2.253	0.105	0.004	9.524
Enroll in College within 1 Year	Transition course forms: Staff rating on extenuating circs: Personal/Psychological Issues	135	-2.354	0.095	0.000	10.526

In each case, the relationship is negative, meaning that the higher staff rated a participant as having personal and/or psychological issues that would act as a barrier to college, the **less likely** participants were to enroll in college within one year, to earn three college credits, to have a positive college trajectory, and to reach a tipping point momentum of earning 30 college credits.

Since the rating scale used by the programs did not differentiate between “personal” or “psychological” problems, it is not clear to what extent this rating indicates true psychological problems or lack of personal readiness skills as outlined by Zafft. However, this finding is an indication that college transition staff are very astute about how ready a transition course participant is to succeed in college, and that some characteristic of the participant's ability to manage their personal or psychological problems may be related to their readiness for college.

The implications of these findings for transition course programs is that offering a mentoring component aimed at helping participants build skills to meet challenges can better prepare participants to enroll in college, or at least to feel that they have the ability to manage their lives in order to do so. Similarly, transition program staff who identify particular participants as lacking the “personal/psychological” readiness for college could build in extra mentoring or skill-building during the transition course—or seek outside

counseling or other assistance from appropriate professionals—to help these participants address their lack of personal readiness for college.

In this sense, college transition programs might do well to look at the emerging program models involving case managers, where a designated staff person meets regularly with a participant, from intake to exit, to determine the participant's need for assistance with factors such as housing, food, child care, job placement, substance abuse support, or personal counseling. In these cases, the case manager refers the participant to other agencies in the local area, such as mental health centers, TANF or food stamp programs, child care programs, etc., and then follows up to ensure that the participant has gotten his or her needs met. Although almost every transition program staff member we talked to stressed the extent to which their program went above and beyond to personally assist their transition program students—e.g, driving them to appointments, helping them fill out applications, etc.—there are limits to what individual transition program staff can do when they are also filling other roles in the program as director or teacher. In addition, even when a transition program has a counselor, he or she might not have tested the links and referrals made to the range of public assistance programs in the local area as a case manager would do, to ensure that participants actually avail themselves of support offered that could enhance their personal or psychological readiness for college. Thus, the contribution of having dedicated case managers in transition programs is an issue for further research, policy, practice in transition programs.

Career Readiness

Zafft characterizes “career readiness” as:

- *growing awareness of one's skills, interests, values, and priorities as they relate to career exploration and planning*
- *research skills to explore occupational profiles, labor market data, education and training requirements*
- *identify the steps along one's education and career pathway*
- *setting realistic goals that include specific action steps and timelines*
- *resume writing and job search and interview skills*

All of the 11 ABE-to-College transition programs had some instruction and emphasis on career planning and readiness. In some programs, this was a specific and intensive module where participants were asked to investigate careers, complete questionnaires about their interests and goals, refine their career goals, and/or establish plans of action to reach those goals. In other programs, talking about careers was an on-going part of the academic classes, and still other programs offered career readiness through less frequent, one-on-one counseling. Using information provided by the programs, we were able to code the intensity of the career readiness component of each program as low, medium or high.

However, our statistical analysis did not find that differences in how the programs delivered their career component was related to any of the six college outcomes.

On the other hand, we found that ATLAS participants' Career Planning Skills composite score was a strong predictor of multiple college outcomes: enrollment (earning three college credits), college trajectory (ever enrolling, staying enrolled), and success (achieving the "tipping point" of 30 credits).

Thus, our findings support the idea that there are two aspects of career readiness that are particularly important for college success: (1) helping adult students identify the steps along one's education and career pathway, and (2) setting realistic goals that include specific action steps and timelines.

Academic Readiness

Zafft characterizes "academic readiness" as:

- *reading, writing, and math skills to master the technical content of the integrated career pathways technical courses*
- *content knowledge, reading, writing, and algebra skills needed for placement into college-level classes*
- *study and test taking skills and technology skills needed for integrated career pathways courses*
- *self-management and awareness of self as a learner with the ability to create study space and schedule, organize study materials, prioritize tasks, and complete assignments on time*

We were surprised that level of literacy skills—either at the beginning of the study or at the end—was not significantly related to college outcomes. However, we did find that participants who increased their Accuplacer scores between the beginning of the transition program and the end had better college outcomes. In particular, if participants were able to improve their arithmetic scores during the course of the transition program, they were significantly more likely to enroll in college sooner, complete 3 credits, and go on to complete 30 credits. Whether this is related to increases in participants' feelings of self-efficacy or readiness for college, or their actual academic readiness, we do not know.

However, in support of the concept of academic readiness, we also have the transition program staff ratings of participants' "readiness for college" on the exit questionnaire provided to us by programs. Those participants whom staff rated as more ready for college were significantly more likely to enroll within one year, complete 3 transferrable credits, and have a more positive overall college trajectory.

In addition, participants who staff rated more highly on their class participation while in the transition courses (perhaps an observational measure of those who appear to be more ready to participate in college classes) were also more likely to complete three transferable credits, complete more total credits, and reach the 30-credit tipping point momentum. This finding is interesting because it is one of the few staff ratings related to our strongest college success variable—completing more college credits overall. Although participants were not aware of the staff’s ratings, it again shows that transition program staff’s predictions about program participants can sometimes be very accurate in terms of college outcomes.

College Knowledge Readiness

Zafft characterizes “college knowledge readiness” as:

- *knowledge of array of campus functions, resources, how to access and seek out help, and how to communicate proactively and appropriately with faculty and staff*
- *ability to navigate the college culture, environment, and procedures*
- *familiarity with college admissions and financial aid processes*
- *understanding of terminology, complex processes, and the written (and often unwritten) rules and codes of postsecondary institutions*
- *ability to use course catalogue to locate course information, registration policies (e.g. add/drop), and other information*

College knowledge is:

An essential factor in access to postsecondary education is obtaining “college knowledge”—that is, gaining an understanding of the complex processes of college admissions and finance in the United States—from undertaking appropriate college-preparatory work in high school and taking the SAT or ACT exams, to selecting and applying to suitable colleges, to locating and applying for various types of financial aid. Research has shown that this sort of information is not always readily available to prospective college students, especially low-income students and those whose parents did not attend college and are unfamiliar with the U.S. postsecondary education system. (Erisman & Looney, 2007, p. 19)

As discussed in the section on College Culture Obstacles, we did not find a relationship between any college outcomes and ATLAS participants’ responses on the college culture questions.

Even though lack of knowledge about college was not significant in the quantitative data analysis, there is plentiful qualitative data to suggest that participants did not understand either the culture or the policies of the post-secondary institutions they attended.

In short, it appears that the transition program, judging by the finding that transition program factors more often supported enrollment in college rather than long-term persistence or success, is helpful in preparing adult students to apply to college, apply for financial aid, build academic skills, and develop study skills for college, but is less helpful once a participant actually gets into college. Here are some specific problems we identified through the ATLAS qualitative data:

Participants often did not understand whether the classes they were taking were developmental education classes (where they receive no college credits) or credit-bearing college classes. Here, one of the ATLAS participants, Patricia,²³ who eventually dropped out of college, shares her experience in choosing classes once at college, when asked about the English and math classes she took at the beginning:

I thought they were credits, but they're not...it was just to help with my math and my English....I had a conversation with one of the teachers at the adult learning center [on a return visit]. I said I don't know if they're credits. They said no, they're probably just to help you get started...I never really asked. I just made the appointment [with a college counselor] and they placed me... I never really asked them a lot of questions. I was just so happy to be there.

A researcher's personal story also highlights the confusion about developmental education class credits. When, in Year 3, I (Principal Investigator Smith) interviewed an ATLAS participant who was enrolled in college about the number of transferrable credits she had earned so far in college, the participant was unsure but produced a recent copy of her unofficial college transcript. When neither I nor the participant could figure out from the transcript which classes were credit-bearing and which were non-credit bearing developmental education classes, I called upon the transition program director, who happened to be nearby. Even with her help and expertise, the three of us together could not glean from the transcript how many credits the participant had actually earned after several semesters completed at the community college.

In fact, the ATLAS research coordinator (Gluck), when coding participants' transcripts, had to repeatedly telephone multiple colleges to determine which classes were developmental education and which were credit-bearing college courses, because the class numbering systems were different from college to college, and the transcript gave no indication about class type.

²³ All names are pseudonyms.

Participants also reported not knowing how to choose classes when they first arrived at college, and the lack of help they get from college advisors. Here is Mark talking about the confusion he experienced when he went to Student Services to register for his first classes:

I was just eager to get into college. I should have relaxed a little bit. I just was in a rush. I never had anyone specifically to pick classes for me, or show me what is going on, or educate me about financial aid or anything...And basically, I get in and only did one semester. I picked the wrong classes, that I shouldn't have taken. It was an advanced computer class. I should have taken a basic class. I had to drop that class...They didn't even ask me if I had taken a computer class before, if I had experience...They just pushed me to take the class.

Here is Linda talking about working with her initial college advisor:

How did I decide what classes to take? With the help of an advisor...I knew I wanted to do hospital administration right from the beginning but there was kind of a mix-up...when I was entering the [college] certificate program I thought I was doing medical office and information management but in fact it was just office and information management without the medical part. I guess that was my fault. I blame myself for that. I was new at it, you know. I didn't know.

We also discovered that ATLAS participants had a difficult time understanding the financial aid they had received. When asked on successive questionnaires whether they had received financial aid and if so, from where, more than one participant responded that their financial aid came “from FAFSA” (not a source of grants or loans but the actual aid application itself). Others did not know if their financial aid came from the college itself, from the state or from the federal government. One participant (not a subsample participant so we do not have his comments audiotaped), responding by phone to questions on the Wave 4 questionnaire, told the story of not knowing that his financial aid was grants instead of loans, having taken several developmental education classes and then stopped out of college, but not knowing being able to re-enroll in college until he paid off his loans. Thus, while the college transition program helps participants to fill out their applications for college and financial aid, multiple participants indicated that they had little understanding of the financial aid they received, under what terms, and that developmental education courses were giving them no real college credits while still costing them money.

Finally, participants reported also simply feeling out of place when first entering college. Here is Patricia again:

It's big and you're intimidated and you see all these young kids going there. I mean, kids your kids' age. You know, it was exciting, but it was scary because all these kids that are already in there, they've been going to school for the past 12 years. Then, you

go in there and you haven't been in school in 30 some years. You know you do feel dumb because you're there after 30 years.

Implications for Policy, Practice and Future Research

Policy

We start here with policy implications for ABE-to-College transition programs, and for the public or private agencies that fund them. Although without a control group we cannot definitively say that the transition programs for this sample of adults were “effective” in helping adult students enroll, persist and succeed in post-secondary education, our analysis contradict this hypothesis either. Completing the transition course is significantly and strongly related to at least some college outcomes, especially those related to college enrollment. Therefore, this study provides no basis for defunding transition programs and provides some support for continued and even increased funding for adult students who are motivated enough to seek out transition course services as a stepping stone to college.

For example, results for a number of variables in this study point to the need for transition programs to receive enough funding to hire dedicated case managers who can connect adult transition students to local resources for personal counseling and for help getting public assistance for housing, food, child care, transportation, and any other survival issues, and to support such case managers to follow through with local agencies to determine that adult transition-to-college students got the assistance they needed. This is particularly needed for adult students who face health problems, either sudden or on-going health issues. Such case managers could collect and use data on the effectiveness of these agencies to better guide future transition students to assistance and support that may improve their ability to complete the transition program, a factor related to increasing the odds of enrolling in college.

There are policy implications here for colleges, too. The confusion that many of the ATLAS participants experienced about choosing classes and understanding which courses are developmental education and which are credit-bearing indicates that colleges could increase the persistence of non-traditional students if the colleges set up a consistent and clear course numbering system. Even better, states should make use of such a consistent numbering system for developmental education courses a requirement for all colleges, so that students moving from college to college will not be required to learn multiple unique systems. Colleges and states then should make the system clear to entering students as well as printing the information on all transcripts. Finally, colleges could better train advisors of new students how to use the numbering system to guide students on which classes to take.

The power of health to interfere with adult students’ persistence and success in college is particularly concerning. Colleges should investigate mechanisms for students to continue

their enrollment even when faced with health problems, perhaps through distance or online learning, in order to lessen the health-related obstacles that seem to significantly affect students' enrollment, persistence and success in college. Even establishing policies for college instructors to try to include home-bound students in poor health through skype or audiotaped lectures might allow some adult students to avoid dropping out of college.

Practice

Findings from our study point to multiple ways that college transition programs and their staff might improve or expand transition course services in order to increase the likelihood that adult student participants complete the transition course and then successfully transition to and succeed in college.

Our analysis shows that offering a mentoring component as part of the transition course would be warranted. For those program directors who are worried about the feasibility of matching current students with alumnus, our findings indicate that a mentoring component that involves staff working with adult students in small groups to problem solve is just as effective as one-to-one mentoring for transition program graduates.

On the other hand, our findings do not show a strong relationship between different types and intensities of career exploration components. Since all 11 programs in the study offered career exploration activities, and since the Career Planning variable was so strongly related to particular college outcomes for ATLAS participants, it does make sense to continue the practice of focusing on career exploration and planning during a transition course. Programs could also share the findings of this study with adult students, in order to underscore the importance of have a clear idea of one's ideal job and a rational plan for working towards that.

Participants in programs that gave grades and where staff provided feedback on participants' written work experienced better college outcomes. Existing transition programs who do not give grades or provide consistent or "fine-grained feedback" on students' work could experiment with adding these practices, and then polling students to see whether and to what extent students feel these practices help them develop their skills for college work.

Similarly, the practice of using Accuplacer tests to help participants gauge their progress in academic skills is not contraindicated by our study, since improvements in test scores, especially arithmetic scores, from the beginning of the course to the end were related to better college outcomes. Whether it is the improved academic skills, or the confidence and self-efficacy participants gain from seeing their scores increase, or another unobservable characteristic of these participants, is the focus of future research. Since previous research

indicates that specific self-efficacy related to academic skills supports motivation and persistent towards further education, we hypothesize that any efforts of transition programs to increase adult students' self-efficacy will not likely cause harm. There seems to be a fairly consistent pattern in our findings showing an increased likelihood of enrolling in college and in doing so more quickly when students are given the opportunity to see and measure their progress and feel capable of improvement.

Another recommendation for improving transition program practice would be to provide extra support between completion of transition program and enrollment in college for older adult students. Once enrolled in college, age is not a significant factor, but older adult students may need more encouragement or direct support to enroll after participating in the transition course.

Program staff's predictions about the role of participants' "personal/psychological" problems as an obstacle to college transition means that program should endeavor to ensure that such participants get referred to counseling and other supports early on. Again, having a case manager who works hard to help these participants get the help they need from inside or outside of the transition program may be a good investment of program funds for increasing positive outcomes for adult students. And because health problems constitute such a significant obstacle to college enrollment and success, it is a good idea for transition program staff to check whether all transition course participants are covered by health insurance, to help them access public assistance to secure such health insurance if not covered, and to spend time in life skills components discussing ways to deal with health problems as and if they arise.

Colleges who admit many adult, non-traditional students like the ATLAS participants should also ensure that college advisors are well trained and can patiently and clearly work with new students to choose classes, especially in the first semester when "college knowledge" is lowest. Advisors should be supported to spend more time with incoming adult students to help ensure that they understand their class choices and help them pick appropriate classes in their first (and succeeding) semesters.

Finally, since having a strong college support network is significantly related to persisting and succeeding in a post-secondary setting, colleges should experiment with mechanisms for involving adult non-traditional students in college activities, in order to widen and deepen their college support network. Orientations for new students should stress the importance of and the strategies for getting to know other students and not being afraid to talk with professors, as well as orienting instructors to the importance of their role in non-traditional students' persistence in college.

Future Research

This was a large, long and complicated study. Many of the limitations in its design have already been discussed in the Findings sections presenting the description of the variables and do not need to be repeated here. However, the main question for future research, one which the ATLAS study was not able to answer, is whether attending and completing a transition program is more beneficial to adult students than not attending but having the motivation to attend. A randomized control trial is needed for such a conclusion, but how to design such a study and still follow participants over many years is a challenge. We do know, from our study, that not every transition program participant enrolls right away in college; some wait for several years. Others enroll, stop out, re-enroll and may stop out again over several years before being able to persist in college. Looking at immediate outcomes of participating in a transition program will not, in general, pick up the myriad of outcomes that happen in the years following.

It would be helpful for future studies to systematically analyze the impact on college enrollment and success of as many program-level factors as possible. Due to the fact that the ATLAS study was not designed to compare transition programs to each other but rather to track a panel of adult students' college outcomes over time, we did not ourselves collect as comprehensive data as we now wish. There are a number of other elements of the transition-to-college programs that would be worth exploring, such as teachers' credentials and years of experience, teaching styles, and data collected from classroom observations.

Finally, the ATLAS study demonstrates the multitude of individual and contextual factors that actually or potentially play a role in adult students' transition to college. We know absolutely that some of our measures were not adequate to gauge factors such as motivation, self-efficacy, personal and household income, receipt of financial, and social capital, to name just a few. However, we hope that future research with adult students eager to attend college will build on our findings and on our shortcomings to design research that may shed light on outcomes and factors that our study could not.

A Final Word

Speaking on behalf of everyone connected with the ATLAS study, we feel comfortable saying that one lesson of this research is that there are many highly motivated, resilient, committed adult students in our country who deserve the chance to attend college. If this study shines a light on their accomplishments and their needs, it is worthwhile.

Bibliography

- Bailey, T., & Weininger, E. B. (2002). Performance, Graduation and Transfer Rates of Immigrants and Natives in City University of New York Community Colleges. *Educational Evaluation and Policy Analysis*, 24 (4), 359-377.
- Bailey, T., Jeong, D. W., & Cho, S.-W. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29 (2), 255-270.
- Basch, C. (2010). *Healthier students are better learners: A missing link in school reforms to close the achievement gap*. Columbia University. New York: Teachers' College.
- Baumeister, R. C. (2003, May). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4 (1), 1-44. American Psychological Society.
- Britton, B. K., & Tesser, A. (1991). Effects of Time-Management Practices on College Grades. *Journal of Educational Psychology*, 83 (3), 405-410.
- Carnevale, A. P., & Rose, S. J. (2015). *The Economy Goes to College: The Hidden Promise of Higher Education in the Post-Industrial Service Economy*. Washington, DC: Georgetown University.
- Carnevale, A. P., Smith, N., & Strohl, J. (2013). *Recovery: Job Growth and Education Requirements Through 2020*. Georgetown Public Policy Institute, Center on Education and the Workforce. Washington, D.C.: Georgetown University.
- Carnevale, A. (2015). *The Economic Value of College Majors Executive Summary 2015*. Georgetown University Center on Education and the Workforce, McCourt School of Public Policy. Georgetown University.
- Chen, G. G. (2001, January). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4, 1, 62-83.
- Choy, S. (2002). *Nontraditional Undergraduates, NCES 2002-012*. U.S. Department of Education, National Center for Education Statistics. Washington, DC: NCES.
- Choy, S. P. (2011). *Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence and Attainment*. U.S. Department of Education, National Center for Education Statistics. Washington DC: NCES.
- Colleges, W. S. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Longitudinal Tracking Study (The "Tipping Point" Research)*. New York: Community College Research Center.
- Comings, J. P., Parrella, A., & Soricone, L. (1999). *Persistence Among Adult Basic Education Students in Pre-GED Classes*. National Center for the Study of Adult Learning and Literacy. Boston, MA: NCSALL.
- Comings, J. P., Soricone, L., & Santos, M. (2006). *An Evidence-based Adult Education Program Model Appropriate for Research*. National Center for the Study of Adult Learning and Literacy. Boston, MA: NCSALL.
- Complete College America. (2012). *Remediation: Higher Education's Bridge to Nowhere*. Complete College America. Washington DC: Complete College America.

- Condelli, L., Wrigley, H. S., & Yoon, K. S. (2008). "What Works" for Adult Literacy Students of English as a Second Language. In S. Reder, & J. Bynner, *Tracking Adult Literacy and Numeracy Skills: Findings from Longitudinal Research* (pp. 132-159). New York: Routledge/Taylor & Francis.
- Ding, W., Lehrer, S., Rosenquist, J., & Audrain-McGovern, J. (2006). *The Impact of Poor Health on Education: New Evidence Using Genetic Markers*. Cambridge, MA: National Bureau of Economic Research.
- Drekmeier, K., & Tilghman, C. (2010). An analysis of inquiry, nonstart, and drop reasons in nontraditional university student populations. *6th Annual National Symposium on Student Retention*. Mobile, Alabama.
- Ellison, N. B., Wohn, D. Y., Khan, M. L., & Fewins-Bliss, R. (2012). *Reshaping Access: An Overview of Research on Access to Higher Education, Social Media and Social Capital*. Michigan State University. East Lansing, MI: Michigan State University.
- Erisman, W., & Looney, S. (2007). *Opening the Door to the American Dream: Increasing Higher Education Access and Success for Immigrants*. Institute for Higher Education Policy. Washington, DC: IHEP.
- Fuligni, A. J., & Witkow, M. (2004). The Postsecondary Educational Progress of Youth from Immigrant Families. *Journal of Research on Adolescence*, 14, 159-183.
- Gault, B., Reichlin, L., Reynolds, E., & Froehner, M. (2014, November 1). *Institute for Women's Policy Research Fact Sheet*. Retrieved August 3, 2015, from luminafoundation.org: www.luminafoundation.org/files/resources/college-students-raising-children.pdf
- Gittleman, J. (2005). *The New England ABE-to-College Transition Project Evaluation Report*. New England Literacy Resource Center. Boston, MA: Nellie Mae Education Foundation.
- Graham, S., & Gisi, S. (2000). Adult undergraduate students: What role does college involvement play? *NASPA Journal*, 38 (1), 99-121.
- Herth, K. (1992). Abbreviated instrument to measure hope: development and psychometric evaluation. *Journal of Advanced Nursing*, 17 (10), 1251-1259.
- Kane, T. J., & Rouse, C. E. (1999). The Community College: Educating Students at the Margin Between College and Work. *Journal of Economic Perspectives*, 13 (1), 63-84.
- Nagaoka, J., Roderick, M., & Coca, V. (2008). *Barriers to College Attainment: Lessons from Chicago*. The University of Chicago, The Consortium on Chicago School Research. Chicago, IL: Center for American Progress.
- National Academies of Science. *Motivation, Engagement and Persistence in Improving Adult Literacy Instruction*.
- National Research Council. (2012). *Improving Adult Literacy Instruction: Options for Practice and Research*. Committee on Learning Sciences: Foundations and Applications to Adolescent and Adult Literacy, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

- Paulson, A. (2012, December). Transition to college: Nonacademic factors that influence persistence for underprepared community college students. 114. Lincoln, NE: University of Nebraska-Lincoln.
- Prince, D. a. (2005, April). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study*. (T. C. University, Producer) Retrieved March 17, 2015, from Community College Research Center: ccrc.tc.columbia.edu/media/k2/attachments/pathways-success-low-skill-adult.pdf
- Scott-Clayton, J., Crosta, P. M., & Belfield, C. R. (2014). Improving the Targeting of Treatment: Evidence from College Remediation. *Educational Evaluation and Policy Analysis*, 36 (3), 371-393.
- Sedlacek, W. (1996). An empirical method of determining nontraditional group status. *Measurement and Evaluation in Counseling and Development*, 28, 200-210.
- Sedlacek, W. (2011). Using noncognitive variables in assessing readiness for higher education. *Readings on Equal Education*, 25, 187-205.
- Sedlacek, W. (2004). Why we should use noncognitive variables with graduate and professional students. *The Advisor: The Journal of the National Association of Advisors for the Health Professions*, 24 (2), 32-39.
- Sum, A., Khatiwada, I., Trubskyy, M., Palma, S., & McHugh, W. (2012). *The College Enrollment Behavior of Young Adult High Schools Dropouts, GED Holders, and High School Graduates with Regular Diplomas in the United States: 2000-2010*. Northeastern University, Center for Labor Market Studies. Boston, MA: Center for Labor Market Studies.
- Tracey, T. J., & Sedlacek, W. E. (1987). A comparison of white and black student academic success using noncognitive variables: A LISREL analysis. 27 (4), 333-348.
- Vernez, G., & Abrahamse, A. (2003). *How Immigrants Fare in U.S. Higher Education*. Rand Corporation. Santa Monica, CA: Rand Corporation.
- Wachen, J., Jenkins, D., Belfield, C., & Van Noy, M. (2012). *Contextualized College Transition Strategies for Adult Basic Skills Students: Learning from Washington State's I-Best Program Model*. New York: Community College Research Center.
- Wylie, R. C. (1979). *The Self-Concept: Theory and Research on Selected Topics, Volume 2*. Lincoln, NE: University of Nebraska Press.

Appendices

1. Summary of All Significant Variables, By Dependent Variable (College Outcome)
2. Non-significant Factors for All College Outcomes, by Variable Category Details
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Appendix 1: Summary of All Significant Variables, By Dependent Variable (College Outcome)

The following tables provides a summary of the significant factors, by college outcome.

**Note: Factors below that are marked with an asterisk were significant for both the Baseline and the All Years versions of the enrollment college outcome, Earned 3 College Credits. However, it should be noted that some variables, such as participants' Accuplacer scores as well as those drawn from the transition course intake and exit rating forms, were only analyzed using the baseline enrollment outcome. Many other independent variables were only analyzed against the All Years college outcome measures due to the fact that the factors themselves were comprised of data gathered in Years 2-4 of the study. Therefore, the pool of factors that might be significant with both types of enrollment college outcomes (Baseline & All Years) is somewhat limited. More details about the analyses conducted may be found in the write-up for each individual variable.*

Table 83: Summary of Significant Factors

ENROLLMENT OUTCOME: Completing 3 Transferable Credits		
Type of Factors	Factor	Direction of Significance: "Participants who...were more likely to have earned at least 3 credits"
<i>Individual: Cognitive (Academic)</i>	Accuplacer Score, change: Arithmetic improvement score (exit-intake)	...improved Accuplacer Arithmetic scores during transition program
	Accuplacer Score, change: Compiled score improvement in arithmetic, sentence skills, & reading comp (exit- intake)	... improved their combined Accuplacer score during transition program
	Accuplacer Score, exit: Arithmetic	...had a higher Accuplacer Arithmetic score at the end of the transition program
	Accuplacer Score, exit: Compiled score of arithmetic, sentence skills, & reading comp	...had a higher combined Accuplacer score at the end of the transition program
	Accuplacer Score, exit: Total score of algebra, arithmetic, sentence skills, & reading comp	...had a higher total Accuplacer score at the end of the transition program
	Accuplacer Score, intake: Sentence Skills	...had a higher Accuplacer Sentence Skills score at the beginning of the transition program

ENROLLMENT OUTCOME: Completing 3 Transferable Credits		
Type of Factors	Factor	Direction of Significance: "Participants who...were more likely to have earned at least 3 credits"
	Learning Disability	...did not self-identify as having a learning disability
	Self-rating, Academic Readiness	..., at the beginning of the transition course, rated themselves more academically ready
<i>Individual: Non-cognitive</i>	Non-cognitive Factors (composite score)	...scored better on a compiled measure of non-cognitive factors
	Academic/Career goals stated yrs3&4 (<i>part of composite</i>)	...described themselves as having academic or career oriented goals
	Career Planning Composite (composite score: includes 4 components)	...scored higher on the career planning composite score
	Goal-Setting Composite (includes specificity)	...exhibited better goal-setting skills
	Ideal job hierarchy codes, avg. all years	...whose ideal job would require more education
	Ideal Job Specificity*	... were more specific about the type of ideal job they desired
	Transition Program Staff rating- Class Participation	...were rated by transition program staff as having better in-class participation
	Transition Program Staff rating- Likelihood to Succeed	...were rated by transition program staff as being more likely to succeed
	Transition Program Staff rating- Motivation	...were rated by transition program staff as being more motivated
	Transition Program Staff rating- Readiness for College	...were rated by transition program staff as being more ready for college
	Transition Program Staff rating- Time Management	...were rated by transition program staff as having better time management skills
	Transition Program Staff rating- Total Staff Ratings	...were rated by transition program staff more highly on combined readiness attributes by transition program staff
	Transition Program Staff rating on extenuating circs: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
	Transition Program Staff rating on extenuating circs: Total ext. circ. sum score	...were identified by transition program staff as having fewer combined personal obstacles
<i>Individual: Demographic</i>	Age	...were younger

ENROLLMENT OUTCOME: Completing 3 Transferable Credits		
Type of Factors	Factor	Direction of Significance: "Participants who...were more likely to have earned at least 3 credits"
<i>Individual: Life situation</i>	Family reliance on income	...whose families were less reliant on the participants' income
	Participant Attendance Compliance: hours attended ÷ hours offered by CT	...attended more transition course hours relative to hours offered
	Transition Course Exit form: Self-rating, Cost College Obstacle	..., at the end of the transition course, expected less difficulty with the cost of college
	Transition Course forms: Change in Cost College Obstacle	...reported decreased expectation of difficulty with the cost of college
	Transition Course forms: Change in Needing to Work Obstacle (exit-intake)	...reported decreased expectation of difficulty juggling the need to work
	Transition Course forms: Change in Total Self-Rating Obstacle (avg., exit-intake)	...reported decreased expectation of combined obstacles overall
	Self-rating, Childcare Obstacle	..., at the beginning of the transition course, expected more difficulty with childcare while in college
<i>Individual: Supports</i>	Number of People relied upon for support	...reported having fewer people available to rely upon for support
	Support People Category: College Transitions Support Network	...reported more support from students and/or staff within the transition program
	Support People Network Compositereported more support distributed across the categories of people in their life
<i>Individual: Obstacles</i>	Obstacle Category Type: Health Obstacle	...faced fewer health obstacles
<i>Program</i>	Transition Course Grading Policy*	...attended a transition program that awarded grades
	Transition Course Mentorship Component*	...attended transition courses that paired them with mentors or offered a mentoring component
	Transition Course Student Life Skills: Medium vs. None	...attended transition courses offering a medium level of student life skills instruction
	Transition Program Attendance Hours	...attended more transition program class hours
	Transition Program Completers ÷ Total Students Attended	...attended transition programs where a higher proportion of students completed the course

ENROLLMENT OUTCOME: Completing 3 Transferable Credits		
Type of Factors	Factor	Direction of Significance: "Participants who...were more likely to have earned at least 3 credits"
	Transition Program Completion*	...completed the transition course
	Year 2 & 3 Rating: "Program helped me with college application"*	...agreed more strongly with this statement

COLLEGE TRAJECTORY OUTCOME: Enrollment/ persistence ²⁴		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to have a positive college trajectory (enroll, stay enrolled)"
<i>Individual: Life situation</i>	Family reliance on income	...reported their families were less reliant on the participants' income
	Participant Attendance Compliance: hours attended ÷ hours offered by CT	...attended more transition course hours relative to hours offered
	Self-rating, Childcare Obstacle	..., at the beginning of the transition course, expected more difficulty with childcare while in college
<i>Individual: Non-cognitive</i>	Ideal job hierarchy codes, avg. all years	...who stated an ideal job that would require more education
	Academic/Career goals stated yrs3&4 (<i>part of composite</i>)	...described having academic or career oriented goals
	Career Planning Composite (composite score: includes 4 components)	... scored higher on the career planning composite score
	Goal-Setting Composite (includes specificity)	...exhibited better goal-setting skills
	Transition Program Staff rating- Class Participation	...were rated by transition program staff as having better in-class participation
	Transition Program Staff rating- Likelihood to Succeed	...were rated by transition program staff as being more likely to succeed
	Transition Program Staff rating- Motivation	...were rated by transition program staff as being more motivated
	Transition Program Staff rating- Readiness for College	...were rated by transition program staff as being more ready for college
	Transition Program Staff rating- Time Management	...were rated by transition program staff as having better time management skills
	Transition Program Staff rating- Total Staff Ratings	...were rated more highly on combined readiness attributes by transition program staff

²⁴ College Trajectory outcome is an ordinal measure with three levels: (1) never enrolled, (2) enrolled but dropped out or (3) still enrolled or graduated, with #3 being a better trajectory than #2, and #2 being a better trajectory than #1.

COLLEGE TRAJECTORY OUTCOME: Enrollment/ persistence ²⁴		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to have a positive college trajectory (enroll, stay enrolled)"
	Transition Program Staff rating on extenuating circs: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
<i>Individual: Demographic</i>	Kids: Older vs. Young	...had young children (rather than older children)
	Country of birth	...were born outside of the U.S.
<i>Individual: Obstacles</i>	Obstacle Category Type: Financial Obstaclefaced fewer financial obstacles
	Obstacle Category Type: Health Obstacle	...faced fewer health obstacles
<i>Individual: Supports</i>	Support People Category: College Transitions Support Network	...reported having more support from students and/or staff within the transition program
	Support People Network Compositereported having more support distributed across the categories of people in their lives
<i>Program</i>	Transition Course Grading Policy	...attended a transition course that awarded grades
	Transition Course Mentorship Component	... attended transition courses that offered mentors or a mentoring component
	Transition Course Student Life Skills Component: Medium+High vs. None	...attended transition courses offering a medium or high level of student life skills instruction
	Transition Program Completion	...completed the transition course
	Year 2 & 3 Rating: "Program helped me with college application"*	...agreed more strongly with this statement

ENROLLMENT OUTCOME: Enrolled in college within 1 year of transition program		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to enroll in college within one year of participating in the transition program"
<i>Individual: Cognitive</i>	Accuplacer Score, change: Arithmetic improvement score (exit-intake)	...improved Accuplacer Arithmetic scores during transition program
	Accuplacer Score, change: Compiled score improvement in arithmetic, sentence skills, & reading comp (exit- intake)	...improved their combined Accuplacer score during transition program
	Transition course Intake form: Self-rating, Academic Readiness	..., at the beginning of the transition course, rated themselves more academically ready
	Transition Course Exit form: Self-rating, Academic Readiness	..., at the end of the transition course, rated themselves more academically ready
	Transition Course Exit form: Total Self-Rating Skills (avg.)	..., at the end of the transition course, rated themselves more academically skilled overall
<i>Individual: Demographic</i>	Kids: None vs. Young	...had young children (vs. no children)
<i>Individual: Life situation</i>	Transition Program Attendance Hours	...attended more transition program class hours
	Participant Attendance Compliance: hours attended ÷ hours offered by CT	...attended more transition course hours relative to hours offered
	Self-rating, Cost College Obstacle	..., at the end of the transition course, expected less difficulty with the cost of college
	Self-rating, Lack of Aid Obstacle	..., at the end of the transition course, expected less difficulty obtaining financial aid
	Self-rating, Needing to Work Obstacle	..., at the end of the transition course, expected less difficulty juggling the need to work
	Total Self-Rating Obstacles (avg.)	...who, at the end of the transition course, expected less to face more combined obstacles overall
	Self-rating, Cost of College Obstacle	..., at the beginning of the transition course, expected less difficulty with the cost of college

ENROLLMENT OUTCOME: Enrolled in college within 1 year of transition program		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to enroll in college within one year of participating in the transition program"
	Change in Total Self-Rating Obstacle (avg., exit-intake)	...reported decreased expectations of combined obstacles overall
	Change in Transportation Obstacle (exit-intake)	...reported decreased expectations of difficulty with transportation
<i>Individual: Non-cognitive</i>	Ideal Job Specificity	...were more specific about the type of ideal job they desired
	Transition Program Staff rating- Likelihood to Succeed	...were rated by transition program staff as being more likely to succeed
	Transition Program Staff rating- Motivation	...were rated by transition program staff as being more motivated
	Transition Program Staff rating- Readiness for College	...were rated by transition program staff as being more ready for college
	Transition Program Staff rating- Time Management	...were rated by transition program staff as having better time management skills
	Transition Program Staff rating- Total Staff Ratings	...were rated by transition program staff as more highly on combined readiness attributes
	Transition Program Staff rating on extenuating circls: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
<i>Program</i>	Transition Course Mentorship Component	...attended transition courses that had a mentoring component or paired them with mentors
	Transition Course Grading Policy	...attended a transition course that awarded grades
	Transition Course Staff Feedback Level	...attended transition courses with regular staff feedback on homework and tests

ENROLLMENT OUTCOME: Enrolled in college within 1 year of transition program		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to enroll in college within one year of participating in the transition program"
<i>Program</i>	Transition course Student Life Skills Component: Medium+High vs. None	...attended transition courses offering a medium or high level of student life skills instruction
	Overall rating of Transition course program	...rated their transition program more highly
	Transition Program Completion	...completed the transition course
	Year 2 & 3 combined ratings on transition course helpfulness (sum total)	...rated their transition program more positively across multiple facets
	Year 2 & 3 Rating Avg.: "How helpful was transition course program?"	...rated their transition program as more helpful
	Year 2 & 3 Rating: "Program helped clarify my career goals"	...agreed more strongly with this statement
	Year 2 & 3 Rating: "Program helped me to better understand about financial aid for going to college"	...agreed more strongly with this statement
	Year 2 & 3 Rating: "Program helped me with college application"*	...agreed more strongly with this statement

SUCCESS: Total credits completed		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to complete more credits in college"
<i>Individual: Non-cognitive</i>	1st Stated Goal Degree: MA/BA vs Voc/AD	... first stated a degree goal of either an MA or BA
	1st Stated Goal Degree: Voc vs AD	... first stated degree goal of an AD (compared to those aiming for a vocational certificate)
	Academic/Career goals stated yrs3&4 (<i>part of composite</i>)	... described having academic or career-oriented goals
	Career Planning Composite (composite score: includes 4 components)	... scored higher on the career planning composite score
	Goal-Setting Composite (includes specificity)	...exhibited better goal-setting skills
	Ideal Job planning steps (<i>part of composite</i>)	...better understood the steps required to attain their ideal job
	Ideal Job Specificity	...were more specific about the type of ideal job they desired
	Identity Motivation	...who were primarily motivated by wanting to be an educated person or seeing themselves as a college graduate were likely to have earned fewer credits
	Leadership experience	...had more leadership experience
<i>Individual: Demographic</i>	Marital Status	...remained married throughout the study
<i>Individual: Life situation</i>	Full-Time Worker Status	... did not work full-time
	Personal Income	...earned less money (when household income was held constant)
	Transition Program Staff rating- Class Participation	...were rated by transition program staff as having better in-class participation
	Transition Program Staff rating- Motivation	...were rated by transition program staff as being more motivated
	Transition Program Staff rating- Total Staff Ratings	...were rated more highly on combined readiness attributes by transition program staff

SUCCESS: Total credits completed		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to complete more credits in college"
	Transition Program Staff rating on extenuating circs: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
<i>Individual: Obstacles</i>	Obstacle Category Type: Health Obstacle	...faced fewer health obstacles
<i>College</i>	College Activity Level/Engagement	... more actively utilized college facilities and resources
	GPA	...had higher GPAs
	Number of Classes enrolled in 1st semester	...enrolled in a higher number of classes during their first college semester
	Ratio of earned credits to attempted credits	...had a higher ratio of completed for-credit college courses out of all college coursework attempted
	Support People Category: College Support Network	...had more support from college students, staff, and/or faculty

PERSISTENCE: Total semesters completed		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to complete more semesters in college"
<i>Individual:</i>	1st Stated Goal Degree: MA/BA vs Voc/AD	... first stated a degree goal as either an MA or BA
<i>Non-cognitive</i>	Academic/Career goals stated yrs3&4 (<i>part of composite</i>)	...described having academic or career-oriented goals
	Career Planning Composite (composite score: includes 4 components)	... scored higher on the career planning composite score
	Ideal Job Specificity	...were more specific about the type of ideal job they desired
	Goal-Setting Composite (includes specificity)	...exhibited better goal-setting skills
<i>Individual: Life situation</i>	Transition Program Staff rating on extenuating circs: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
<i>College</i>	College Activity Level/Engagement	...more actively utilized college facilities and resources
	GPA	...had higher GPAs
	Number of Classes flunked, repeated, withdrawn	...flunked, repeated, and/or withdrew from a higher number of classes
	Number of Developmental classes taken	...enrolled in a higher number of developmental education classes
	Obstacle Category Type: Health Obstacle	...faced fewer health obstacles
	Ratio of earned credits to attempted credits	...had a higher ratio of completed for-credit college courses out of all college coursework attempted
	Support People Category: College Support Network	...had more support from college students, staff, and/or faculty

SUCCESS OUTCOME: Acquiring 30 credits (tipping point momentum)		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to reach the tipping point of earning 30 or more college credits"
<i>Individual: Cognitive</i>	Accuplacer Score, change: Arithmetic improvement score (exit-intake)	...improved Accuplacer Arithmetic scores during transition program
	Accuplacer Score, change: Compiled score improvement in arithmetic, sentence skills, & reading comp (exit- intake)	...improved their combined Accuplacer score during transition program
	Accuplacer Score, exit: Sentence Skills	...had a higher Accuplacer Sentence Skills score at the end of the transition program
<i>Individual: Non-cognitive</i>	Career Planning Composite (composite score: includes 4 components)	...scored higher on the career planning composite score
	Academic/Career goals stated yrs3&4 (<i>part of composite</i>)	...described having academic or career oriented goals
	Goal-Setting Composite (includes specificity)	...exhibited better goal-setting skills
	Ideal Job planning steps (<i>part of composite</i>)	...better understood the steps required to attain their ideal job
	Transition Program Staff rating- Class Participation	...were rated by transition program staff as having better in-class participation
	Transition Program Staff rating- Motivation	...were rated by transition program staff as being more motivated
	Transition Program Staff rating- Time Management	...were rated by transition program staff as having better time management skills
	Transition Program Staff rating- Total Staff Ratings	...were rated by transition program staff more highly on combined readiness attributes
<i>Individual: Life situation</i>	Transition Program Staff rating on extenuating circs: Personal/Psychological Issues	...were identified by transition program staff as having fewer personal/psychological issues
	Full-Time Worker Status	...didn't work full-time

SUCCESS OUTCOME: Acquiring 30 credits (tipping point momentum)		
Type of Factor	Factor	Direction of Significance: "Participants who...were more likely to reach the tipping point of earning 30 or more college credits"
<i>Individual: Obstacles</i>	Obstacle Category Type: Health Obstacle	...faced fewer health obstacles
	Obstacle Category Type: Work Obstacle	...faced fewer obstacles related to work/employment
<i>Individual: Supports</i>	Support People Category: Community Support Network	...had more support from community members and/or social service workers
	Support People Network Compositehad more support distributed across the categories of people in their life
<i>Program</i>	Support People Category: College Transitions Support Network	...had more support from students and/or staff within the transition program
	Transition Program Completion	...completed the transition course

Appendix 2: Non-significant Factors for All College Outcomes, by Variable Category

Variable category	Non-significant factors
Individual	<ul style="list-style-type: none"> • Individuals' rating of transition program • Self-rating at intake of math, reading, writing, or computer skills • Self-rating at intake of transportation, lack of aid, needing to work, or health obstacles • Self-rating at exit of math, reading, writing, or computer skills • Self-rating at exit of childcare, transportation, immigration, or health obstacles • Change in self-rating (between intake and exit) of math, reading, writing, or computer skills • Change in self-rating (between intake and exit) of childcare, lack of aid, or health obstacle • Intake Accuplacer scores in algebra, arithmetic, or reading comprehension • Exit Accuplacer scores in algebra or reading composition • Change in Accuplacer scores (between intake and exit) in algebra, reading comprehension, sentence skills or total on Accuplacer algebra/arithmetic/sentence skills/reading comprehension • Staff rating on individual's extenuating circumstances re: logistical, financial, academic/learning disability, language/immigration or health issues • TALS literacy score, year 1 and year 4 (neither significantly related to outcomes) • Differences in TALS literacy score from year 1 to year 4 • Number of previous (transferable) college credits • Type of degree desired • Motivation (composite score) • Specific type of motivation, including material, internal fulfillment, external fulfillment • Having a lower paid job in year 1 • Number of hours worked per week (continuous variable) • Satisfaction with job (composite score) • Household income • Difference between individual's current job and ideal job • Number of supports identified, by type of people

Variable category	Non-significant factors
	<ul style="list-style-type: none"> • Support category types: information/connections, logistical, emotional, academic, financial • Support people: family & friend network, work support network • Amount of social capital (composite score) • Passive support • Access to or receipt of financial aid • Obstacles: academic, familial, logistical • Non-cognitive variables: Hope Herth index, General Self-Efficacy
Transition Program	<ul style="list-style-type: none"> • Attendance policy • Teaching approach • Association with local community college • Location • Computer class offering • College credits earned as part of program participation • Day per week course met
College	<ul style="list-style-type: none"> • Obstacle: College culture • Self-rated knowledge of college, on intake to transition program • Self-rated knowledge of college, on exit from transition program • Change in self-rated knowledge of college, between intake and exit

Appendix 3: ATLAS Wave 4 (Final) Questionnaire

(We attempted to conduct as many of these as possible live, over the phone, with participants in the final wave. Where we could not, we allowed participants to complete the questionnaire via the internet.)

Spring 2011

PLEASE ENTER YOUR LOGIN ID (your first initial and last name in small letters. e.g. csmith, if your name is Cathy Smith)

PLEASE ENTER YOUR PASSWORD (the two letter state abbreviation where you participated in the college transition program (in CAPITAL letters) e.g. ME, if you are from Maine).

Thank you for participating in the fourth and last round of ATLAS data collection. The purpose of this survey is to find out what you have been doing since the last time we collected information from you. Again, there are no right or wrong answers. We just want to hear about your life and how you are doing.

The survey will take you more than an hour. You may finish the survey all in one sitting, or you can stop, save and come back to complete the survey on the web another time. However, it is important to complete the whole survey by May 31, 2011.

PLEASE READ THE DIRECTIONS BELOW SO YOU CAN EASILY COMPLETE THE SURVEY.

Once you begin the survey, you will note a series of buttons on the bottom of each page.

The SAVE button will allow you to stop the survey and logon at a later time to complete it. You may use the link in your email or go to the Atlas website to log in to the survey. You will need to remember your name and password to return to the survey (but we will remind you of the login and password to use).

When you have finished the survey, you will note, on the last page, a new button, SUBMIT . Clicking on this button will submit your survey to us. Then you are finished! This will signal us to send your payment to you.

1. What is your name?

First

Last

HERE ARE SOME GENERAL QUESTIONS

Here is the contact information you last provided us: [SO THAT WE CAN SEND THE MONEY ORDERS]

Address 1: {Q158}

Address 2: {Q159}

Town/City: {Q160}

State: {Q161}

Zip Code: {Q162}

Email address: {Q163}

Cell Phone: {Q164}

Home Phone: {Q165}

2. Is this information still correct?

Yes

No

3. What is your current contact information, so that I can send you your payment?

Street Address (line 1)

Street Address (line 2)

Town/City

State

Zip Code

Email Address

Cell Phone (XXX-XXX-XXXX)

Home Phone

Work Phone

4. Have you changed your primary residence in the past 12 months?

Yes
No

5. How long have you been living in your current residence?

Months (e.g. 0-12)

Weeks (e.g. 1-4)

6. How many times did you move in the past 12 months?

Number of times moved

7. Did any of the following factors play a role in your most recent move?

Yes
No

You (or a household member) purchased a home
You were evicted or your home was foreclosed

You wanted to live in a better neighborhood
 Your rent was too expensive
 You wanted to be closer to your own or your family member's job
 You wanted to be closer to children's school
 You wanted to be closer to your college
 You wanted a bigger, better place
 You wanted a fresh start
 Did you have any other reason for moving (if so, please write in)

8. Overall, how would you rate your health? Would you say it is...

Excellent
 Very good
 Good
 Fair
 Poor

9. In the past 12 months, have you had a physical health condition which had a significant negative impact on your life?

Yes
 No

10. What physical health condition or conditions were those? [ONE TIME OR PROLONGED, SEVERITY]

Condition(s)

11. In the past 12 months, have you had a mental health condition, such as depression or anxiety, or any other mental health condition that has had a significant negative impact on your life:

Yes
 No

12. If 'yes', what mental health condition or conditions were those? [DON'T READ OPTIONS]

Depression
 Anxiety
 Bipolar Disorder (manic depressive)
 OCD (Obsessive Compulsive Disorder)
 Post-traumatic stress disorder
 Other mental health conditions

13. In the past 12 months, did you experience any of the following in your household?

Yes

No

You got pregnant, had a baby or adopted a baby
 You got married or partner began living with you
 Your spouse or partner died
 You divorced or separated from spouse or partner
 Someone in your immediate family or someone very close to you died
 Someone in your immediate family had a baby or adopted a baby
 You or someone in your family became a foster parent
 Someone in your immediate family or someone very close to you had a major illness
 Other major event in your household (if so, please write in)

14. What is the highest grade or year of school your spouse or partner completed? [PROBE IF VAGUE]

Don't know
 No Schooling
 First grade
 Second grade
 Third grade
 Fourth grade
 Fifth grade
 Sixth grade
 Seventh grade
 Eighth grade
 Ninth grade
 Tenth grade
 Eleventh grade
 Graduated high school
 Earned a GED
 Some college
 Two year or vocational degree
 Graduated college
 Post graduate

15. What is your spouse or partner's main job? [IF YOU ARE MARRIED OR PARTNER BEGAN LIVING WITH YOU]

Job Title:

16. Including yourself, how many people in total live in your household?

Number

17. Are any of the people in your household UNDER the age of 18?

Yes

No

18. If 'yes', are you involved in bringing up the children in your home?

Yes

No

19. How many children do you have? [ASK NAME AND AGE, IF FEW]

0
1
2
3
4
5
6
7
8
9
10

20. Are any of your children UNDER the age of 16? [HOW OLD ARE YOUR KIDS?]

Yes

No

21. If 'yes', how many of your children are currently enrolled in school (K-12)?

0
1
2
3
4
5
6
7
8
9
10

22. If 'yes', in the past year, have you interacted with your child(ren)'s teacher(s)?

Yes
No

23. If 'yes', in what ways did you interact with your child(ren)'s teacher(s)? Did you interact by
[READ ALL]

Talking on the phone
Visiting in person for regular scheduled conferences
Visiting in person for a specific issue of problem
Exchanging notes or emails
Volunteering at school
Specify other interaction

24. If 'no', why would you say you haven't interacted with your child(ren)'s teacher(s) in the past year?

25. In regards to your children's education, in the past 12 months, have you taken any of the following actions? [READ ALL]

Yes

No

Helped them with homework
Talked with them about going to college
Started a college fund
Got child(ren) involved in sports or clubs
Provided exposure to opportunities (for example, took them to museums, field trips, etc.)
Other action (if so, please write in)

26. Are any of your children over the age of 16?

Yes
No

27. How many of your children have graduated from high school?

Number of children graduated high school

28. How many of your children got a GED?

Number of children with GED

29. Did any of them ever participate in a basic education, literacy, or GED prep class?

Yes

No

Don't Know

30. In regards to your children's education, in the past 12 months, have you taken any of the following actions?

Yes

No

Talked with them about going to college

Took out a loan to pay for their schooling

Looked for scholarships or financial aid for children

Visited colleges with children

Other action (if so, please write in)

31. Although, ultimately, it will be your child's own choice (once s/he is grown), how much schooling would YOU like your children to get? [READ ALL]

Graduate High School

GED

Vocational Trade or Business School

Professional Certification/License

Two-year Community College degree

Four-year College degree

Graduate School degree

Don't know

32. What is the main reason you would like your child(ren) to get that level of schooling? So that they can ... [DON'T READ]

Be successful

Fulfill their potential
Get a good job
Be financially independent
Have financial stability
Have options in life
Have a better life than mine
Specify other reason

33. Have you spoken to your children about those reasons?

Yes
No
Doesn't apply (child too young)

NOW I'M GOING TO ASK YOU A FEW QUESTIONS ABOUT YOUR OWN EDUCATION

34. Since your last ATLAS survey, have you taken a short-term vocational skills course that charged tuition or a fee? [E.X. BARTENDING, TRUCK DRIVING, SOMETHING SHORT TERM]

Yes
No
Don't know

35. What was the most recent vocational skills course you took?

Course

36. Did you graduate from or complete that vocational course?

Yes
No

37. What is the name of that certificate you received?

38. Which of the following best describes how you see the role of college in your life? [READ ALL]

It is not my goal anymore
 It is important but seems unachievable
 It is still my goal but would be a struggle
 I'll get through it because I have to
 It is something that I (would) enjoy

39. When you think about college, what is the strongest emotion/ feeling you have? [DON'T READ] [IF NEEDED, HOW DO YOU FEEL ABOUT COLLEGE? DON'T READ. CHOOSE ONLY ONE]

Happy
 Determined
 Worried
 Proud
 Overwhelmed
 Anxious
 Positive
 Discouraged
 Other
 Hopeful
 Stressed
 Specify other emotion

40. Here is the information that you have provided us regarding your educational status over the last three years. [IF ANY OF THIS INFORMATION IS INCORRECT OR UNKNOWN, PLEASE FILL IN THE CORRECT INFORMATION IN THE BOX ADJACENT TO IT]

Year 1 2007 - 2008 [TRANSITIONS PROGRAM]: {Q170}

Year 2 2008 - 2009 [OBAMA GOT ELECTED]: {Q171}

Year 3 2010 [HAITI EARTHQUAKE]: {Q172}

Year 4 2011 (if any of the data was incorrect / unknown please fill out the Year 4 status)

41. Which of the following best describes your college education status in the last 12 months? [IF ANY COLLEGE APPEARED IN Q. 40 THAT WE DIDN'T KNOW ABOUT, CLICK ONE OF THE COLLEGE ONE'S FURTHER DOWN]

Did not apply to college
 Applied but not accepted by college
 Applied and accepted but didn't enroll or start class
 Was enrolled but stopped attending
 Currently enrolled and have been continuously enrolled since first semester
 Currently enrolled but have not been continuously enrolled (dropped out then re-enrolled)
 Graduated from a college certificate or degree program

42. Below is a list of reasons people might have for not applying to college. Please indicate whether each of the following was a major reason, a minor reason, or not a reason for you, personally.

A Major Reason

A Minor Reason

Not a reason

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g. sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 You couldn't find a college with the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 You weren't sure where to apply
 You weren't sure how to apply
 You changed your career goal
 You moved away
 Your health didn't permit
 Any other major reason (if so, please write in)

43. Of the major reason(s) you indicated, which one was the MOST SIGNIFICANT reason that you did not apply to college?

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g. sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 You couldn't find a college with the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 You weren't sure where to apply
 You weren't sure how to apply
 You changed your career goal
 You moved away
 Your health didn't permit
 Other major reason (if so, please write in)

44. What would help you to resolve this and apply to college?

45. Which of the following do you feel was a reason you were not accepted when you applied?

A Major Reason

A Minor Reason

Not a reason

Your academic record
 Your scores on the entrance exam
 Your GED (Either the score was too low or you did not take the GED)
 Your need for financial aid
 Your age
 Your race or ethnicity
 Your gender
 Your religion
 Your legal status
 Other major reason (if so, please write in)

46. Of the major reason(s) you indicated, which one do you feel was the MOST SIGNIFICANT reason that your application was not accepted?

Your academic record
 Your scores on the entrance exam
 Your GED (Either the score was too low or you did not take the GED)
 Your need for financial aid
 Your age
 Your race or ethnicity
 Your gender
 Your religion
 Your legal status
 Other major reason (if so, please write in)

47. Below is a list of reasons people might have for not enrolling in college or not starting classes. Please indicate whether each of the following was a major reason, a minor reason, or not a reason for you, personally.

A Major Reason

A Minor Reason

Not a reason

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g.sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 You could not find a college with the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 Your health didn't permit
 You changed your career goal
 You moved away
 Other major reason (if so, please write in)

48. Of the major reason(s) you indicated, which one was the MOST SIGNIFICANT reason for you to not enroll in college or start classes?

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g.sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 You could not find a college with the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 Your health didn't permit
 You changed your career goal
 You moved away
 Other major reason (if so, please write in)

49. What would help you resolve this and enroll in college or start class?

50. Below is a list of reasons people might have for dropping out of college. Please indicate whether each of the following was a major reason, a minor reason, or not a reason for you, personally.

A Major Reason

A Minor Reason

Not a reason

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g. sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 Your college did not have the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 Your health didn't permit
 You changed your career goal
 You moved away
 You had difficulty understanding instructors' expectations
 You didn't get enough academic support (help with school work)
 You had difficulty using new technologies
 You couldn't fit in with college life or get along with fellow students
 Other major reason (if so, please write in)

51. Of the major reason(s) you indicated, which one was the MOST SIGNIFICANT reason for you to drop out of college?

You couldn't afford tuition and costs
 You didn't receive financial aid
 Your family situation didn't permit (e.g. sick family member)
 You didn't have affordable child-care
 You didn't feel academically ready
 Your college did not have the right program
 Your job schedule or requirements conflicted with classes
 You had transportation problems
 Your health didn't permit
 You changed your career goal
 You moved away
 You had difficulty understanding instructors expectations
 You didn't get enough academic support (help with school work)
 You had difficulty using or applying new technology
 You couldn't fit in with college life or get along with fellow students
 Other major reason (if so, please write in)

52. What would help you resolve this and re-enroll in college?

53. Do you think you will ever apply or re-apply to college?

Yes
No

54. Which college(s) do you plan to apply to?

First choice

Bunker Hill Community College
Cape Cod Community College
Community College of Rhode Island
Community College of Vermont
Goodwin College
Hesser College
Manchester Community College
Nashua Community College
Rockland Community College
University of Maine, Rockland
University of Maine, Augusta
University of Maine, Augusta ITV
University of Maine, Belfast
University of Maine, Orono
Don't know/ Unsure
Other

Second choice

Third choice

55. What is the most important factor in choosing your first choice college?

Availability of majors of interest to you
Availability of a special certificate or program of study
Convenience of college location
Affordability
Availability of support services for students
Availability of online programs
Schedule or timing of college classes
Other reason (if so, please write in)

56. When do you plan to enroll or re-enroll? [YEAR]

2011
2012
2013
2014
2015
2016
2017

57. Fall/ Spring/ Summer?

Fall
Spring
Summer
Don't know

58. If you do not plan to apply to college, do you plan to apply to a vocational or training course?

Yes
No
Don't know

59. What type of vocational or training course would you apply to?

60. Congratulations! You graduated! In addition to achieving your goal, how did this accomplishment change you, if at all, in each of the following ways:

The way you see yourself

The way others see you

Your position at work

Your income

Your career opportunities

61. Below are a list of factors that may make it difficult to stay in college. Please indicate whether each of the following is (was) a major challenge, a minor challenge, not a challenge for you, personally, or whether it does not apply to you at all (Not applicable).

A Major Challenge

A Minor Challenge

Not a Challenge

Not applicable

Difficulty affording tuition and costs
Difficulty getting financial aid

Difficulty juggling family situation (e.g. no child-care, sick family member, etc.)
Difficulty with the academic demands
Difficulty juggling work schedule or work responsibilities
Difficulty with your health
Difficulty understanding instructors expectations
Difficulty getting academic support (help with school work)
Difficulty fitting in to college life or getting along with fellow students
Difficulty using technology that is new to me
Difficulty in getting to college (in terms of transportation)
Other major challenge (if so, please write in)

Any other major challenge (if so, please write in)

62. If you need someone to watch your children while you are attending classes or doing homework, what do you do? [NOTE: If you know the participant does not have children or that all children are over 16 years, immediately mark "Don't need childcare" and do not read this question].

Don't need childcare
Spouse or partner cares for child(ren)

Other relative volunteers to watch your child(ren)
 Friend volunteers to watch your child(ren)
 Pay for in-home childcare
 Use daycare service
 Exchange childcare time with other parent
 Specify other childcare

63. Please list three goals you have set for yourself. [If needed: FOR THE FUTURE, ANYTIME]

Goal 1

Goal 2

Goal 3

64. What strategy do you have to achieve each of these goals?

Strategy for Goal 1

Strategy for Goal 2

Strategy for Goal 3

65. Have you gone through the college application process (either applied/ re-applied to college) since your most recent ATLAS interview or survey?

Yes
No

66. Which of the following difficulties were challenging for you during the college application process? Please indicate whether each of the following was a major challenge, a minor challenge, not a challenge for you, personally, or whether it doesn't apply to you at all.

A Major Challenge

A Minor Challenge

Not a Challenge

Not applicable

Difficulty paying application fee
Difficulty navigating the college website or getting an application
Difficulty filling out the application form
Difficulty applying for financial aid
Difficulty writing the college essay
Difficulty taking the college entrance exam
Difficulty getting high school transcripts or other records
Difficulty meeting health requirements
Difficulty choosing program of study
Other major challenge (if so, please write in)

Any other major challenge (if so, please write in)

67. Did you receive guidance, encouragement, or advice during the process of applying to college? [WHEN YOU WERE APPLYING OR REAPPLYING]

Yes
No

68. Did any of the following individuals help/encourage you during the application process? [DON'T INCLUDE THE HELP YOU RECEIVED DURING THE COLLEGE TRANSITION CLASS]

Yes

No

Not Applicable

Parents
Spouse or partner

Children
Transition program staff member or teacher (outside of transition class)
Fellow student from transition program (outside of transition class)
Employer
Neighbor, friend or co-worker
Mentor, sponsor or counselor
Other (if so, please write in)

69. Which of the following college application tasks did someone help you with?

Yes

No

Not Applicable

Paying the application fee
Navigating the college website or getting an application
Filling out the application form
Applying for financial aid
Writing or editing the college essay
Getting high school transcripts
Studying for college entrance exam
Choosing a program of study
Other (if so, please write in)

HERE ARE SOME QUESTIONS ABOUT YOUR COLLEGE EXPERIENCES

70. When did you enroll in college? [THE MOST RECENT TIME, IN CASE PARTICIPANT HAD DROPPED OUT AND RE-ENROLLED]

2007
2008
2009
2010
2011

71. Month

Jan
Feb
March
April
May

June
July
Aug
Sept
Oct
Nov
Dec

72. Which college(s) have you attended in the past year, starting with your current or most recent college?

College 1

College 2

College 3

73. What type of college was {Q72.a}?

Community College
Technical College
Four-year College
Not sure

74. What type of college was {Q72.b}?

Community College
Technical College
Four-year College
Not sure

75. What type of college was {Q72.c}?

Community College
Technical College
Four-year College
Not sure

76. How long have (did) you attend classes at {Q72.a} ? (including the current month, if currently enrolled)

Years (e.g. 1,2,5..)

Months (e.g. 1,2,5,...)

Weeks (e.g. 1,2,3,4)

77. How long did you attend classes at {Q72.b}?

Years (e.g. 1,2,5...)

Months (e.g. 1,2,5,...)

Weeks (e.g. 1,2,3,4)

78. How long did you attend classes at {Q72.c}?

Years (e.g. 1,2,5,14...)

Months (e.g. 1,2,5,...)

Weeks (e.g. 1,2,3,4)

79. What type of degree or certificate are (were) you studying towards?

Professional Certificate (e.g. dental assistant, computer, massage, CNA, or culinary arts program)
 Associates Degree (2 year)
 Bachelors Degree (4 year)
 Masters Degree (graduate)

80. What is/was/were your major(s)?

Undecided
 Business
 Math
 Liberal arts/Humanities
 Education
 Social Work
 Science
 Engineering
 Medicine/Nursing
 Music/Art
 Specify other field

81. Are (Were) you going to school full time or part time?

Full time
Part time

82. How many terms/semesters of college have you completed altogether?

None
1
2
3
4
5
6
7
8
9
10 or more

83. How many non-credit (non-transferable) basic English or Math pre-requisite courses are/were you required to take in the following areas in college? [SUCH AS DEVELOPMENTAL COURSE]

None

1 course

2 courses

3 courses

More than 3 courses

English (reading and writing)
Math
Study skills
English language skills
Computer skills
What were the "other" courses?

84. How many transferable college credits have you earned or did you earn from completed courses altogether?

Number of credits

85. Does (did) some person, agency or organization help you pay for college?

Yes
No

86. From which of the following sources do (did) you receive financial help to pay for college?

Yes

No

Family (e.g., parents or other relatives)
Federal grant
College scholarship or grant
Private scholarship or grant
Federal, college, or private loan
State/ Municipal aid
Tuition Reimbursement benefit through work
Other source of financial aid (if so, please write in)

87. The most difficult part of college to adjust to is (was): [READ ALL. CHOOSE ONE]

Understanding the material
Getting all my school work done
Adjusting to college life and expectations
Balancing work and school responsibilities
Balancing family and school responsibilities

88. In which of the following areas do you feel you need more support than what you are currently receiving?

Need more support

Don't Need More Support

Not Applicable

Help with academics
Help with transportation
Help with household responsibilities
Emotional support or advice
Educational counseling or advice
Help with child care

89. Since you started college, did you join any college organizations, clubs, groups, sports teams, student government or associations?

Yes
No

90. Which clubs, groups or associations did you join? [DON'T READ]

Student government
Sports team (college or intramural)
Academic club (debate, Spanish, etc.)
Fraternity or sorority
Group of students in your major
Honor society
Organization devoted to a problem or issue (Save Darfur, help to the homeless, clean environment, etc.)
Club of like students (Latino/a Students club, Gay/Lesbian association, etc.)
Other club, organization or association you have joined (if so, please write in)

91. When in college, how often do (did) you use the following campus resources? [I AM GOING TO READ YOU A LIST. YOU JUST TELL ME HOW OFTEN DO YOU USE THESE.]

Never

Less than once a month

Once or twice a month

About once a week

A few times a week

Every day or almost every day

Library
Dining hall or cafeteria
Computer Lab
Academic support services (e.g., help with study skills or learning accommodations)
Athletic facilities (to work out or exercise)
Writing center
Career center
Counseling center
Health center
Other resource you use(d) regularly (if so, please write in)

92. Is there any other resource or help not available to you that you WISH your college offered?

Yes

No

What resource or help is that?

93. How often do (did) you speak or email with your college instructor(s) outside of class?

Never
Less than once a month
Once or twice a month
About once a week
A few times a week
Every day or almost every day

94. Please indicate whether or not you interact(ed) with college class members or other students from your college, outside of class time? Do (did) you...

Never

Sometimes

Often

Talk or e-mail with other students about class topics, assignments or responsibilities?
Talk or e-mail with other students about life in general? (i.e., topics not related to college)
Go out to eat or drink, play sports, or attend social activities (parties, concerts, movies, watching TV) with other students?
Go to the library or review sessions with other students?
Attend private or public religious services or events with other students?
Attend academic activities with other students, such as lectures, conferences, seminars?
Please specify other activity

95. Thinking about your college experience, rank in order the importance each of these factors has played in helping you succeed:

Participation in transition program, resources it offered

Your own motivation, skills, and knowledge

Personal supports (family, friends, etc.)

College characteristics (services offered, classes, teachers)

96. Please explain why you chose that component as your number one:

97.

I am going to read some common characteristics of a college transition program. You may not have had all of these in YOUR transition program, but we want to get your opinion on the importance of these characteristics, whether you experienced them in your program or not. Please rate on a scale of 1 to 5 how important you feel each of these characteristics is, where 1 means 'not important at all' and 5 means 'extremely important.'

1 [Not important at all]

2 [Slightly important]

3 [Somewhat important]

4 [Very important]

5 [Extremely important]

A strong connection with a local community college
 A strong math program
 A strong reading program
 Good computer classes
 An in-depth study skills class
 An in-depth college awareness component
 Help filling out the college application and financial aid forms
 A mentoring program (with past participants who are in college)
 At least 6 months of classes
 Strong emphasis on developing a community of student support
 Career exploration classes
 Please specify other

98. Of the program characteristics you ranked the highest, which would you say is the # 1 most important?

A strong connection with a local community college
 A strong math program
 A strong reading program
 Good computer classes
 An in-depth study skills class
 An in-depth college awareness component
 Help filling out the college application and financial aid forms
 A mentoring program (with past participants who are in college)

At least 6 months of classes
 Strong emphasis on developing a community of student support
 Career exploration classes
 Any other important characteristic
 Please specify other

99. Why do you consider that one [{"Q98}"] to be the most important?

100. At the college transition program in which you participated, was the #1 ranked characteristic [{"Q98}"] done:

Very well
 Somewhat well
 Somewhat poorly
 Very poorly
 Not at all

101. Have you studied or practiced ON YOUR OWN in the past 12 months to improve your reading, writing, or math skills? This does not include any courses you may have taken.

Yes
 No

102. How did you study or practice on your own to improve your reading, writing, or math skills? [WAIT FOR RESPONSE] [PROMPT WITH REMAINING QUESTIONS]

Educational TV
 Educational video
 Internet
 Correspondence course
 Mentor or tutor
 Magazines
 Manuals
 Books
 Audio media (podcast/CD)
 Online practice/program
 Specify other practice

103. In the past 12 months, have you set out to learn something on your own (not part of a class or program)? [{"SUCH AS HOME-IMPROVEMENT, COOKING ..."}]

Yes
 No

104. What did you set out to learn? [DON'T READ]

Home Improvement
Prerequisite class material (English, math, reading)
Personal finances (taxes, personal investment, retirement planning)
Cooking, Culinary Arts
Health research (for personal reasons)
Business & Business Administration
Self Help, Self-Improvement (parenting, advocacy, etc.)
Specify other

**105. How did you set out to learn that subject(s)? Was it through... [WAIT FOR RESPONSE]
[PROMPT WITH REMAINING QUESTIONS]**

Educational TV
Educational video
Internet
Correspondence course
Mentor or tutor
Magazines
Manuals
Books
Specify other strategy

106. In the past 12 months, other than training for new employees, have you had formal on-the-job training?

Yes
No

107. What was it that you were learning in the most recent on-the-job training?

Training topic

**NOW, I'M GOING TO ASK YOU A SERIES OF QUESTIONS ABOUT
YOUR WORK HISTORY...**

108. Are you currently employed?

Yes
No

109. How many hours a week do you currently work on average?

Hours/week

110. Have you lost, quit, or changed your job since we last talked to you?

Yes
No

111. If yes, list your last three jobs starting with your current or most recent job and working backwards:

Job 1

—

Job 2

—

Job 3

—

112. What is your current or most recent job title? [MAKE SURE JOB TITLE IS CLEAR]

—

THE NEXT SERIES OF QUESTIONS ARE ABOUT YOUR CURRENT OR MOST RECENT JOB.

113. About how many months in total did you work in the past 12 months?

Months

114. Last week, what was your weekly take-home pay (net income) from all sources, after deductions? [I'M GOING TO GIVE YOU A LIST OF RANGES SUCH AS:]

Less than \$150
 \$150 to \$250
 \$250 to \$500
 \$500 to \$750
 \$750 to \$1000
 \$1,000 to \$1,250
 \$1,250 to \$1,500
 \$1,500 or more

115. Which of the following benefits, if any, do (did) you have access to through your current or most recent job? Did/Do you get... [READ ALL]

Health care insurance
 Dental and/or vision insurance
 Paid sick leave
 Paid vacation
 Pension or retirement plan that employers contribute to
 Paid personal days
 No benefits
 Specify other benefits

116. I'm going to read a list of activities people typically do at work. I'd like to know how often you do (did) each of them at your current or most recent job. How often do/did you...

Never

Less than once a month

Less than once a week

About once a week

A few times a week

Every day or almost every day

Read policy or safety documents
 Read work orders, schedules or forms
 Write work orders, schedules or forms
 Read reports
 Write reports
 Read e-mail
 Write e-mails
 Read a computer screen or enter information into a computer
 Look for information on the internet
 Handle money or use a cash register
 Read directions or instructions
 Write directions or instructions
 Read training materials or manuals
 Write training materials or manuals

Use math

117. Think of a typical day at work at your current or most recent job, and the activities you mentioned in the last few questions. About how much time in total do (did) you spend reading, writing, and using math?

None
 Less than an hour
 Between one and two hours
 Between two and three hours
 Between three and four hours
 More than four hours

118. How satisfied are (were) you with your current or most recent job? Are (Were) you...

Very satisfied
 Somewhat satisfied
 Somewhat unsatisfied
 Very unsatisfied

119. Are (Were) there any opportunities for advancement or promotion at your CURRENT or MOST RECENT JOB?

Yes
 No
 Don't know

120. Do (did) you feel you have the reading, writing, math and computer skills you need(ed) to advance at your CURRENT or MOST RECENT JOB?

Yes
 No
 Don't know

121. If you were (are) unemployed now, how likely is it that you would be able to find a satisfactory job with your current work history, skills and credentials? Would you say...

Very likely
 Somewhat likely
 Somewhat unlikely
 Very unlikely

122. On a scale of 1 to 5, where 1 means 'very little' and 5 means 'very much,' to what extent does your household depend on your income?

1 [Very little]
 2 [A little]
 3 [Somewhat]
 4 [A lot]
 5 [Very much]

123. Did you or anyone in your household receive any of the following benefits in the past 12 months? [READ ALL]

Social security, retirement, or disability payments
Unemployment
Other government aid
Temporary Aid to Needy Families (TANF)
Child support or alimony
Interest or dividends from savings or investments
Rent from a tenant
VA payments
Women, Infant and Children Program (WIC)
No benefits (don't read)

124. What is your best estimate of your combined annual household income? This includes income for all household members, from all sources including wages (reported and unreported), interest, rent, and support from government programs. ["I AM GOING TO GIVE YOU ANOTHER LIST OF RANGES SUCH AS:"]

Less than \$5000
Over \$5,000 but less than \$20,000
Over \$20,000 but less than \$30,000
Over \$30,000 but less than \$40,000
Over \$40,000 but less than \$60,00
Over \$60,000 but less than \$80,00
Over \$80,000
Don't know

NOW I'M GOING TO ASK YOU A SERIES OF QUESTIONS ABOUT YOUR DAILY LIFE...

125. I'm going to read a list of daily activities. I'd like to know how often you do each one when you are not a work. How often do you...

Never

Less than once a month

Less than once a week

About once a week

A few times a week

Every day or almost every day

Read directions or instructions for medicines, recipes, or other products.
Read for bank accounts or credit cards.

Use math for bank accounts or credit cards.
 Use an ATM.
 Read street maps.
 Read entertainment schedules or TV guides
 Read the news section of the newspaper
 Read fiction (e.g. stories or novels).
 Read non-fiction (e.g. history, religious texts, science, biography, self-help)
 Read magazines
 Write in a journal, or write stories or poems
 Write notes, letters, or e-mails
 Send text messages on your phone
 Read manuals, how-to books, or reference books.
 Read to children and help them with school

126. Which of the following do you have in your home? Do you have a... [READ ALL]

A specific place to read or study
 Daily newspaper
 Magazines
 Dictionary or other reference books
 More than 10 books
 Calculator
 Computer
 None of the above (don't read)

127. How often do you use your computer at home?

Never
 Less than once a month
 Less than once a week
 About once a week
 A few times a week
 Every day or almost every day

128. What do you use your computer to do? Do you use it to... [READ ALL]

Write documents (word processing)
 Use social networking sites (such as facebook/ my space/ twitter, ...)
 Do art or drawing
 Manage personal or business finances
 Shop online
 Design web pages
 Manage personal contact information
 Send and receive emails
 Create presentations
 Manage photos and/or music
 Play games and/or listen to music
 Browse the internet (google, online articles, wikipedia, ...)
 Participate in online chat groups or communities
 Specify other computer use

129. Do you participate in any of the following activities? [READ ALL]

Religious activities beyond attending services
 Social group that meets regularly
 Sports group
 Neighborhood activities
 Volunteering
 No regular social activities
 Specify other social activities

130. Are you registered to vote in any country?

Yes
 No
 Don't know

131. How many times have you exercised your right to vote in local, state or national elections? Would you say you...

Have never voted
 Have voted once or twice
 Have voted a few times
 Have voted many times
 Vote in every election unless something prevents me
 N/A

132. In the past 12 months, have you worked with others in your neighborhood or community to do something for the benefit of the whole community? [*If needed*: FOR EXAMPLE, ORGANIZING A CRIME-WATCH OR DOING A FUNDRAISER?]

Yes
 No

133. This next question asks about how you get your information about current events, public affairs and the government. On a scale of 1 to 5, where 1 is 'none' and 5 is 'a lot', how much information do you get generally get from each of the following sources:"

(None) 1

2

3

4

(A lot) 5

Friends, family members, or coworkers
Newspapers
Magazines
TV
Radio
Internet on computer
Internet on cell phone
Cell phone application

134. Do family, friends or household members ever help you with reading, writing, or math you do in your daily activities? [*If needed: SUCH AS WHEN READING MEDICINE BOTTLES, BILLS, ETC.*]

Yes
No

135. What kinds of activities do you get help with?

Activities

136. On your days off work, how much time do you usually spend doing the following? How much time do you spend...

Never

Less than an hour

More than an hour

Reading.
Writing
Using math

137. What is the job or career you have in mind as your goal?

Job or career

138. Do you have the credentials to get that job?

Yes
No

139. Do you have the skills to get that job?

Yes
No

140. What else do you need to do to get that job? Be as specific as possible.

141. What type or level of education would you ultimately like to get?

Professional Certificate (e.g. dental assistant, computer, massage, or culinary arts program)
Associates Degree (2 year)
Bachelor's Degree (4 year)
Master's Degree
Doctorate Degree
Don't know
Specify other degree

Now I'm going to ask you some questions about the people who you feel help you get ahead in life. These could be friends, family, coworkers, employers, people in the transition program, fellow church or group members, or others. These people might support you with money, advice, information, child care, counseling, encouragement, or any of the many ways that we rely upon others for help in life.

142. About how many people do you or could you rely on for support? Would it be...

No one
1-5 people
6-10 people
11-20 people
More than 20 people

143. What are the first names of the people that you rely on most? [PROBE IF R NAMES FEWER THAN FIVE PEOPLE]

Person 1

Person 2

Person 3

Person 4

Person 5

144. What is each person's relationship to you? [READ PERSON ONE-BY-ONE]

{Q143.a}

{Q143.b}

{Q143.c}

{Q143.d}

{Q143.e}

Parent
 Sibling
 Child
 Spouse or partner
 Other relative
 Coworker
 Fellow student
 College prep teacher or staff member
 Other teacher
 Priest or other religious leader
 Therapist/Counselor
 Friend
 Other

Specify {Q143.a} relationship

Specify {Q143.b} relationship

Specify {Q143.c} relationship

Specify {Q143.d} relationship

Specify {Q143.e} relationship

145. What is the highest level of education each person attained? [READ PERSON ONE-BY-ONE]

{Q143.a}

{Q143.b}

{Q143.c}

{Q143.d}

{Q143.e}

No schooling
Some elementary
Sixth grade
Eighth grade
Ninth grade
Tenth grade
Eleventh grade
Earned a GED
Graduated high school
Some college
Two year or vocational degree
Graduated college
Completed graduate school
Don't know

146. What types of support do you or could you get from each person? [READ PERSON ONE-BY-ONE]

{Q143.a}

{Q143.b}

{Q143.c}

{Q143.d}

{Q143.e}

Anyone else

Money

Educational counseling, information, or advice
 Emotional support or advice
 Help with children/ child care
 Help with transportation
 Help with academics
 Help with work responsibilities
 Help with household responsibilities
 Care for me if I'm sick
 Other help

Specify other person (people) who help you:

Specify {Q143.a} support

Specify {Q143.b} support

Specify {Q143.c} support

Specify {Q143.d} support

Specify {Q143.e} support

"This final section of the survey is similar to a personality quiz. There are absolutely no right and wrong answers! I will start by reading a series of statements aloud. Please tell me how often do you do each of them, ranging from 1 (never) to 5 (always)."

147. How often, if at all, do you do any of the following?

1 [Never]

2 [Infrequently]

3 [Sometimes]

4 [Frequently]

5 [Always]

Make a list of things you have to do each day

Plan your day before you start it

Have a clear idea of what you want to accomplish during the next week

Find yourself doing things which interfere with your school or work because you don't like to say "No" to people

Feel you are in charge of your own time, by and large

Feel that there is room for improvement in the way you manage your time

Continue to do activities or routines even when you find they waste your time

148. Please indicate the extent to which you agree or disagree with each of the following items:

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

I am sometimes looked up to by others

I get easily discouraged when I try to do something and it doesn't work

In groups where I am comfortable, I am often looked up to as a leader

Once I start something, I finish it

When I believe strongly in something, I act on it

My friends and relatives don't feel a college education is necessary

When I am in a classroom setting, the grades I get don't really reflect what I can do

149. Can you think of two examples where you have ever been in a leadership position (where you organized something), such as at work, in a club, in high school, at your church, at a community group, etc.?

150. This survey is intended to give us enough information so that we could construct a "story" about your life and educational activities over the past years. Since this concludes our final

survey, before we finish talking is there anything else you can think of that you feel is important for us to know?

Thank you for participating in the ATLAS Fourth Year Survey.

**Please Click on the SUBMIT button below to complete the survey.
When you do, we will be notified to send your money order to you.**