

REVERSE TRANSFER, THEN AND NOW:
A DESCRIPTIVE ANALYSIS OF REVERSE TRANSFERS

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ABSTRACT

Student mobility in higher education has garnered much interest by researchers and institutions alike as enrollment, persistence, and graduation rates continue to be areas of interest and concern. Reverse transfer is a unique type of mobility wherein students begin at a 4-year postsecondary institution and subsequently transfer to a 2-year college. This study provides descriptive analyses about the relationship between a student's pathway through college and subsequent outcomes. Quantitative results indicate that there is a negative impact on degree attainment and time to degree when students reverse transfer. However, reverse transfer students are more likely than students who begin a 2-year college and vertically transfer to a 4-year institution to complete a bachelor's degree. Reverse transfer students experience less annual average earnings than students who started at a 4-year institution and do not reverse transfer. Qualitative findings suggest that not much has changed over time in the higher education landscape to assist undergraduates who participate in reverse transfer. The students in this study engaged in reverse transfer for a variety of reasons and with diverse goals. Results show that while there were varying experiences at the initial 4-year institution that ranged from students really enjoying their experience to strong feelings of dislike, it was clear students felt the need to make a change in order to continue pursuing their goals. And while the participants did not label their reverse transfer movement as "backward" but rather described how reverse transferring gave them an opportunity to complete general education, figure out their major, or set them on a new career path, it did add time to degree completion or goal achievement.

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Chapter 1: Introduction

Student transfer in postsecondary education is prevalent and no longer does the “traditional” vertical transfer pathway of attending a 2-year college followed by a 4-year institution fully capture student mobility in higher education. Rather there exists a variety of ways in which students progress through the system. Undergraduate students are increasingly participating in these other enrollment patterns that include beginning their postsecondary education at 4-year institutions and subsequently transferring out, either to another 4-year institution (called a lateral transfer) or to a 2-year college¹ (a reverse transfer). In fact, nationally, the percentage of students who start at a 4-year institution and subsequently transfer to another institution is nearly equal to the percentage of students who start at 2-year institutions and vertically transfer (38.5% compared to 37%) (Shapiro et al., 2018). And of those who start at a 4-year college, half of them transfer to a 2-year institution (Shapiro et al., 2018), making 2-year colleges the most prevalent transfer destination for students who start in a 4-year institution. While community colleges have long been considered an important entry point into higher education, this finding demonstrates that community colleges are also an essential part of student mobility in postsecondary education regardless of where the student begins.

Reverse transfer², coined *reverse* because its direction and goals are considered the opposite of traditionally viewed vertical transfer movement (LeBard, 1999; Renn & Reason,

¹ Throughout the paper, the terms community college and 2-year school are used interchangeably.

² The literature notes three types of reverse transfer students: 1) Undergraduate reverse transfers who attended a four-year institution but did not complete a degree before enrolling at a 2-year college; 2) Graduate or post-baccalaureate reverse transfers, who earned at least an undergraduate degree prior to enrolling at a 2-year college; and 3) Reverse credit transfer, the process in which community college students who transfer to four-year schools prior to receiving their associate degrees are able to receive a 2-year degree if they send their transcript back to their community college (Liu, 2016). These policies allow students to receive a degree or certificate for work completed so far, regardless of the institution where the final degree requirements are completed (Shapiro et al., 2015). The focus of this study is solely on undergraduate reverse transfer students.

2013; Townsend & Dever, 1999), has not been the subject of much discussion in the academic literature despite its prevalence. We know very little about the outcomes and potential benefits and disadvantages of reverse transfer behavior. It may be assumed that reverse transfer equates with failure and should be discouraged. Transferring to a community college may divert reverse transfer students from returning to 4-year institutions to complete a bachelor's degree. However, attending a 2-year college could give those who otherwise may not complete a 4-year college degree a chance to continue with their postsecondary education. Additionally, and important to keep in mind, students may be leaving their 4-year institute at a point when they have completed the goal for which they enrolled or have established a new goal, regardless of whether they have completed a degree. These paths may be considered a success depending on the students' goals (Adelman, 2006; Bailey, Jenkins, & Leinbach, 2005).

There is a need for a better understanding of how student mobility is related to student college and post-college outcomes. This study seeks to add to the existing research and help better understand the reasons for and consequences of reverse transfer related to degree attainment, time to degree, and labor market earnings. As noted, while 2-year colleges give those who otherwise may not complete a 4-year college degree a chance to continue with their postsecondary education, transferring to a 2-year college may be stopping reverse transfer students from returning to a 4-year institution with more credentialing options. Additionally, stopping and starting at a new institution can easily add to students' time to degree completion as new requirements must be fulfilled and there is a potential loss of credits.

Degree completion is an important outcome of interest as individuals with more education enjoy long-term financial gain, job stability, career satisfaction, better health, and success outside of the workplace. This study uses quantitative data from the National

Longitudinal Survey of Youth 1997 (NLSY97) that allow for analyses of outcomes beyond six years of high school graduation, a common measurement in other nationally representative datasets when it may be too soon to examine degree completion and labor market entry for a student who reverse transfers. Participants in NLSY97 began being surveyed in 1997 when they were ages 12 to 18, which makes them ages 38 to 44 today. Students have engaged in reverse transfer behaviors as early as the 1950s and continue to do so today. To provide some context to the empirical results and to explore if anything has changed over time, students were interviewed in 2020 for a more current look at reverse transfer. Using qualitative data from interviews of eight students who participated in reverse transfer behavior, this study provides additional context to better understand the reasons for and outcomes of such enrollment behavior two decades later. Using descriptive statistics and regression analysis in combination with in-depth interviews and thematic analysis, this study investigates reverse transfer behavior then and now.

The analyses offer descriptive evidence about the relationship between a student's pathway through college and subsequent outcomes. Quantitative results indicate that there is a negative impact on degree attainment and time to degree when students reverse transfer. However, reverse transfer students are more likely than students who begin a 2-year college and vertically transfer to a 4-year institution to complete a bachelor's degree. Reverse transfer students experience less annual average earnings than students who started at a 4-year institution and do not reverse transfer. Qualitative findings suggest that not much has changed over time in the higher education landscape to assist undergraduates who participate in reverse transfer. The students in this study engaged in reverse transfer for a variety of reasons and with diverse goals. Results show that while there were varying experiences at the initial 4-year institution that ranged from students really enjoying their experience to strong feelings of dislike, it was clear

students felt the need to make a change in order to continue pursuing their goals. And while the participants did not label their reverse transfer movement as “backward” but rather described how reverse transferring gave them an opportunity to complete general education, figure out their major, or set them on a new career path, it did add time to degree completion or goal achievement.

Problem Statement

The overwhelming focus of research and policies on vertical transfer movement creates a body of literature that neglects a sizable portion of students following more complex enrollment patterns. And since students who transfer out of 4-year institutions are often considered lost to student departure, there is a lack of knowledge about students who move to other institutions and the outcomes of that behavior. The existing literature on multi-institution enrollment patterns and reverse transfer is sparse and has several limitations. Earlier studies used data from a single or small set of institutions (e.g., Bach et al., 1999; Catanzaro, 1999; Kajstura & Keim, 1992; Mitchell & Grafton, 1985; Steenhoek, 1986; Winter et al., 2001), which makes it challenging to draw broad conclusions about the background characteristics of reverse transfer students, their reasons for changing colleges, or outcomes such as degree completion. More recent research has utilized nationally representative data (e.g., Goldrick-Rab & Pfeffer, 2007, 2009; Ishitani & Flood, 2018; Kalogrides & Grodsky, 2011); however, many of those longitudinal datasets only follow students for six to eight years after high school graduation, when it may be too soon to examine degree completion or workforce entry. Furthermore, despite its prevalence, only a handful of studies have attempted to examine the outcomes of reverse transfer such as labor market returns with causal methods (e.g., Kalogrides & Grodsky, 2011; Liu, 2021).

Student mobility is an important phenomenon to examine because it plays a significant role in students' degree completion, an indicator of student success. The importance of degree

attainment is difficult to dispute given the labor market benefits and earning premiums experienced by college graduates and the diverse non-monetary benefits to college attainment such as lower unemployment rates, healthier lifestyles, and higher levels of civic engagement and volunteerism (Baum & Ma, 2007; Belfield & Bailey, 2011; Cutler & Lleras-Muney 2010; Giani, Attewell, & Walling, 2020; Hout, 2012; Pascarella & Terenzini, 2005; Zajacova & Lawrence 2018). Thus, more research is needed on what, if any, consequence changing colleges has on degree attainment. Earlier existing research that has controlled for the number of colleges attended has produced mixed results, with some finding no effect of mobility and others finding small, negative effects (Adelman, 1999, 2006; McCormick & Carroll, 1997). As students are increasingly transferring multiple times and earning credits from different institutions before graduating with a degree (Simone, 2014), more research on how students move through postsecondary education is necessary, especially on reverse transfer students who have been mostly invisible in the data.

As noted earlier, students who depart from their original institution of enrollment are often labeled as dropouts by the institution because of the practice of classifying any departing students as such (Hossler et al., 2012; Li, 2010). Consequently, little attention is paid to where students who transfer go or what happens to them after they leave, leading to a lack of knowledge about students who move to other institutions and the outcomes of that behavior. Many states and institutions lack the ability to track individual students as they move from one college to another. Most community colleges do not have robust student information databases and, as a result, are unable to identify reverse transfer students in their institutions (Hillman, Lum, & Hossler, 2008). Federal reporting mandates have historically excluded students who attend part-time and those who transfer (Abdul-Alim, 2017). It was not until recently that the

National Center for Education Statistics (NCES) changed its reporting procedures for the IPEDS Outcomes Report to include students who attend part-time or are non-first-time entering students (U.S. Department of Education, 2016). The increase of multi-institutional attendance means that institutions not only need to understand the various patterns of student attendance, but also need to develop more sophisticated systems of tracking student educational progression and more extensive and flexible inter-institutional agreements. These patterns also indicate that current measures of student success, progress, and institutional effectiveness may be outdated and do not reflect actual student goal attainment.

Colleges and universities should be interested in enrollment patterns such as reverse and lateral transfer to better understand how students move through their institutions, including which institutions students are transferring to and from, what major or career track these students are pursuing, and the characteristics of students who leave their institution and why they leave. States need to be able to accurately identify the rate of reverse transfer and track this enrollment pattern. Instead of combining students who transfer and students who drop out, it is crucial to separate them, and for reverse transfer, investigate why these students move to a community college. We need to understand the factors that precede and predict this behavior. Furthermore, we need to better understand the consequences of this type of student movement. Understanding the outcomes of student mobility has policy implications as it can guide how success and accountability are measured.

This paper provides a comprehensive descriptive analysis of reverse transfer to address who participates in this enrollment behavior, what outcomes are associated with reverse transferring, and what further can we learn from students who engage in reversed transfer enrollment today. In this study, National Longitudinal Survey of Youth 1997 (NLSY97) data is

used to investigate what student characteristics are associated with reverse transfer behavior, how undergraduate reverse transfer is associated with degree attainment and time to degree, and what the earnings trends are for reverse transfer students. Then, through interview data, I explore how students two decades after NLSY97 initially began describe their experiences with reverse transfer. The reason for collecting both quantitative and qualitative data is to uncover patterns associated with reverse transfer, to investigate how students who participate in reverse transfer persist and become successful by examining how transferring is related to long-term student outcomes such as degree completion and earnings, and to provide context to these quantitative findings by understanding more about why students engage in reverse transfer behavior. The following research questions guide this study:

1. What student characteristics are associated with reverse transfer behavior?
2. How is undergraduate reverse transfer associated with degree attainment (i.e., earning an associate degree or bachelor's degree) and time to degree? How does this differ by student background characteristics?
3. What are the earnings trends for reverse transfer students and how do these vary from students who started at a 2-year college and from those who started at a 4-year college?
4. How do students who entered college and reverse transferred two decades after initial NLSY97 data collection began describe their experiences leading to the decision to transfer from their 4-year institution to a community college?
5. For what reasons do these students engage in reverse transfer?

Significance of the Study

As student enrollment patterns become more diverse and complex, more attention needs to be paid to how these patterns impact students and institutions. The fact that reverse transfer students have been admitted to and enrolled in 4-year colleges shows their readiness and aspirations for pursuing a postsecondary degree. Given that 41% of community college students

are not considered college-ready (Chen & Simone, 2016), reverse transfer students are likely to be more successful in community colleges than other 2-year students. Reverse transfer students may be choosing to attend a community college because they are struggling academically, financially, or personally. Classes at 2-year colleges are substantially cheaper than at 4-year colleges, and some research shows that they can provide a more supportive environment than 4-year institutions (Dowd, Cheslock, & Melguizo, 2008). Struggling students can temporarily enroll in community colleges before they are ready to return to a 4-year college. Thus, it is important to understand their reasons and goals for reverse transfer to a community college.

Since reverse transfer students have educational goals and attendance patterns that may not easily conform to the outcomes that institutional leaders and policymakers measure, knowledge of the goals and patterns of this group can lead to recognition of diverse needs and more accurate measures of goal attainment. Institution administrators need to be aware of enrollment and student behavioral changes that influence the need for student services, administrative policies, and instruction. Most theoretical frameworks and models for college retention are based on so called “traditional” attendance, goals, and transfer patterns. Because completion rates are so important in how we define an institution’s success, primarily because retention and completion statistics and attendance patterns influence funding levels, understanding student mobility patterns is crucial. Learning why students leave the four-institution, why they enter the community college, knowing the completion rates of reverse transfer students and the characteristics that predict completion can help institutions find ways of improving retention and determine admissions policies and program curricula. This study pays attention to how reverse transfer patterns impact students and institutions.

Findings from this study can assist college administrators to be more knowledgeable of how students progress through institutions. Knowing a college is likely to have an increasing number of transfer students can highlight why college administrators need to determine if the population of reverse transfer students is a significant subgroup of the student population and anticipate trends in student population composition. Enhanced knowledge of multiple institutional attendance, and reverse transfer in particular, can facilitate the adjustment of program policies and structures to better accommodate reverse transfer students' goals. Systems of higher education and policymakers can devise better measures for institutional effectiveness.

Definitions

In addition to the traditional vertical transfer pattern, scholars have identified other types of student mobility. Terms such as transfer swirl, vertical transfer, horizontal transfer, and reverse transfer refer to the multiple mobility patterns a student can take with regards to postsecondary attendance. Many students enroll at two or more colleges and universities during their academic career. Additionally, while the terms appear singular, the definitions may overlap depending on the individual student's transfer pattern. Displayed in Table 1.1 are definitions of several of these terms relevant for and used in this study.

Table 1.1: Transfer Patterns, Terms, and Definitions

Transfer Pattern and Term	Definition
Vertical transfer	A student who moves from a 2-year to a 4-year institution, with or without an associate degree (Townsend, 2001). Often referred to as a traditional transfer because making the transition from a community college to a 4-year university in an effort to obtain a bachelor's degree was the original way transfer was conceptualized (Bers, 2001).

Table 1.1 (cont'd)

Horizontal or lateral transfer	A student who moves from one 4-year college or university to another 4-year college or university or from one 2-year community college to another 2-year community college (Adelman, 2006; Bahr, 2009; Kearney et al., 1995).
Reverse transfer	A student who begins at a 4-year college or university and transfers to a 2-year college (Catanzaro, 1999; Goldrick-Rab & Pfeffer, 2009; Hossler et al., 2012; Kajstura & Keim, 1992; Renn & Reason, 2013; Tobolowsky & Cox, 2012; Winter & Harris, 1999). Because it is viewed that traditionally a student participates in a vertical transfer progression, transferring from a community college to a 4-year institution with the goal of acquiring a baccalaureate degree, reverse transfer is coined reverse because its direction and goals are considered the opposite of vertical transfer movement (LeBard, 1999; Renn & Reason, 2013; Townsend & Dever, 1999).
Reverse credit transfer	The transfer of credits from a 4-year institution back to a 2-year institution for the purpose of conferring an associate degree (Liu, 2016; Taylor, 2016). These policies allow students to receive a degree or certificate for work completed so far, regardless of the institution where the final degree requirements are completed (Shapiro et al., 2015). These students are considered reverse credit transfers because it refers to programs and policies that facilitate the transfer of credits from a 4-year institution back to a 2-year institution for the purpose of conferring an associate degree (Bragg et al., 2011). As these authors noted, “it is the credits that are reverse-transferred rather than the students” (p. 20). Within educational research and policy initiatives, there are additional versions of this term, including new reverse transfer, transfer back, reverse articulation, and reverse university transfer (Taylor, 2016).

Table 1.1 (cont'd)

Transfer swirl	The interplay between vertical transfer and reverse transfer. In 1990, the term 'swirling' was coined to characterize a student's back-and-forth journey in his or her postsecondary attendance patterns (de los Santos & Wright, 1990). Transfer swirl highlights students who weave through multiple higher education institutions and create a swirling journey by interacting with three or more colleges (Bahr, 2012; Borden, 2004; McCormick, 2003; Rab, 2004; Renn & Reason, 2013). The transfer swirl definition encompasses three or more colleges, as compared to a two-college transfer captured by a vertical transfer, horizontal transfer, or reverse transfer. Thus, a transfer swirling student likely attends a minimum of three institutions of higher education prior to completing a baccalaureate degree or moves between institutions two or more times (de los Santos & Wright, 1990; Renn & Reason, 2013).
Native student	A student who initially began and remained enrolled in the same institution of higher education without transferring to any other institutions (Kearney, Townsend, & Kearney, 1995).

The literature has noted there are two sub-groups within the reverse transfer population: *undergraduate reverse transfer students* and *post-baccalaureate reverse transfer students*. *Post-baccalaureate reverse transfer students* are baccalaureate degree holders, they are attending the community college after earning a bachelor's degree or higher (Chan & McIntyre, 1995). These students are often seeking personal enrichment or have a specific personal objective (Townsend & Dever, 1999). The focus of this study is on undergraduate reverse transfer students, those students who initially begin their postsecondary education at a 4-year institution and subsequently transfer to a community college or 2-year institution prior to receiving their baccalaureate degree. It excludes students who only temporarily attend the 2-year college for a

short amount of time, typically during the summer semester, usually with the intention to return earned credits to their 4-year university.

Theoretical Foundation and Factors Affecting Persistence in College

This study utilizes the following theories in order to better understand students reverse transferring and to frame student experiences that lead to a departure from a 4-year college or university to enrollment at a 2-year community college: the Inputs-Environment-Outputs (I-E-O) Model (Astin, 1993) and the Student Departure Theory (Tinto, 1975, 1993). The I-E-O Model offers a broad overview of student retention whereas the Student Departure Theory provides a more detailed framework of the inputs, environment, and outputs presented in Astin's (1993) model. Within each of these models, a student's personal demographics, personal motivations, personal goals, institutional fit, interaction with the environment, institutional integration, and desired student outcomes are all factors to consider.

Input-Environment-Output Model

Astin's (1991, 1993) Input-Environment-Output (I-E-O) Model (see Figure 1.1) states that student outcomes are a result of what students bring into an academic program and the environment experienced during the program. This framework lays out a longitudinal model that incorporates inputs (I), the college environment (E), and outputs, or outcomes (O). It illustrates how students change over time (input to outcome) as a result of elements in the college (environment) that may influence student experiences and development. The I-E-O model is an approach to describe, explain, and explore students' experiences in higher education.

In the model, inputs (I) are related to and affect both outputs and the environment. The inputs refer to the "personal qualities" that a student brings into their academic pursuits. Input variables represent characteristics that the student brings to college such as gender, race,

socioeconomic status, academic ability and other educational background, aspirations and expectations such as degree goals, intended career choice, major field of study, and life goals, learning styles, values, and attitudes, and behavioral patterns such as involvement or lack of involvement inside and outside of school (Astin, 1991).

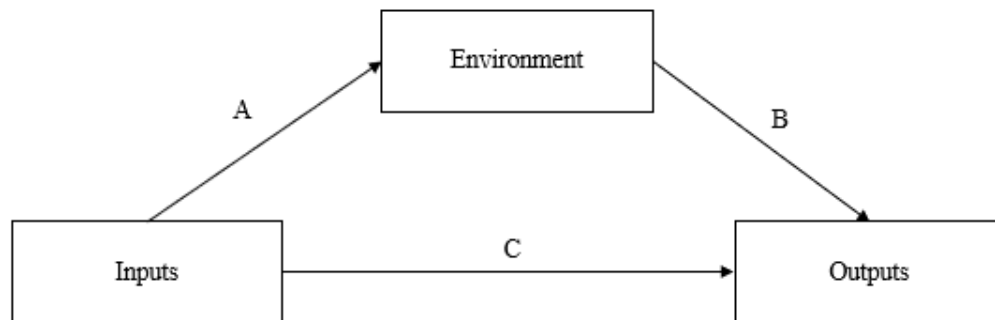
Environmental (E) variables represent the breadth of experiences (academic, social, and personal) that occur such as precollege (family, school) and college environments (including courses, peers, living arrangements, and interactions with faculty) (Astin, 1993). The environment includes academic programs, faculty, staff, teaching practices, campus facilities, the social and institutional climate, courses taken, the school's location (urban or rural), student services (registrar, counseling, parking, and financial aid), class size, student living environment, amount of financial aid received, and more (Astin, 1991). The environment also encompasses structural aspects of the institution, such as size, selectivity, and student body composition, that can affect students' experiences (Astin, 1993).

After taking inputs and environments into account, we can examine the influence of colleges and universities on student outcomes (O). There are two types of outcomes: cognitive and affective. Cognitive outcomes include subject-matter knowledge, academic ability, critical thinking ability, basic learning skills, academic achievement, and degree attainment. Affective outcomes include values, interests, self-concept, attitudes, beliefs, student satisfaction, leadership, citizenship, interpersonal relations, and hobbies (Astin, 1991).

The I-E-O model aims to assess the impact of colleges and universities on students (Astin & Antonio, 2012). For reverse transfer students, the inputs may include personal demographics (for example, first-generation college student), environmental experiences (for example, lack of integration with the 4-year university), and student desired outcomes (for example, career or

major change). The I-E-O model considers the effects of input and environmental variables simultaneously on outcomes, as well as the effects of inputs on interactions in the environment. The primary purpose of the model is to control for input differences, resulting in a more accurate estimate of how environmental variables affect student outcomes.

Figure 1.1: Astin's (1991) I-E-O Model



Student Departure Theory

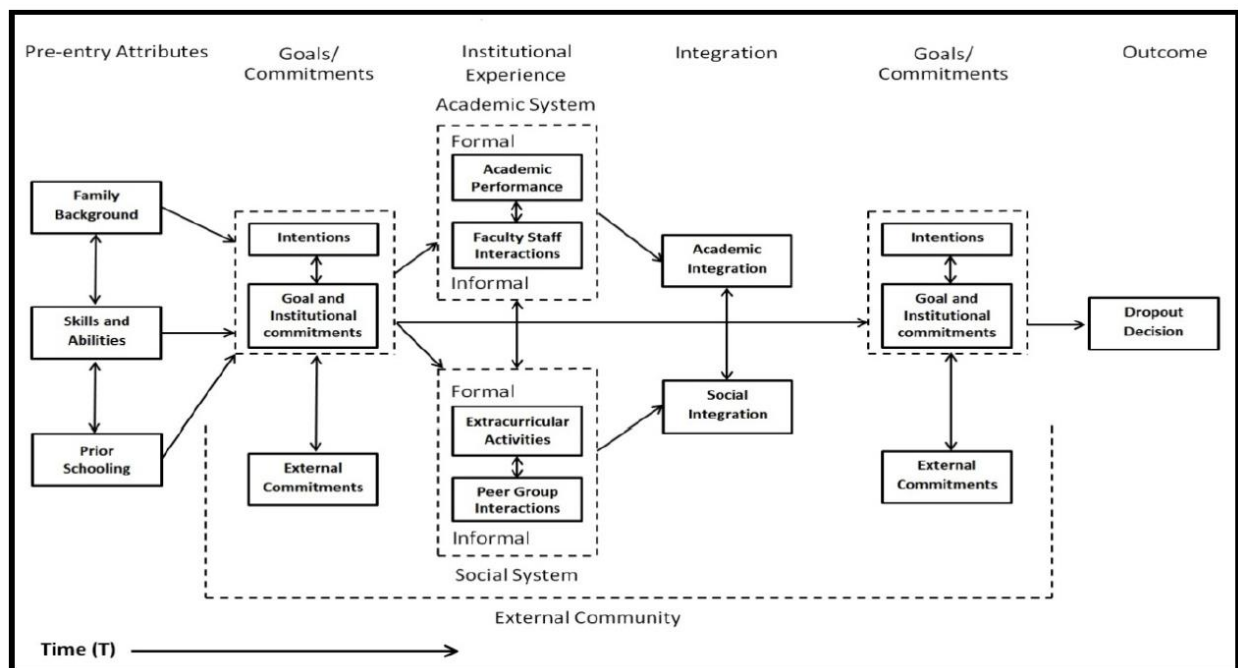
Tinto's (1975, 1993) Student Departure Theory attributes student attrition to the lack of congruency between students and institutions. Tinto (1975) explained in the theory that the practice of dropout from college is a result of the interactions the student has with both the academic and social systems, further stating that due to these experiences, the student will modify academic goals and may even leave college. Tinto's (1975, 1993) theory asserts that the matching between the student's motivation and academic ability and the institution's academic and social characteristics help shape two underlying commitments: Commitment to an educational goal and commitment to remain with the institution.

Central to Tinto's (1975, 1993) model is the concept of integration, interaction, and the stages of transition (see Figure 1.2). Tinto (1993) claims that social and academic integration are essential to student retention. Academic integration highlights a student finding and then utilizing academic resources that allow the student to feel included within the college setting.

Social integration indicates a student's comfort level and sense of belonging, often found through peers and extracurriculars external to the classroom. In other words, the theory recognizes the importance of whether or not a student feels they “fit” into an institution. Abilities, skills, interests, and demands in the academic and social system can result in the absence of integration in a student's college setting. A student's decision to stay in or drop out of college may depend on “membership” to the community, which Tinto defines as how a person interacts with and responds to the world based on their individual characteristics (Tinto, 1993).

Tinto (1993) offers five core concepts in terms of understanding student departure: (1) precollege attributes, (2) goals and commitments, (3) institutional experiences, (4) integration, and (5) outcomes. The precollege attributes, goals, and commitments are attributed to the individual student, while institutional experiences and integration are at the institutional level. Outcomes are then the combination of both the individual and institution interactions resulting in the student's decision to depart or not (Tinto, 1993).

Figure 1.2: Tinto's (1993) Student Departure Theory



The Input-Environment-Output (I-E-O) model (Astin, 1991, 1993) and the Student Departure Theory (Tinto, 1975, 1993) allow for further exploration into the potential reasons for students' reverse transfer decisions. The I-E-O model discusses the relevance and interplay of student inputs, environmental experiences, and student outcomes. The Student Departure Theory recognizes that both the individual and the institution can affect a student's decision to transfer. Central to Tinto's student departure theory is the concept of pre-entry attributes, integration, interaction, and commitment to goals impact a student's decision to stay enrolled (Tinto, 1993).

Drawing from the Input-Environment-Outcome (I-E-O) model (Astin, 1991) and the Student Departure Theory (Tinto, 1993), plus the limited amount of empirical work specific to reverse transfer, my conceptual framework posits that a combination of socio-demographic characteristics, pre-college experiences, financial and support factors, motivations, early college experiences and institutional supports, and the institutional context can assist in predicting transfer from a bachelor's granting institution to a community college.

Through variables available in the quantitative phase and qualitative phase of this study, I use variables that measure student socio-demographic characteristics including race/ethnicity, SES, gender, age, and parental education level (defined as whether or not a student's parent has attended college or earned a bachelor's degree). I include several pre-college factors such as high school GPA, goals during the college choice process, financial and support factors, and motivations. Through the qualitative phase I investigated the institutional environment experienced by the student and whether "academic" and "social" integration was achieved. Outcome measures include degree attainment and students' goals and attitudes.

Chapter 2: Review of the Literature

A primary function of the community college sector is their role in preparing students to transfer to a 4-year institution (Cohen, Brawer, & Kisker, 2014). Students transferring between postsecondary institutions represent a significant portion of the higher education population; nationally representative data from the National Student Clearinghouse suggest that approximately one third of first-time college students transfer institutions at least once while enrolled in college (Hossler et al., 2012; Shapiro et al., 2015; United States Department of Education, 2017). Nearly half (46%) of students who completed a bachelor's degree attended a community college at some point during their enrollment (National Student Clearinghouse, 2015), making student transfer and mobility a predominant feature of postsecondary education and the college student experience.

Existing research on student mobility has focused almost exclusively on community college students who transfer to baccalaureate-granting institutions (e.g., Hagedorn, Cypers, & Lester, 2008; Hagedorn, Moon, Cypers, Maxwell, & Lester, 2006; Ishitani & McKittrick, 2010; Laanan, 2001, 2007; Melguizo & Dowd, 2009; Melguizo, Kienzl, & Alfonso, 2011; Roksa & Keith, 2008; Townsend & Wilson, 2006, 2009; Wang, 2009, 2016). While the transfer from a 2-year to 4-year college pathway—what has been termed ‘vertical transfer’ due to its directionality implied in the student mobility—is still considered a critical function of the higher education system, other forms of transfer such as reverse transfer, lateral transfer, and swirling represent a much broader and expansive set of transfer pathways. This overwhelming focus on vertical transfer creates a body of literature that neglects a sizable portion of students following other enrollment patterns.

These additional patterns of student mobility have been a part of the higher education environment for some time. The seminal work of Burton Clark (1960) identified the presence of undergraduate reverse transfers attending a California junior college during the 1950s. The early reverse transfer research primarily focused on investigating how many reverse transfer students existed, finding that reverse transfer student enrollment ranged from 10 to 27% of all student enrollment at community colleges (Brimm & Achilles, 1976; Clark, 1960; Heinze & Daniels, 1970; Hudak, 1983; Rodrigues, 1991). Despite the prevalence of students leaving 4-year institutions for community colleges, the existing literature on this enrollment pattern is relatively sparse. As research on this enrollment behavior has continued through the years, we still know very little about the transfer behaviors and outcomes of students who reverse transfer, and this group has received relatively little attention from policymakers, scholars, or practitioners (Taylor & Jain, 2017).

The purpose of this literature review is to examine two distinct dimensions of reverse transfer: (a) the factors associated with and the motivations for reverse transfer, and (b) degree attainment and labor market outcomes. The first section of the literature review answers two specific questions: (1) What student demographics and characteristics are associated with reverse transfer? and (2) Why do students reverse transfer? The second section of the literature review answers two additional questions: (1) What are the academic outcomes of reverse transfer students? and (2) How does reverse transfer influence labor market outcomes?

Factors Associated with Reverse Transfer

As the number of students who participate in reverse transfer and swirling patterns increase, it is likely the factors driving those decisions have become more varied. In the past few decades, reverse transfer students have appeared in significant numbers and have affected the

dropout patterns in 4-year institutions and enrollment patterns in community colleges.

Approximately 37% of undergraduate students transferred at some point during their academic careers to a different college or university (Shapiro et al., 2015). Of those students who transferred, approximately 20% followed a vertical transfer path from community colleges to 4-year institutions while approximately 15% engaged in reverse transfer (Hossler et al., 2012).

These student mobility patterns have received far less attention from scholars, thus the research on students who reverse transfer or swirl is relatively limited.

Student Demographics

Many of the factors commonly associated with student mobility and the specific transition of reverse transfer have received mixed results in the literature, especially in quantitative studies. Kim, Saatcioglu, and Neufeld (2012) found that students from lower socioeconomic backgrounds are more likely to experience reverse transfer, whereas McCormick and Carroll (1997) noted that reverse transfer was more prevalent among middle socioeconomic status students, specifically citing that it was less common for students from low and high socioeconomic backgrounds to reverse transfer. This finding may reveal the role financial aid plays as students from middle income households tend to receive less free aid, a conclusion which has been substantiated by other studies: reverse transfer was less common among students who received financial aid compared to those who did not (Hillman et al., 2008; McCormick & Carroll, 1997). These findings suggest that lack of funding for a college education may lead to reverse transfer behavior as students leave in an effort to find more affordable tuition (Bailey, 2003; Herzog, 2005; Phelan, 1999).

Several of these studies have sought to understand which students leave 4-year colleges to attend community college and why. Parental education and high school achievement remain

the most consistent predictive factors of reverse transfer. Ishitani and Flood (2018) found students who reverse transfer to 2-year institutions are more likely to have lower admission test scores and to be first-generation college students. Likewise, Kalogrides and Grodsky (2011) showed students who reverse transfer tend to come from families with lower levels of education than students who earn bachelor's degrees from their first 4-year college and are more likely to be students with lower high school grade point averages and enrolled in less demanding courses while in high school. Crisp, Potter, and Taggart (2022) conclude that students who had taken less advanced mathematics coursework during high school were shown to be disproportionately likely to transfer, with the highest proportion of students who completed Algebra II or lower being shown to reverse transfer. Goldrick-Rab and Pfeffer (2009) found reverse transfer was less common among students with highly educated parents, wealthier parents, and parents from non-working-class families; however, when demographic characteristics and high school achievement are taken into account, family income and occupational class position is less predictive, while parental education remains significant.

One reason students from low socioeconomic backgrounds may be more likely to reverse transfer may have to do with their pre-college experiences. Students from lower socioeconomic backgrounds often have access to insufficient and, at times, inaccurate college admissions and financial aid information (Bettinger & Long, 2009; Perna, 2006; Tierney & Venegas, 2009). McDonough (1997) and Perna (2006), for example, assert that the availability of college information is closely tied to socioeconomic environment, with low-SES students being less likely to have adequate access to individuals within their homes or communities who can transmit college knowledge. As a result, many low-SES students must rely on their school, specifically the high school counselor, for college-related support (Venezia, Antonio, & Krist,

2003).

Several studies found that first-generation college students are more likely to reverse transfer than their non-first-generation peers (Crisp, Potter, & Taggart, 2022; Goldrick-Rab & Pfeffer, 2009; Ishitani & Flood, 2018; Kalogrides & Grodsky, 2011). Student mobility that occurs once enrolled in a 4-year college or university may be symptomatic of an uninformed or ill-informed choice made prior to enrollment. Many first-generation college students lack access to information about college entrance requirements, selection criteria, and cost (Kirst & Venezia, 2004). Research demonstrates students participate in lateral and reverse transfer for a variety of reason that showcase a mismatch because of major choice, academic challenges, financial stress, or desire to be closer to home (Catanzaro, 1999; DesJardins et al., 2002; Hillman et al., 2008; Townsend & Dever, 1999; Townsend & Wilson, 2009; Winter & Harris, 1999, Winter et al., 2001).

Research on reverse transfer has shown that female students are more likely to reverse transfer than male students (Crisp et al., 2022; Hillman et al., 2008; Liu, 2016), while the impact of race/ethnicity and age on the likelihood of reverse transfer has received conflicting results across studies. Bach and colleagues (1999) found that females transferred more frequently than male students. Female students in their study were three times more likely than male students to make multiple transitions. Among struggling and high achieving students in public 4-year colleges, Liu (2016) found women to be slightly more likely to engage in reverse transfer. Using data from the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14), Crisp and colleagues (2022) found that female-identifying students represented a higher proportion of students who reverse and laterally transferred. Hillman, Lum, and Hossler (2008) also found women are more likely to reverse transfer and posited one reason might be because

female students may be attracted to fields such as nursing and health that are quicker to complete and more affordable at community colleges than at 4-year institutions. An additional explanation could be related to retention research that finds women to be more likely to drop out (Bers & Smith, 1991; Cabrera, Nora, & Castaneda, 1993). Hillman and colleagues (2008) argue it is possible that reverse transfer behaviors elicit similar patterns.

Though results on the race/ethnicity of students who reverse transfer are decidedly mixed, the most recent research on the subject used a national longitudinal dataset and showed that students who identify as non-White were more likely to reverse transfer, showing 40% who reverse transferred, and 33% who laterally transferred were African American or Latinx (Crisp et al., 2022). There are also conflicting results concerning how age influences participation in reverse transfer and swirling patterns. Kearney and colleagues (1995) found that 57% of the students who swirled fell in the 18 to 22-year-old age range, an age group typically referred to as traditional students, and 29% were between the ages of 23 to 28-years-old. In another study, age was shown to be significantly and inversely related to reverse transfer, meaning that students who were older had decreased odds of reverse transfer (Crisp, et al., 2022).

Student Characteristics

One possible reason that students participate in reverse transfer is because they experience academic difficulty at their 4-year institution. Indeed, there is evidence that a primary reason for reverse transfer is students struggle academically at their 4-year institution (Bach et al., 1999; Goldrick-Rab, 2006; LeBard, 1999). Hillman, Lum, and Hossler (2008) found that students who earned low college grades were significantly more likely to move down to a community college. Reverse transfer was more common among students who enrolled in

developmental coursework in college and had lower average first-year college GPAs than students who did not transfer or who laterally transferred (Crisp et al., 2022).

Sometimes this academic struggle results in a forced transfer when the institution requires students to improve grades if they wished to return, meaning students may need to leave their 4-year college due to issues such as academic disqualification (Hagedorn & Castro, 1999; LeBard, 1999). However, students could also experience academic challenges at their 4-year institution and voluntarily transfer to the community college where they may feel they have a better chance to be successful. These students may attend community college because they want to improve their basic skills (Johnson, 2006; Winter, Harris, & Ziegler, 2001). And as mentioned previously, community colleges provide more supportive environments where students feel they will be more able to progress adequately (Dowd et al., 2008; Johnson, 2006). Townsend and Dever (1999) found that students who experienced academic difficulty at their 4-year institutions improved their grades during their attendance at community college and had improved results in grades when they returned to a 4-year institution.

Motivations for Reverse Transfer

The reasons why students choose to transfer to a community college after initially enrolling at a 4-year institution are much less clear and are harder for institutions to predict. Recent research suggests that transfer students who first attend a bachelor's granting institution may be very different from students who transfer from a community college. Early researchers (Kuznik, 1972; Meadows & Ingle, 1968) assumed that students engaged in reverse transfer behavior because of academic difficulty at the 4-year institution. More recent studies found that while students may reverse transfer for reasons related to poor academic performance, many choose to attend community college for a variety of other reasons. For some, the reason is related

to wanting to leave the 4-year institution. Examples include personal reasons related to their college experience such as poor institutional fit, financial reasons, academic difficulty or poor academic performance at the 4-year college, and changes in or inability to decide on academic or career goals (Hossler et al., 2012; Hagedorn & Castro, 1999; Kajstura and Keim, 1992; Mullin & Phillippe, 2009; Townsend, 2001; Winter & Harris, 1999).

For other students, the reason for reverse transfer has more to do with reasons why they are choosing to enroll in the community college. Those reasons include saving money, closer proximity to home, lower tuition, convenient class times, greater instructional quality, job training opportunities, to improve their GPA, personal circumstances necessitating a move, and relatives' or friends' advice (Hossler et al., 2012; Hagedorn & Castro, 1999; Kajstura and Keim, 1992; Mullin & Phillippe, 2009; Townsend, 2001; Winter & Harris, 1999). The students in McGlynn's (2006) study stated additional reasons for their decision to attend the community college, including feelings of missing home, being overwhelming by the size of the 4-year university and large classes, and having a sense of anonymity. Findings from Kalogrides and Grodsky (2011) suggest some students reverse transfer in part due to a misalignment of their academic preparation and college ambitions.

Institutional Satisfaction

Once enrolled in college, institutional factors play a role in reverse transfer decisions. Some of these are more structural and cultural, thus affecting students perceived institutional fit. McCormick and Carroll (1997) found a primary reason for reverse transfer was a lack of satisfaction with the primary institution. Unsurprisingly, students who did not transfer reported, on average, higher levels of engagement and belonging on campus when compared to students who reverse transferred (Crisp et al., 2022). Some qualitative studies found evidence that reverse

transfer students are more satisfied with their college education after they transferred (Hill-Brown, 1991; Kuznik, 1972; Vaala, 1991). For instance, Brimm and Achilles (1976) reported that students prefer the atmosphere at the community college because it is more relaxed and nonthreatening compared to the 4-year institution they had left, a factor which they indicated contributed to improved academic performance, along with small class sizes. Other positive elements include more individualized attention, faculty assistance in planning academic programs, higher quality of classroom instruction at the community college, and the apparent interest on the part of community college faculty in teaching rather than in research and writing (Brimm & Achilles, 1976; Hill-Brown, 1991; Kajstura & Keim, 1992; Vaala, 1991). Thus, students may reverse transfer as they seek the benefits of smaller campuses and an emphasis on student support services often available in community colleges.

Goal Change

Some students use the community college to explore career and other life options, achieve specific short-term employment objectives, and pursue vocational or personal interests unrelated to degree attainment (Bach et al., 1999). McCormick and Carroll (1997) found that students stated new educational expectations as reason for reverse transfer. Winter et al. (2001) found that reverse transfer students choose to attend community college because they wanted to complete an associate degree. Hillman and colleagues (2008) found that students whose major was undeclared were more likely to reverse transfer than students who had chosen a major at the 4-year institution, with the exception of those students interested in computer science and health majors. Health majors were the only students who were more likely than undecided students to reverse transfer.

Undergraduate reverse transfer students have a variety of educational goals and reasons

for their reverse transfer movement, including wanting to attain an associate degree or a technical degree or certificate, complete coursework necessary for transfer back to 4-year college or university, and financial benefits given the comparative cost at a community college is lower (Catanzaro, 1999; Winter & Harris, 1999; Townsend, 2001; Ishitani & Flood, 2018; Hillman et al., 2008). Considering one of the reasons is to complete a degree, either at the community college or through a return to a 4-year institution, reverse transfer students likely do not exhibit behavior similar to that of dropouts. Overall, research predicting transfer from a bachelor's granting institution suggests that students' pre-college experiences, motivations and expectations, social capital, and financial needs and concerns may serve to directly or indirectly influence students' decisions to transfer. As the number of students who participate in reverse transfer increases, it is likely the factors driving those decisions have become more varied.

Academic Outcomes

While research has revealed that the goals of reverse transfer students may vary, their decision to stay enrolled in higher education rather than dropout entirely indicates a desire to complete some type of degree. The plan to return to a 4-year institution is not uncommon among reverse transfer students. In one study of a nationally representative sample, a majority of students who started at a 4-year institution and then transferred to a community college stated it was their intention to return and complete a 4-year degree, a goal they seemed intent on keeping as nearly 75% of these students were already exploring transfer options before the end of their first year (Shapiro et al., 2017). Similarly, Winter and colleagues (2001) found that reverse transfer students choose to attend the community college because they want to complete courses to transfer to another institution and improve their grade point average.

Even though reverse transfer students do return to 4-year institutions and obtain bachelor's degrees, existing literature has found that reverse transfer is associated with lower bachelor's degree attainment. Four studies used large-scale datasets to investigate the academic outcomes of reverse transfer students (Goldrick-Rab & Pfeffer, 2009; Hossler et al., 2012; Kalogrides & Grodsky, 2011; Yang, 2007). Comparing reverse transfer students to exclusively 4-year college attending students, these studies found that reverse transfer students have higher postsecondary completion rates in general, though they were more likely to earn 2-year college credentials and less likely to earn bachelor's degrees. Using data from the last three waves of the National Education Longitudinal Study of 1988 (NELS:88), Goldrick-Rab (2006) found that while 41% of students in the sample who reverse transferred eventually returned to a 4-year college or university, only 22% earned a bachelor's degree. Kalogrides and Grodsky (2011) reported similar outcomes with 26% of reverse transfers earning an associate degree or certificate and only 18% returning to a 4-year college to earn a bachelor's degree. Hossler and colleagues (2012), using data taken from the StudentTracker database administered by the National Student Clearinghouse, examined outcomes six years after initial enrollment and found that 18% of reverse transfer students had completed a bachelor's degree and 16% had transferred back to a 4-year institution and were still enrolled. Approximately one third of reverse transfer students had either completed a 2-year college degree or were still enrolled at a 2-year college (Hossler et al., 2012).

Research indicates that participating in reverse transfer behavior may negatively impact time to degree. Many of the longitudinal datasets used in previous studies only follow students for six to eight years after high school graduation, when it may be too soon to examine degree completion for a student who reverse transfers. Bach and colleagues (1999) discovered many

students persisted to the baccalaureate degree over extended periods of time, with a range of 4 to 29 years and a mean of 10.7 years. Similarly, Goldrick-Rab (2006) found that of the reverse transfer students who returned to a 4-year college or university to complete a bachelor's degree, a small percentage did so within eight years with many taking longer than eight years. Liu (2016) found differences in time to degree by achievement levels, noting that reverse transfer students with GPAs lower than 3.0 tended to stay in school longer than other students, including other low-achieving students who decided to stay at their 4-year institution.

To understand more about reverse transfer students who complete postsecondary education, it is useful to explore what differentiates reverse transfer students who earn a degree and those who did not. Winter, Harris, and Ziegler (2001) conducted a statewide survey of reverse transfer students enrolled at the 14 community colleges in Kentucky in which students were asked to rank reasons and goals for attending a community college on a 5-point Likert scale. Using discriminant analysis, the authors found that reverse students who did not earn a bachelor's degree gave significantly more importance to completing an associate degree, improving basic skills, completing courses for transfer to another institution, and improving grade point average compared to students who did return to a 4-year institution to earn a bachelor's degree. Those who did complete a bachelor's degree placed more importance on acquiring skills for career change, obtaining training related to current job, and attending a college close to work.

It might be useful to draw from research on transfer from 2-year to 4-year institutions (vertical transfer) as reverse transfer students who wish to return to a 4-year college or university would be considered vertical transfer students. From vertical transfer research we know there exists a significant difference between the percentage of students who indicate a desire to

transfer and the percentage that actually transfer (Pascarella & Terenzini, 2005; Wang, 2016). Nationally representative data show that approximately 80% of community college students intend to earn a bachelor's degree, but only 23% transfer within five years (Horn & Skomsvold, 2011). Additionally, race/ethnicity remains a salient factor in the vertical transfer experience (Crisp & Nuñez, 2014; Dowd, 2007; Hagedorn & Lester, 2007; Jain, Herrera, Bernal, & Solorzano, 2011; Perez & Ceja, 2010). Using two national datasets to examine the racial transfer gap, Crisp and Nuñez (2014) found 45% of White community college students transferred compared with only 32% of African American and Latinx students, a 13% gap. In an analysis of data from the California community college system, Wassmer, Moore, and Shulock (2004) found that community colleges with higher Latinx or African American student populations had lower transfer rates, even after controlling for students' academic preparation and socioeconomic status. Wood, Nevarez, and Hilton (2011) used data from the National Postsecondary Student Aid Study dataset and found that White community college students were 71% more likely to transfer than students of color.

There is evidence to support a gap also exists in degree attainment for vertical transfer students. According to the National Clearinghouse Student Research Center, out of 852,439 students who first enrolled at a community college, 31.5% transferred to a 4-year institution within six years and 42% of those who transferred earned a bachelor's degree within six years of starting their postsecondary education (Shapiro et al., 2017). Those bachelor's degree completers represent just 13.3% of the original starting cohort. The likelihood of vertical transfer student degree attainment relates to socioeconomic status, race, and educational background (Freeman, Conley, & Brooks, 2006; Shapiro et al., 2017; Wang, 2009). For example, Wang (2009) showed that the probability of community college transfer students' attaining a bachelor's degree was

significantly associated with gender, socioeconomic status, high school curriculum, educational expectation upon entering college, grade point average earned from community colleges, college involvement, and math remediation. Previous research has shown underrepresented minority students who enroll in community colleges are less likely to transfer and complete bachelor's degrees than their White counterparts (Bailey et al., 2005; Wang, 2009; Zamani, 2001). Limited financial resources, inadequate academic preparation, and feelings of cultural alienation can hinder the transfer and degree completion of students of color (Eggleston & Laanan, 2001; Rendon & Nora, 1994; Zamani, 2001), although a strong academic background has been found to diminish this difference (Hagedorn et al., 2008; Hoachlander, Sikora, & Horn, 2003).

It should be noted that other studies have found evidence indicating that once students do successfully transfer to a 4-year institution, their success rates are comparable to those who start there as first-time college students (e.g., Melguizo, 2009; Melguizo & Dowd, 2009; Melguizo, Kienzl, & Alfonso, 2011). The probability of baccalaureate attainment for vertical transfer students is comparable to that of similar students attending the same 4-year institution who never transferred (Xu, Jaggars, Fletcher, & Fink, 2018). Community college transfer students, following a slight dip in performance after initial transfer, performed at equivalent levels to students who started at the college (Carlan & Byxbe, 2000; Glass & Harrington, 2002; Xu et al., 2018), a finding supported by the literature on transfer shock.

We know from literature on vertical transfer that credit loss, even when transfer policies are in place, is an issue related to bachelor's degree completion. Many transfer students lose credits during the transfer process, which is linked to decreased likelihood of earning a bachelor's degree (Monaghan & Attewell, 2015). Reverse transfer students, if they return to a 4-year institution, may experience two periods of potential credit loss: once in their transition to the

community college from the 4-year and then again when they transfer from the community college to the 4-year college. This credit loss could also add to time to degree completion.

Labor Market Outcomes

Human capital theory posits that education provides individuals with knowledge and skills that have economic value and can be exchanged for better pay and employment prospects in the labor market (Becker, 1962). This model suggests that individuals make education decisions, including college attendance, transfer, and dropout decisions, by weighing their current cost and benefit against perceived earnings (Becker, 1962). In the short term, individuals who choose to enroll in college face direct schooling costs and foregone earnings. In the longer term, the model predicts that the higher level of human capital accumulated through education will lead to higher future earnings.

Research suggests that college credit accumulation is positively associated with increased returns; some college credit is better than no college credit. Numerous studies have found evidence that even those individuals who started college but do not earn a degree have higher earnings and better employment rates than high school graduates who never attended college (Backes, Holzer, & Velez, 2015; Belfield & Bailey, 2011; Giani, Attewell, & Walling, 2020; Jacobson, LaLonde, & Sullivan, 2005; Jepsen, Troske, & Coomes, 2014; Kane & Rouse, 1998; Scott-Clayton & Wen, 2019). For example, Jacobson, LaLonde, and Sullivan (2005) found that each academic year of community college attendance raises the long-term earnings of men by 9% and women by 13%. Giani, Attewell, and Walling (2020) found that students with some college credits are considerably more likely to be employed fifteen years after high school graduation and tend to earn significantly more than their counterparts who do not go to college.

The authors found the employment benefit from having earned some college credits but no degree is even greater for economically disadvantaged students, women, and students of color.

However, it should be noted that this evidence is not conclusive. Some studies have found that the outcomes of college non-completers are no different than high school graduates (Carneiro, Heckman, & Vytlačil, 2011; Holzer & Baum, 2017; Rosenbaum, Ahearn, Becker, & Rosenbaum, 2015), and other studies have found degree completion yields higher earnings compared to individuals who do not complete a degree but obtain as many credits as completers (Bailey, Kienzl, & Marcotte, 2004; Grubb, 2002). Furthermore, not completing college could be especially troubling in light of the rising job entry requirements and the demand for college graduates because they suggest that those with less education are more likely to be unemployed or at lower-wage jobs. College dropouts, in particular, are on average worse off than students who have never enrolled in college, having lost time they could have been working and earning, as well the cost of attendance incurred and frequently having student debt to repay (Kirp, 2019).

Different levels of education result in different labor market returns (Card, 1999). There is a large body of literature on the economic returns to education at various levels, from high school to the sub-baccalaureate and baccalaureate levels. It is generally agreed that higher levels of education lead to higher returns. For example, Baum and Ma (2007) found a positive relationship between higher levels of education and earnings, regardless of gender and racial/ethnic background. Relative to not having a bachelor's degree, earning a 4-year college degree is associated with much better economic and social outcomes (Hout, 2012).

Reverse transfer students have completed some postsecondary education, but not all continue on to complete a bachelor's degree. Many transfer to a community college specifically with the goal of completing a certificate or associate degree. While earning a bachelor's degree

results in greater labor market returns than earning an associate degree, earning an associate degree is more valuable than attending a 4-year institution without earning a degree (Averett & Dalessandro, 2001). Important to note, however, is that labor market outcomes of those with sub-baccalaureate degrees (associate degree and vocational/technical certificates) have been found to vary by field of study, with quantitative or technically oriented subjects such as health and vocational degrees having higher gains (Bahr et al., 2015; Carruthers & Sanford, 2014; Dadgar & Trimble, 2015; Jacobson et al., 2005; Jacobson & Mokher, 2009).

Kalogrides and Grodsky (2011) examined the labor market earnings of reverse transfer students six years after starting college for the first time. Using propensity score matching, they found that reverse transfer students earned almost the same as 4-year college students who dropped out and 24% less than those who earned bachelor's degrees. However, they concluded that reverse transfer students accrue fewer years of working experience than 4-year college dropouts. So even though reverse transfers do not fare as well as students with exclusive 4-year college enrollment, they have more favorable academic and labor market outcomes than otherwise similar students who drop out of postsecondary school altogether. Community colleges may therefore lower the cost of dropping out of a 4-year college. However, reverse transfer students accrue fewer years of working experience than 4-year college dropouts (Kalogrides & Grodsky, 2011).

Conclusion

The movement of students between institutions of higher education has changed significantly in recent decades. Many researchers have been studying mobility patterns of transfer students and have noted the complexity involved in transfer adjustment and patterns (e.g., Bahr, 2012; Hillman et al., 2008; Laanan, 2001; Pascarella & Terenzini, 2005; Townsend

& Dever, 1999). The mobility patterns of students represent a complex phenomenon. Prior research suggests that students who transfer from 4-year colleges to community colleges are not a homogeneous group. Many reverse transfer students indicate their desire to complete a postsecondary degree (Kearney et al., 1995), and as such, after transitioning to the community college, some students transfer back to a 4-year institution while others stay within the community college sector to pursue an associate degree or certificate (Bach et al., 1999; Goldrick-Rab & Pfeffer, 2009; Kalogrides & Grodsky, 2011).

The reverse transfer population raises concerns for several reasons. First, there is not enough information documenting if student demographics, institutional characteristics, or experiences are driving the decision to leave a 4-year institution for the community college. Second, there is some evidence that the students who reverse transfer struggled academically at their previous 4-year college or university or may not have been academically prepared. Third, regarding student outcomes, while many students who reverse transferred eventually returned to a 4-year college or university, several do not earn a baccalaureate degree and those who do take several years to do so. When compared to degree attainment for native 4-year college students and even vertical transfer students, rates of baccalaureate attainment for reverse transfer students are troubling if their goal is to obtain a degree. Fourth, while several findings indicate there is value to even a little participation in higher education compared to those with only a high school education, most research suggests degree completion results in better labor market returns, with a bachelor's degree or greater providing the greatest benefit.

Very little is known about the potential benefits and risks associated with reverse transfer as it has not been the subject of much discussion in academic literature. On the one hand, reverse transfer to a community college gives those who otherwise may not complete a 4-year college

degree a chance to continue with their postsecondary education. On the other hand, if a baccalaureate degree is desired, reverse transfer seems to reduce a student's chance of ultimately obtaining a bachelor's degree, or for those who do, it takes longer, increasing its costs as students spend more money on school and continue to forego income from a job. Our limited knowledge about the phenomenon of reverse transfer makes research on this student population all the more important.

Chapter 3: Methodology

Research Design

The main methods utilized in this study are quantitative. Qualitative data are then used to supplement the quantitative results by providing a more current look at reverse transfer through the experiences of students. The quantitative and qualitative data collection and analysis happened simultaneously, and results are first written about independently. Then the results are merged to provide an analysis of reverse transfer two decades apart.

In the quantitative phase, the National Longitudinal Survey of Youth 1997 (NLSY97) data were analyzed through descriptive statistics and regression models. Quantitative methods allowed me to identify and isolate specific variables of interest in the sample to investigate statistical relationships. Then in the qualitative phase, in-depth interviews were conducted to explore students' experiences before, during, and after reverse transferring. Table 3.1 details which research questions were addressed by which phase.

Table 3.1: Methods Design

	Quantitative Phase	Qualitative Phase
Sample	NLSY97 (nationally representative)	8 students
Types of Data	Longitudinal, Individual-Level Survey Data	Interview Data
Research Questions	1. What student characteristics are associated with reverse transfer behavior? 2. How is undergraduate reverse transfer associated with degree attainment (i.e., earning an associate degree or bachelor's degree) and time to degree? How does this differ by student background characteristics?	4. How do students who entered college and reverse transferred two decades after initial NLSY97 data collection began describe their experiences leading to the decision to transfer from their 4-year institution to a community college?

Table 3.1 (cont'd)

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- | | |
|---|---|
| 3. What are the earnings trends for reverse transfer students and how do these vary from students who started at a 2-year college and from those who started at a 4-year college? | 5. For what reasons do students engage in reverse transfer? |
|---|---|
-

Quantitative Phase

This section provides details for the quantitative portion of this study. It starts by providing an in-depth look at the data, followed by highlighting the key variables used through the quantitative phase. The empirical strategies used to address the research questions associated with the quantitative phase are then detailed.

Data

Data for the quantitative phase come from the National Longitudinal Survey of Youth 1997 (NLSY97)³, a nationally representative sample of 8,984 individuals born in the years 1980 to 1984. The quantitative analyses include data from Rounds 1 (1997-98) through 18 (2017-18), when individuals were between the ages of 33 to 38 years old in Round 18. These individuals were interviewed annually through 2011 and biennially thereafter. This dataset was chosen because it contains extensive labor force, demographic, and schooling information. In addition, individuals of racial/ethnic minorities are over-sampled, making it possible to estimate the models separately by race. These data allow for several years of follow-up after initial enrollment and reverse transfer, the phenomenon of focus in this study. As a result, this study reflects delayed enrollment, degree completions, and early and later career earnings and as such, respondents who enrolled in college at any point since 1997 were included in the analysis,

³ NLSY97 is sponsored and funded by the U.S. Bureau of Labor Statistics (BLS) of the U.S. Department of Labor.

resulting in 64.8% of the NLSY97 sample enrolling in higher education. Having a longer follow-up of students' degree attainment and labor market outcomes is particularly important for reverse transfer students because many of them may take several years before they graduate or exit college and begin working full-time.

Restricted Sample

I have designated students in the dataset as no college attendance, started at a 2-year college, or started at a 4-year college or university. For students who started at a 2-year college, they are defined as such regardless of whether they complete a degree or later attend a 4-year institution. I conceive of students who begin at a 4-year college in two ways: 1) persistence within the 4-year college sector; or 2) reverse transfer to a 2-year college. The individuals defined as reverse transfer must have attended a 2-year college for at least three months of the academic year⁴. Individuals who leave the 4-year college and enroll in a two -year college are considered reverse transfers regardless of lapses in enrollment between their institutions. Also note that reverse transfer is defined using students' first transition from their 4-year school. A student who leaves their initial 4-year college for a community college but later returns to a 4-year college is therefore counted as a reverse transfer.

To study who participates in reverse transfer and the outcomes of those behaviors relative to other postsecondary students, the restricted sample was then created consisting of individuals with some type of postsecondary education, either at a 2-year or a 4-year institution. This restricted sample consists of 5,826 individuals. Student demographics of the restricted sample mirror that of the full sample across race and ethnicity. The percentage of female students is slightly higher in the restricted sample (54% compared to 49% in the full sample). Fewer

⁴ Defined here as anytime between August through July of the following year.

individuals whose parents did not receive a college education attended college than are in the full sample. The average family income of those enrolled in postsecondary education in the restricted sample is higher than across the full sample of all individuals. See Table 3.2 for full details of the full sample and restricted sample.

Table 3.2: NLSY97 Full Sample and Restricted Sample

	(1) Full Sample		(2) Restricted Sample ¹	
	Mean/ Percent	SD	Mean/ Percent	SD
Race/Ethnicity				
White	0.42	0.49	0.47	0.5
Black	0.23	0.42	0.22	0.41
Hispanic/Latinx	0.15	0.36	0.13	0.34
American Indian/Alaska Native	0.01	0.07	0.01	0.08
Asian American/Pacific Islander	0.02	0.12	0.02	0.14
Other/2 or More Races	0.19	0.39	0.16	0.37
Female	0.49	0.50	0.54	0.5
First-Generation College Student	0.36	0.48	0.29	0.45
Household Income ²	\$57,164	\$58,261	\$62,436	\$61,336
At or Below Poverty Level	0.17	0.38	0.13	0.33
Urbanicity ³				
Rural	0.19	0.39	0.20	0.40
Urban	0.60	0.49	0.70	0.46
Unknown	0.03	0.16	0.03	0.17
Census Region ⁴				
Northeast	0.14	0.35	0.16	0.37
North Central	0.19	0.39	0.22	0.41
South	0.30	0.46	0.33	0.47
West	0.18	0.39	0.21	0.41
Unknown	0.19	0.39	0.07	0.26
<i>N</i>	8,984		5,826	

¹ This sample is restricted to those individuals who ever enrolled in postsecondary education.

² Household income the year the respondent received high school diploma/GED.

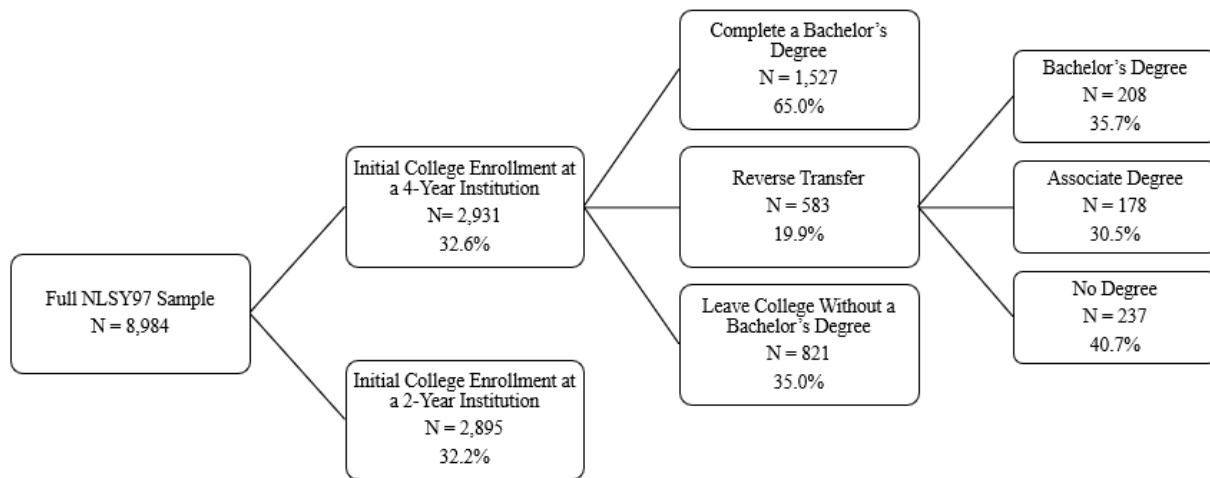
³ Residence at time respondent received high school diploma/GED.

⁴ Census region of residence at time respondent received high school diploma/GED

In the full sample data, 2,895 (32.2%) students began their postsecondary education at a 2-year college and 2,931 (32.6%) students began at a 4-year college or university. Of those whose initial college enrollment was a 4-year institution, 65% completed a bachelor's degree and 35% left before completing a degree. The reverse transfer population is 582 individuals, which is

approximately 20% of those who started at a 4-year institution. Of those who reverse transferred, 35.7% eventually earned a bachelor's degree, 30.5% earned an associate degree, and 40.7% did not earn any degree (see Figure 3.1).

Figure 3.1: Sample by Enrollment Type and Degree Attainment



Note. 9.4% of reverse transfer students received both an associate and bachelor's degree, and in that order.

Table 3.3 summarizes the key demographic variables of the restricted sample and then further disaggregates students into one of three types of college attendance: 1) students who began their postsecondary education at a 2-year institution; 2) students who began at a 4-year institution and did not reverse transfer; and 3) students who participated in reverse transfer. Approximately 54% of students who ever enrolled in postsecondary education in the restricted sample are female. A majority, nearly half, of the restricted sample who enrolled in any type of higher education are White, followed by Black students at 22%, students classified as other race or 2 or more races at 16%, and Hispanic/Latinx students representing 13% of the restricted sample. Less than half (40%) of the students who started at a 2-year college are White, compared to 55% of students who started at a 4-year institution being White. Higher percentages of Black and Hispanic/Latinx students began at 2-year colleges than 4-year institutions. And a higher

percentage (45%) of White students transferred from a 4-year college or university to a 2-year college, compared to 27% of Black students and 11% of Hispanic/Latinx students.

Of the reverse transfer population, 60% of the sample are female, 26% are considered a first-generation college student, and 11% of the reverse transfer population were considered at or below the poverty level at the time of high school completion, compared to 7% of students considered low-income by this definition who started at a 4-year college and did not reverse transfer. Students who start at a 4-year institution rather than a 2-year college or those who reverse transfer are more likely to come from a family with a higher level of income, consistent with the fact that 2-year colleges are significantly less expensive and perhaps providing some evidence that students reverse transfer due to financial reasons.

Although the age at which individuals in the restricted sample first entered college ranges from 16 to 31 years old, the average age for students who ever enrolled in postsecondary education is 20 years old and for those who started at a 4-year institution, the average age is 19 years old. A majority of students in the restricted sample (74%) entered postsecondary education for the first time at age 17, 18, or 19.

Key Variables

In this section, I introduce the main variables used throughout the analyses, including the various independent variables used in each model and the dependent variables used across the models.

Enrollment Variables

The main variable in the analyses was a measure of a student's attendance pattern. To observe enrollment behavior, I use enrollment history reported monthly, where the respondents reported either not enrolled, enrolled in a 2-year college, or enrolled in a 4-year college. As noted earlier, individuals with postsecondary education were designated in one of three ways: (1) start

Table 3.3: Descriptive Statistics of NLSY97 Restricted Sample

	(1) Ever enrolled in postsecondary education		(2) Started at a 2-year institution		(3) Started at a 4-year institution and did not reverse transfer		(4) Started at a 4-year institution and reverse transferred	
	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD
Race/Ethnicity								
White	0.47	0.50	0.40	0.49	0.55	0.50	0.45	0.50
Black	0.22	0.41	0.23	0.42	0.18	0.39	0.27	0.44
Hispanic/Latinx	0.13	0.34	0.17	0.38	0.09	0.29	0.11	0.31
American Indian/Alaska Native	0.01	0.08	0.01	0.09	0.00	0.05	0.01	0.08
Asian American/Pacific Islander	0.02	0.14	0.02	0.12	0.03	0.17	0.02	0.12
Other/2 or More Races	0.16	0.37	0.18	0.38	0.14	0.35	0.16	0.36
Female	0.54	0.50	0.53	0.50	0.53	0.50	0.60	0.49
Age at Initial College Enrollment	20 yrs	3.28	21 yrs	3.76	19 yrs	2.62	19 yrs	1.68
First-Generation College Student	0.29	0.45	0.36	0.48	0.21	0.41	0.26	0.44
Household Income ¹	\$62,436	\$61,336	\$51,797	\$51,702	\$75,557	\$69,778	\$59,738	\$56,751
At or Below Poverty Level	0.13	0.33	0.17	0.38	0.07	0.26	0.11	0.31
Urbanicity ²								
Rural	0.20	0.40	0.18	0.38	0.22	0.41	0.23	0.42
Urban	0.70	0.46	0.70	0.46	0.68	0.47	0.72	0.45
Unknown	0.03	0.17	0.03	0.16	0.03	0.17	0.05	0.21
Census Region ³								
Northeast	0.16	0.37	0.14	0.34	0.19	0.40	0.15	0.36
North Central	0.22	0.41	0.18	0.38	0.26	0.44	0.25	0.43
South	0.33	0.47	0.33	0.47	0.31	0.46	0.43	0.50
West	0.21	0.41	0.26	0.44	0.16	0.37	0.17	0.38
Unknown	0.07	0.26	0.09	0.29	0.07	0.25	0.00	0.00
<i>N</i>	5,826		2,895		2,348		583	

¹Household income the year the respondent received high school diploma/GED.

²Residence at time respondent received high school diploma/GED.

³Census region of residence at time respondent received high school diploma/GED

at a 2-year college; (2) start at and attend only a 4-year institution; and (3) start at a 4-year institution and subsequently transfer to a 2-year college (reverse transfer). These enrollment variables were constructed from self-reported enrollment data.

Reverse transfer was defined operationally as individuals who, prior to attending a 2-year college, were last enrolled at a 4-year institution. Students who leave the initial college and enroll in another are considered transfers regardless of lapses in enrollment between their first and second institutions, so the reverse transfer measure coded whether reverse transfer occurred at any point in the college career. Also note that reverse transfer refers only to students' first transition from their initial 4-year school. A student who leaves his or her initial 4-year college for a community college but later returns to a 4-year college is therefore counted as a reverse transfer. Students often choose to take courses at community colleges in the summer but with the intention of returning to their full-time institution in the fall or spring. This type of enrollment change is not traditionally viewed as a transfer and so I drop any cases where enrollment at a 2-year college only occurs for up to two months during the summer months (June through August). To ensure I was only capturing undergraduate reverse transfer students, I also dropped cases where students enrolled in a 2-year college after earning their bachelor's degree.

Dependent Variables

This section outlines the dependent variables used in the analyses. For Research Question 1 (what student characteristics are associated with reverse transfer behavior), the reverse transfer variable is the main dependent variable of interest. For Research Questions 2 and 3, five dependent variables represent the college and post-college outcomes of interests: (1) whether an individual earned an associate degree or not; (2) whether an individual earned a bachelor's degree or not; (3) the time it took for an individual to earn an associate degree after initial

enrollment; (4) the time it took for an individual to earn a bachelor's degree after initial enrollment; and (5) an individual's total reported earnings for 2000, 2005, 2010, and 2015.

Educational Attainment. The educational attainment measure in the dataset distinguishes between a high school diploma/GED, some college but no degree, an associate degree, a bachelor's degree, and other advanced degrees (professional, master's or doctoral degrees). Using that measure, I created the main dependent variables, *Attainment_i*, for Research Question 2 to be binary variables for associate degree and bachelor's degree attainment, equal to 1 if a person had degree completion and 0 otherwise.⁵

Time to Degree. The outcome variable, *TimeToDegree_i*, measures in months the time from first enrollment to degree completion. Two models for time to degree are estimated: first where the outcome measure is the time, in continuous months, to complete an associate degree after initial enrollment. The second model is where the outcome variable is the time, in continuous months, to complete a bachelor's degree after initial enrollment. This measure of time includes any enrollment stop outs.

Earnings. To measure an individual's total earnings, *Earnings_i*, I use the total income from wages and salary reported. The NLSY97 survey asked respondents each survey cycle, "During the previous year, how much income did you receive from wages, salary, commissions, or tips from all jobs, before deductions for taxes or anything else?" Truncated values are applied to the top 2% of respondents. The lowest value for the top 2% of cases is used as the truncation level and varied by year. Values for all cases at or over that level are averaged. That average is then assigned to each of the top 2 percent of the cases.

⁵ If a student earned both an associate and bachelor's degree, they were coded as a 1 for both variables.

Independent Variables

The following section outlines the key independent variables used in the analyses.

Race/Ethnicity. NLSY97 provides several race and ethnicity variables in the dataset: 1) whether the respondent identifies as Hispanic or not; 2) the race of the respondent as either White; Black or African American; American Indian, Eskimo, or Aleut; Asian or Pacific Islander; or other option not provided; 3) a combined race/ethnicity variable of which respondents were labeled as Black, Hispanic, Mixed Race (non-Hispanic), or Non-Black/Non-Hispanic. Using these existing variables, I constructed a race/ethnicity variable, *Race_i*, with the following categories: White, Black, Hispanic/Latinx, American Indian/Alaska Native, Asian/Pacific Islander, and other or two or more races.

Family Background Characteristics. Research has shown that parents with higher levels of income and education may be in a better position to help their child economically and by providing information to help them navigate the college choice process (Mitchall & Jaeger, 2018; Ovink & Kalogrides, 2015; Redford & Hoyer, 2018; Roksa & Deutschlander, 2018; Smith & Fleming, 2006). A National Center for Education Statistics report (Smith et al., 1997) points to a strong positive relationship between college enrollment and the socioeconomic status of the parent even among the children in the highest achievement quartile, a finding found in other, more recent studies as well (e.g., Ellwood & Kane, 2000; Haider & McGarry, 2018; Kinsler & Pavan, 2011). Thus, in this study, two measures are used to capture the economic and social support from families: Income at the time of high school completion and first-generation college status.

To best control for family income, I use two variables. For the first, NLSY97 uses both parent and respondent interviews to obtain information on family income. To construct the

family income measure, I use a composite variable in the NLSY97 dataset. Several survey items⁶ are combined by NLS staff to create this income variable, including parents' income if the respondent resided with them, monetary gifts (other than allowance) from parents, public support sources, the wages of the respondent's spouse/partner if applicable, child support, interest and dividends from stocks or mutual funds, retirement pension/alimony/Social Security payments, and other income. I then use this household income, in quartiles, at the time the respondent received their high school diploma or GED, when those measures of parental income are most likely to impact student decision-making. To classify whether the student is a first-generation college student, I use the highest grade completed by the parent or guardian and defined as no parent or guardian attended college.

Academic Ability. Cognitive ability is approximated by the Armed Services Vocational Aptitude Battery (ASVAB) test following Dillon and Smith (2017, 2020) in their work on the match between student ability and college quality. NLSY97 respondents were invited to take the ASVAB in 1997 as part of a norming exercise and were paid \$75 for their time (Dillon & Smith, 2017, 2020). While SAT and ACT scores exist in the NLSY97 data, the ASVAB is used because of the high percentage of respondents who completed the test. Of the respondents who started at a 4-year college, 85% completed the ASVAB test and of those who started at a 2-year college, 81% completed the test. This measure was thus preferred over the SAT and ACT, where only 54% of students who started at a 4-year college reported a score for either test and only 22% of students who started at a 2-year college.

The ASVAB consists of 12 sections, covering skills also measured by the SAT, such as algebra, vocabulary, and reading comprehension, and other skills, such as electronics knowledge

⁶ See [Income | National Longitudinal Surveys \(nlsinfo.org\)](https://nces.ed.gov/ipeds/data/nlsinfo/) for more detailed information.

and spatial reasoning. The ASVAB measure used in the analysis, $ASVAB_i$, is a composite score created by NLS staff. It provides a summary percentile score of mathematical knowledge, arithmetic reasoning, word knowledge, and paragraph comprehension, yielding a final value between 0 and 99.⁷ The correlation between this ASVAB measure and the respondent's total SAT (or rescaled ACT composite) score equals 0.80 (for students who started at a 4-year college), making it a suitable substitute for the SAT/ACT.

Empirical Strategy

In this section, I introduce the main models I specify to answer my research questions for the quantitative phase of this study.

Reverse Transfer

To address Research Question 1 (What student characteristics are associated with reverse transfer behavior?), I estimate reverse transfer as a function of student demographics and academic ability. I estimate the following basic ordinary least squares regression model:

$$ReverseTransfer_i = \beta_0 + \beta_1 Race_i + \beta_2 Gender_i + \beta_3 FG_i + \beta_4 DelayedEnroll_i + \beta_5 Income_i + \beta_6 ASVAB_i + \beta_7 Urbanicity_i + \varepsilon_i$$

Degree Attainment

To address the first part of Research Question 2 (How is reverse transfer associated with degree attainment?), I estimate degree attainment as a function of a broad set of factors: enrollment pattern, individual characteristics, socioeconomic background, location. To describe the relationship of degree attainment for reverse transfer, two ordinary least squares regression models are estimated: 1) where the outcome measure is whether a student earned an associate degree or not; and 2) where the outcome measure is whether a student earned a bachelor's degree or not.

⁷ See [ASVAB | National Longitudinal Surveys \(nlsinfo.org\)](https://nlsinfo.org) for more detailed information.

$$DegreeAttainment_i = \beta_0 + \beta_1 EnrollmentPattern_i + \delta X_i + \Omega W_i + \varepsilon_i$$

To estimate the relationship between associate degree attainment and reverse transfer, the outcome variable, *DegreeAttainment_i*, is a dichotomous variable measuring associate degree attainment as a function of enrollment pattern and individual characteristics. *EnrollmentPattern_i* is a variable indicating whether an individual engaged in reverse transfer or started at a 2-year college. In this model, the sample is further restricted to only individuals who started at a 4-year college and subsequently reverse transferred and individuals who initially started their postsecondary education at a 2-year college.

To estimate the relationship between bachelor's degree attainment for reverse transfer, the outcome variable, *DegreeAttainment_i*, is a dichotomous variable measuring whether an individual earned a bachelor's degree or not. In the model, I compare the degree attainment of reverse transfer students to two groups: 1) those who started at a 2-year college and 2) those who started and persisted at a 4-year college (do not reverse transfer). The reference category is those who start at a 4-year college and do not reverse transfer.

X_i is a vector of individual, precollege characteristics and includes race/ethnicity, gender, whether a student delayed initial college enrollment, and measured ability using the composite ASVAB score. *W_i* is a vector of socioeconomic background and household characteristics. It includes first-generation college status, family/household income, and urbanicity (whether respondents lived in a rural or urban area when they completed high school). ε_i represents the error term.

Time to Degree

To address the second part of Research Question 2 (How is reverse transfer associated with time to degree?), I compare the time to associate and bachelor's degree attainment of

reverse transfer students to those who started at a 2-year college and those who started at a 4-year college and did not reverse transfer, respectively. Two ordinary least squares regression models are estimated: 1) the outcome measure is the time to complete an associate degree from first enrollment; and 2) the outcome measure is the time to complete a bachelor's degree from first enrollment (in continuous months).

$$TimeToDegree_i = \beta_0 + \beta_1 EnrollmentPattern_i + \delta X_i + \Omega W_i + \varepsilon_i$$

To estimate the relationship between time to associate degree and reverse transfer, the outcome variable, *TimeToDegree*, is a continuous variable measuring the time, in months, from first enrollment to associate degree attainment. This outcome is modeled as a function of enrollment pattern and individual characteristics where *EnrollmentPattern_i* is a variable indicating whether an individual engaged in reverse transfer or started at a 2-year college. In this model, the sample is further restricted to only individuals who reverse transferred and individuals who initially started their postsecondary education at a 2-year college.

To estimate the relationship between time to bachelor's degree for reverse transfer, the outcome variable, *DegreeAttainment_i*, is a continuous variable measuring the time, in months, from first enrollment to bachelor's degree attainment. In the model, I compare the time to degree attainment of reverse transfer students to two groups: 1) those who started at a 2-year college and 2) those who started and persisted at a 4-year college (do not reverse transfer). The reference category is those who start at a 4-year college and do not reverse transfer.

X_i is a vector of individual characteristics and include race/ethnicity, gender, and student ability; W_i is a vector of household characteristics and include parent's education, family income, urbanicity; and ε_i represents the error term.

Differences by Student Demographics

To explore the final part of Research Question 2 (How does degree attainment and time to degree differ by student background characteristics?), I perform independent two-sample t tests to evaluate whether there is a statistical difference between degree attainment and time to degree for each student demographic (race/ethnicity, gender, delayed enrollment, and low-income status) by comparing students who reverse transfer and students who do not reverse transfer within each group (those who start at a 2-year college and those who start at a 4-year college and do not reverse transfer). To better understand differences across student characteristics for associate degree attainment and time to degree, two t tests are performed. 1) To determine if there is a statistical difference between students who reverse transfer and students who start at a 2-year college, and by definition do not reverse transfer on the percent earning an associate degree. 2) To determine if there is a statistical difference between these two groups on the average time to associate degree completion.

Next, to explore if there are differences across student characteristics for bachelor's degree attainment and time to degree, an additional two t tests are performed. 1) To determine if there is a statistical difference between students who reverse transfer and students who start at a 4-year college and do not reverse transfer on the percent earning a bachelor's degree. 2) To determine if there is a statistical difference between these two groups on the average time to bachelor's degree completion.

Earnings

To investigate Research Question 3 (What are the earnings trends for reverse transfer students and how do these vary from students who started at a 2-year college and from those who started at a 4-year college?), I first analyze the average earnings by age over time (from 1999 to

2017) by enrollment groups (i.e., those who start at a 2-year college, those who start at a 4-year college and no reverse transfer, and those students who reverse transfer). I then look at the average earnings over time for reverse transfer students by degree type (i.e., no degree, associate degree, and bachelor's degree). To better understand how enrollment behaviors are associated with earnings potential, I further investigate the differences for students across enrollment types who have earned a bachelor's degree by looking at the average yearly earnings for students earning bachelor's degrees who started at a 4-year college and did not reverse transfer, those who started at a 2-year college and vertically transferred to a 4-year college, and those who reverse transferred and then returned to a 4-year college.

For each of these descriptive analyses, earnings data is measured at ages 20, 25, 30, and 35. Since participants varied in age from 12-18 at the start of the survey, earnings were adjusted for inflation for each age group, so they are comparable across time periods. To examine the average yearly earnings and estimate the average growth rate of earnings, I run the following descriptive statistics:

- Average yearly earnings by enrollment type: Those who start at a 2-year college, start at a 4-year college and no reverse transfer, and reverse transfer.
- Average yearly earnings for reverse transfer by degree type: No degree, associate degree, and bachelor's degree.
- Average yearly earnings for those with a bachelor's degree by enrollment type: Those who start at a 2-year college, start at a 4-year college and no reverse transfer, and reverse transfer.

Lastly, to explore how earnings are associated with enrollment groups, using the restricted sample of individuals who enrolled in postsecondary education, I estimate an ordinary

least squares regression model where the dependent variable is the natural log of the yearly income from wages and salary. To explore how types of degree attainment matter, two models are estimated, one where only the student's enrollment pattern is accounted for, and the other to see how levels of degree attainment plays a role:

$$Ln(earnings_{it}) = \beta_0 + \beta_1 EnrollmentPattern_i + \delta X_i + \Omega W_i + \varepsilon_i$$

$$Ln(earnings_{it}) = \beta_0 + \beta_1 EnrollmentPattern_i + DegreeAttainment_i + \delta X_i + \Omega W_i + \varepsilon_i$$

I estimate the model four times to see changes over time. I examine the earnings data from ages 20 to 35 of the participants in the sample. This provides sufficient time to earn a credential (or not) and yields longer term estimates of labor market outcomes. In the models, X_i is a vector of individual characteristics and include race/ethnicity, gender, and student ability; W_i is a vector of household characteristics and include parent's education, family income, urbanicity; and ε_i represents the error term.

Earnings denote the natural logarithm of the respondent's average annual earnings at each age (20, 25, 30, 35). To accommodate respondents with zero earnings (due to unemployment, labor force nonparticipation, and incarceration), I add a small constant to the respondent's annual earnings before taking the log transformation. A person's total reported earnings for each year were truncated for the top 2% of respondents. The lowest value for the top 2% of cases is used as the truncation level.

Qualitative Phase

The qualitative phase explores reverse transfer in higher education through the experiences of undergraduate students who initially began their postsecondary education at 4-year institutions and subsequently transferred to a community college. Through in-depth interviews, students were asked to describe their experiences at their first institution and

reasons for transferring to a community college. A qualitative phase of the study was the best approach to understand more about students who recently reverse transferred. Interviews conducted during February 2020 capture the detailed stories of these students' feelings and experiences in their own words.

Participant Selection

Participant sampling for this study was purposive as I only wanted to interview individuals who exhibited a reverse transfer enrollment pattern (Merriam & Tisdell, 2016). Purposeful sampling is used for the identification and selection of information-rich cases related to the phenomenon of interest and is thus an effective participant selection tool because only information-rich cases are selected to learn about a specific issue (Patton, 2002). Here, participants had to have started their postsecondary education in a baccalaureate degree-granting institution and subsequently transferred to a community college that did not award bachelor's degrees. This transfer could have happened at any time during their progress at the 4-year institution.

Participants were recruited using my existing professional network of high school counselors and college advisors in California. I sent an email to ten counselors and advisors detailing the purpose and method of my study and requesting my email and phone number be given to students who met the criteria and were interested in participating. From that recruitment process, eight students contacted me. With each participant, I confirmed they met the definition of reverse transfer and explained the goals of the study. I further detailed the method for data collection through a 60–90-minute Zoom interview where they would be asked 12 questions about their high school and college experiences and why they reverse transferred. Interview dates and times were then scheduled. I sought to establish trustworthiness with participants by

providing information about the purpose and methods and ensuring participant confidentiality through the use of pseudonyms. Trustworthiness is important to establish in order to reveal openness and honesty from the participants about their personal and academic experiences. All eight participants were interviewed in February of 2020.

Data Collection

The qualitative phase solely used person-to-person interviews. The interviews were semi-structured; while interview questions were outlined, additional probing questions varied based on the individual interviews. The semi-structured interview protocol (see Appendix A: Interview Protocol) containing open-ended questions allowed participants to describe their experiences on their terms. The same questions were asked to all participants, but re-wording of questions or follow-up questions were asked and varied by interview. The interview questions were developed by identification of themes that emerged from the review of the literature and organized accordingly.

Students were interviewed for 60 to 90 minutes individually via Zoom, an online video and audio conference platform. Students were provided with a consent form explaining the purpose and requirements of participation, including permission to record. The Zoom calls were recorded and later transcribed verbatim. Students also completed a demographic questionnaire at the end of each interview in order to quickly collect meaningful demographic information. I communicated that the participant was allowed to skip any question they did not feel comfortable answering (See Appendix B: Demographic Survey). The questionnaire sought to collect the following information: name, gender, age, race or ethnicity, marital status, residential status (based on tuition payment), employment status, and parents' educational levels. Demographic information is standard data to collect in an interview study (Merriam, 2009). At the completion

of the interviews, I independently transcribed all interviews and assigned pseudonyms to the student. While no 4-year colleges or universities and community colleges are referred to by name, the location, size, and institutional category of each student's initial 4-year college or university and community college were known for descriptive purposes.

Sample

Eight students were interviewed to better understand their transfer student experience. Six of the eight students identify as female and two as male; two of the students are White, two are Vietnamese, and four are Hispanic/Latinx. All students would be considered traditional-aged students as they started college immediately following high school completion. At the time of the interview, the participants ranged in age from 20 years old to 26 years old. All but one student in the study is considered a first-generation college student, defined as neither parent has earned a baccalaureate degree. Three students were raised in a single-parent household. High school experiences may have varied as five students attended large comprehensive high schools, one a mid-size high school, and two attended small high schools. The eight participants attended both high school and college in California. Attendance time prior to transfer of the students in the study ranged from leaving the 4-year institution after completing one semester to one student leaving after completing eight semesters. All the students had attended the initial 4-year college or university full-time.

Table 3.4: Qualitative Phase Sample

Name*	Self-Identified Gender	Age	Self-Identified Race/Ethnicity	Transferred to the Community College	First-Generation College Student
Eddie	Male	21	Latino	After 2 years and 1 quarter	Yes
Emily	Female	20	Vietnamese	After 3 semesters	Yes
Grace	Female	20	White	After 2 semesters	No
Lucero	Female	26	Latina	After 4 semesters	Yes
Mariana	Female	20	Hispanic	After 1 semester	Yes
Noah	Male	21	White	After 4 semesters	Yes
Rosa	Female	20	Vietnamese	After 4 semesters	Yes
Sofia	Female	25	Latina	After 8 semesters	Yes

*Names are pseudonyms.

Data Analysis

Analysis was an iterative process of continual sorting and resorting of the data, along with identifying interpretations of broad categories or codes. The initial list of deductive themes was guided by the conceptual framework of Astin's (1991, 1993) Inputs-Environment-Outputs Model and Tinto's (1975, 1993) Student Departure Theory. This produced the following codes: pre-entry attributes, college environment, social integration, academic integration, and goals. After that, a smaller sample of interview transcripts were read several times and open-coded to allow for thematic analysis. This produced child codes to the initial codes developed from the conceptual frameworks, detailed below in Table 3.5:

Table 3.5: Parent and Child Codes in Qualitative Phase

Parent Code	Pre-Entry Attributes	Academic Integration	Social Integration	Goals	Mental Health
Child Code(s)	<ul style="list-style-type: none"> • Family background • Family attitudes/expectations • Skills and abilities 	<ul style="list-style-type: none"> • Use of resources • Academic performance • Belief in oneself to do the work • Major of choice 	<ul style="list-style-type: none"> • Institutional fit • Extracurricular/ social activities 	<ul style="list-style-type: none"> • Same goal • Goal change 	

Analyses included finding both common and divergent ways that students described their 4-year college experiences leading up to the decision to transfer from their 4-year institution to a community college and the reasons they reverse transferred. After identifying this set of codes, I coded the eight student interviews on the qualitative analysis software, Dedoose, using the qualitative technique of thematic coding and analysis in which data is segmented, categorized, summarized, and reconstructed in a way that captures important concepts within the data (Given, 2008).

Limitations

This qualitative interview phase seeks to understand how reverse transfer students feel about their decisions and experiences, it is not without limitations. First, due to limited resources (participants, financial, and time), the study includes only eight students from one state at one moment in time. This portion of the study is not longitudinal; thus, participants are only able to provide their reactions, thoughts, and reflections that existed at the time each was interviewed. Interviews occurred soon after the participants reverse transferred, so reflections may be positive now, but participants could feel different if asked again at a later time.

While a greater sample size could offer further knowledge or diversity of experiences, it is suggested that in a qualitative study, a point of saturation can occur where no new content or themes emerge (Merriam, 2009). The eight participants interviewed did provide many overlapping themes, however it is quite possible that additional participants would provide greater depth and breadth of experiences and knowledge. Additionally, relying on my own network to get participants has some potentially large flaws because I did not get much variation in the types of students.

Lastly, the data and results from this qualitative portion should be interpreted with caution when linked to the quantitative phase. There is a large time gap of about 20 years between the NLSY97 data used in the quantitative phase and this interview data. The interview data is to provide context about why students reverse transfer, which is not evident in the quantitative data.

Chapter 4: Results

This section details first the results from the quantitative phase, followed by the results from the qualitative phase.

Quantitative Analysis

This section provides the findings from the quantitative phase of this study exploring reverse transfer using NLSY97 data. The results presented in this section come from the quantitative analyses on the restricted sample of those who ever enrolled in postsecondary education, which consists of 5,895 individuals. Findings indicate that those who participate in reverse transfer differ to some extent by race and gender. Non-white students are more likely to reverse transfer than White students and women are more likely to reverse transfer than men. Associate degree attainment outcomes are similar for reverse transfer students and students who start at a 2-year college, whereas those who reverse transfer or vertically transfer are less likely to obtain a bachelor's degree compared to 4-year college persisters. Overall, reverse transfer students take significantly longer to complete either degree than other students. Patterns of average yearly earnings indicate more positive labor market outcomes for students who begin at a 4-year college and earn a bachelor's degree when compared to reverse transfer students and students who start at a 2-year college regardless of degree attainment.

Reverse Transfer

Table 4.1 displays the ordinary least squares regression model where reverse transfer is estimated as a function of student demographics, characteristics, and academic ability and addresses Research Question 1: What student characteristics are associated with reverse transfer behavior? Identifying as Black, Hispanic/Latinx, of more than one race or ethnicity, and/or female are all shown to be significantly correlated to reverse transfer. Specifically, in the sample,

Black students are 4.8 percentage points more likely to reverse transfer and Hispanic/Latinx and students of more than one race/ethnicity are 3.2 percentage points more likely to reverse transfer compared to White students. This result is not surprising when we consider that prior research on reverse transfer students indicates that poor grades, college costs, poor institutional fit, and changes in or inability to decide on academic or career goals are reasons students leave the 4-year college for a community college (Bach et al., 1999; Goldrick-Rab, 2006; Hossler et al., 2012; Mullin & Phillippe, 2009; Townsend, 2001; Winter & Harris, 1999). When we couple that with literature that has identified an academic achievement gap, information gaps, and college costs as some of the factors that impair the success rates of people from disadvantaged backgrounds once in college (Bound et al., 2010; Hoxby & Turner, 2013; Reardon, 2011), we can expect to see differences in reverse transfer by race/ethnicity and socioeconomic status.

Results from Table 4.1 indicate that female students are 2.1 percentage points more likely to reverse transfer than their male counterparts. These results align with work from Hillman and colleagues (2008) that focused specifically on reverse transfer and provided findings that female students are more likely to do so (Hillman et al., 2008). They posited one reason might be because female students may be attracted to fields such as nursing and health, which are quicker to complete and more affordable at community colleges than at 4-year institutions. An additional explanation could be related to retention research that finds women to be more likely to drop out. Hillman and colleagues argue it is possible that reverse transfer behaviors elicit similar patterns (Bers & Smith, 1991; Cabrera, Nora, & Castaneda, 1993). Among struggling and high achieving students in public 4-year colleges, Liu (2016) also found women to be slightly more likely to engage in reverse transfer.

Additionally, findings suggest that those students who reverse transferred were less likely to have delay their college enrollment by 5.5 percentage points, suggesting that because decisions were made by high school seniors, they may have been ill-informed. This could result in a student attending a college they cannot afford, one that does not have the major they want, or a poor institutional fit. These are factors commonly associated with reverse transfer.

Table 4.1: Reverse transfer as a function of student characteristics, academic ability

	Reverse Transfer b/se
Race/Ethnicity	
Black	0.048** (0.015)
Hispanic/Latinx	0.032* (0.017)
American Indian/Alaska Native	0.071 (0.070)
Asian American/Pacific Islander	-0.012 (0.028)
Other/2 or More Races	0.030* (0.015)
Female	0.021* (0.093)
First-Generation College Student	-0.012 (0.011)
Delayed Enrollment	-0.055*** (0.010)
Household Income	
1 st Quartile	0.016 (0.014)
2 nd Quartile	0.018 (0.014)
3 rd Quartile	0.022 (0.013)
ASVAB Math-Verbal Score Percentile	0.065** (0.020)
Rural	0.12*** (0.022)
Urban	0.11*** (0.019)
Constant	-0.053** (0.019)

Note. Each row provides the coefficient and robust standard error.

Controlled for census region fixed effects.

* p<0.05, ** p<0.01, *** p<0.001

Degree Attainment and Time to Degree

This section begins by outlining the results for the first part of Research Question 2: How is undergraduate reverse transfer associated with degree attainment (i.e., earning an associate degree or bachelor's degree) and time to degree? The latter part of the section provides the results for the second part of Research Question 2: How does this differ by student background characteristics?

Table 4.2 summarizes postsecondary attendance and outcomes by college enrollment pattern. Reverse transfer students and students who started at a 2-year college have similar rates of associate degree attainment with 31% of reverse transfer students and 29% of students who start at a 2-year college earning a 2-year college degree. However, reverse transfer students are found to take significantly longer to finish, taking on average 84 months, or 7 years, compared to 58 months, or nearly 5 years, for those who start at a 2-year college.

Students who start at a 4-year college and don't reverse transfer are completing a bachelor's degree at much higher rates than reverse transfer students: 65% of students who start at a 4-year college and don't reverse transfer earn a bachelor's degree compared to only 36% of reverse transfer students. Reverse transfer students do complete a 4-year college degree at higher rates than vertical transfer students, where only 18% finish. This may be due reverse transfer students bringing in more transferable credits or already being familiar with the rigor of a 4-year college.

Time to the bachelor's degree is also significantly different between 4-year persisters and reverse transfer students. For those who start at a 4-year college and don't reverse transfer, it takes an average of 57 months, or almost 5 years. Reverse transfer students take, on average, 87 months or 7.3 years. Why might reverse transfer students be taking so much longer to earn their

degrees? The result that students in this study take longer than four years regardless of transfer status is not too surprising when we consider the following.

For any student starting college, several phenomena can lengthen the time it takes them to complete a degree. First, many undergraduates enroll in 12 credits or less (typically anything less than 12 credits is considered part-time by institutions because federal regulations treat enrolling for 12 credits per semester as meeting the eligibility threshold for receiving full federal financial aid such as a full Pell grant). Since most 4-year colleges and universities require 120 credits to graduate, enrolling in even 12 credits per semester means students will not be able to complete their bachelor's degree in the normative 4-year period.

Second, about 40% of undergraduates entering 4-year colleges are required to take developmental courses in subjects such as mathematics or writing at the beginning of their college career, usually because placement tests indicate that they have a skill deficiency (Boatman & Long, 2018; Chen & Simone, 2016); these courses typically do not count as credits toward a bachelor's degree, so enrolling in these classes do not move students toward the 120 credits needed to finish.

Third, being undecided, declaring a major later, or changing majors during one's college career can add time to degree completion. For some, this results in accumulating courses or credits that do not count towards the final major and thus graduation. Students in this situation may have to stay enrolled longer until they have satisfied the course requirements for their new major. Students may also be declared in a major that requires more than 120 credits, sometimes because of professional accreditation requirements (Cataldi et al., 2011). Other students 'double-major' during their college careers, which could take more time to complete than standard four years.

Fourth, students may interrupt their enrollment or ‘stop out’ of college for some length of time. There are varied underlying reasons for this, such as job or family responsibilities and financial stresses (Broton & Goldrick-Rab, 2016; St. John, 2003). While a majority of stop-outs do return to college at some point and subsequently graduate (Goldrick-Rab & Pfefer, 2009), their time-to-degree is necessarily lengthened by any time spent out of college.

And fifth, transferring institutions adds time to degree completion. Transfer can elongate time-to-degree if there is a time lag between leaving one college and enrolling in another, a stop-out in other words. In addition to a time lag, when students transfer, some find that their accumulated coursework from the first college is not fully credited towards the degree at the second institution (Simone, 2014). This partial loss of credits means they have to take more coursework at the second institution than they would otherwise have done, had all their credits been accepted (Monaghan & Attewell, 2015). As a result, transfers between colleges are expected to add to time to degree attainment.

Next, the ordinary least squares regression estimates of how enrollment patterns are associated with degree attainment and time to degree are presented in Table 4.4. In the first model, I compare the associate degree attainment of reverse transfer students to those who started at a 2-year college. In the second model, reverse transfer students, students who start at a 2-year college, and those who start at a 4-year college and do not reverse transfer are all used in the analysis.

Table 4.2: Summary Statistics of Postsecondary Outcomes by Enrollment Types

	(1) Ever enrolled in postsecondary education		(2) Started at a 2-year institution		(3) Started at a 4-year institution and did not reverse transfer		(4) Started at a 4-year institution and reverse transferred	
	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD
Age at Initial College Enrollment	20	3.28	21	3.76	19	2.62	19	1.68
Delayed Enrollment ¹	0.28	0.45	0.41	0.49	0.15	0.36	0.16	0.36
No College Degree	0.45	0.50	0.60	0.49	0.28	0.45	0.41	0.49
Associate Degree								
Received an Associate Degree	0.19	0.39	0.29	0.45	0.03	0.18	0.31	0.46
Time (in months) to Degree	62.07	45.26	58.07	43.66	53.25	40.28	84.44	48.01
Bachelor's Degree								
Received a Bachelor's Degree	0.39	0.49	0.18	0.38	0.65	0.48	0.36	0.48
Time (in months) to Degree	67.51	33.85	89.69	41.41	57.29	23.17	87.25	42.73
Highest Degree Received								
Associate	0.13	0.33	0.20	0.40	0.02	0.13	0.21	0.41
Bachelor's	0.29	0.45	0.15	0.36	0.46	0.50	0.26	0.44
Master's	0.10	0.30	0.04	0.20	0.18	0.38	0.11	0.31
PhD	0.01	0.10	0.00	0.04	0.02	0.14	0.01	0.07
Professional Degree	0.02	0.14	0.00	0.06	0.04	0.20	0.01	0.12
<i>N</i>	5,826		2,895		2,348		583	

¹A dichotomous variable equal to 1 if initial enrollment occurred 12 or more months after high school/GED completion.

Controlling for individual and socioeconomic characteristics, results show that reverse transfer students are just as likely as students who begin at a 2-year college to earn an associate degree, however results show that those who reverse transfer are likely to take two years (26.8 months) longer to earn their associate degree. Reverse transfer is negatively associated with bachelor's degree attainment, students who reverse transfer are 26 percentage points less likely to earn a bachelor's degree compared to students who started at a 4-year college and did not reverse transfer. The likelihood for reverse transfer students to earn a bachelor's degree is slightly better than for a student who started at a 2-year college, which means reverse transfer students are more likely to earn a bachelor's degree than vertical transfer students. It takes reverse transfer students, on average, two years longer to earn a bachelor's degree and vertical transfer students two and a half years longer than students who start at a 4-year institution and do not reverse transfer.

Table 4.4: Degree attainment and time to degree as a function of reverse transfer, student characteristics, academic ability

	Associate Degree	Time to Associate Degree (months)	Bachelor's Degree	Time to Bachelor's Degree (months)
	b/se	b/se	b/se	b/se
Reverse Transfer	-0.048 (0.026)	27.08*** (4.59)	-0.26*** (0.025)	25.62*** (3.14)
Started college at a 2-year			-0.34*** (0.016)	29.91*** (2.45)
Race/Ethnicity				
Black	-0.049 (0.027)	7.94 (4.99)	-0.011 (0.019)	11.22*** (2.71)
Hispanic/Latinx	0.020 (0.031)	2.30 (4.91)	-0.016 (0.023)	3.55 (3.23)
American Indian/Alaska Native	0.13 (0.11)	2.39 (12.37)	-0.0035 (0.073)	-2.54 (9.09)
Asian American/Pacific Islander	-0.053 (0.076)	-0.73 (12.15)	0.11* (0.045)	-4.74 (3.22)
Other/2 or More Races	-0.069* (0.028)	3.08 (5.49)	-0.066** (0.021)	1.57 (2.68)

Table 4.4 (cont'd)

Female	0.083*** (0.018)	12.31*** (3.33)	0.074*** (0.013)	-1.80 (1.48)
First-Generation College Student	0.051** (0.028)	0.074 (3.59)	-0.050*** (0.015)	5.90* (2.43)
Delayed Enrollment	-0.050** (0.020)	-4.90 (3.59)	-0.18*** (0.015)	3.75 (3.23)
Household Income				
1 st Quartile	-0.022 (0.028)	5.75 (4.85)	-0.085*** (0.020)	3.80 (2.23)
2 nd Quartile	0.00011 (0.028)	4.25 (4.63)	-0.077*** (0.019)	4.68* (2.31)
3 rd Quartile	0.0061 (0.027)	-0.44 (4.27)	-0.041* (0.018)	4.04* (1.75)
ASVAB Math-Verbal Score Percentile	0.18*** (0.041)	-5.25 (6.80)	0.30*** (0.029)	-8.49* (3.58)
Rural	0.056 (0.23)	47.54*** (7.56)	0.019 (0.17)	-24.81 (34.74)
Urban	0.0013 (0.23)	50.84*** (6.66)	0.030 (0.17)	-25.16 (34.70)
Constant	0.18** (0.062)	39.09*** (9.19)	0.54*** (0.050)	50.06*** (6.40)

Note. Each row provides the coefficient and robust standard error. Controlled for census region fixed effects.

* p<0.05, ** p<0.01, *** p<0.001

To better understand reverse transfer students' degree attainment, Table 4.5 displays the background characteristics of reverse transfer students who return to a 4-year institution and achieve their bachelor's degree and contrasts it with reverse transfer students who complete an associate degree and reverse transfer students who do not complete any degree.

Table 4.5: Differences in Reverse Transfer Student Characteristics by Degree Type

	Reverse transfer students who earn a bachelor's			Reverse transfer students who earn an associate			Reverse transfer students who have no degree		
	N	Mean/ Percent	SD	N	Mean/ Percent	SD	N	Mean/ Percent	SD
Age at Initial College Enrollment	208	18.6 yrs	12.0	178	19.1 yrs	19.4	237	19.2 yrs	24.3
Delayed Enrollment ¹	208	0.10	0.30	178	0.18	0.39	237	0.17	0.38
Race/Ethnicity									
White	208	0.50	0.50	178	0.52	0.50	237	0.35	0.48
Black	208	0.23	0.42	178	0.25	0.44	237	0.32	0.47
Hispanic/Latinx	208	0.10	0.30	178	0.11	0.31	237	0.13	0.34
American Indian/Alaska Native	208	0.0048	0.069	178	0.056	0.075	237	0.0084	0.092
Asian American/Pacific Islander	208	0.029	0.17	178	0.056	0.075	237	0.013	0.11
Other/2 or More Races	208	0.15	0.36	178	0.12	0.32	237	0.18	0.39
First-generation college student	208	0.20	0.40	178	0.33	0.47	237	0.26	0.44
Female	208	0.63	0.48	178	0.62	0.49	237	0.54	0.50
Household Income	195	\$67,107	\$59,452	159	\$52,933	\$40,477	210	\$57,362	\$61,050
Income is at/below poverty level	208	0.067	0.25	178	0.12	0.32	237	0.13	0.33
Earnings at age 35	107	\$60,300	\$37,388	79	\$44,035	\$28,806	92	\$47,466	\$44,330

¹A dichotomous variable equal to 1 if initial enrollment occurred 12 or more months after high school/GED completion.

Undergraduate reverse transfer students who return to the 4-year college to obtain a bachelor's degree have a similar profile to reverse transfer students who stay at the community college and earn an associate degree. The percentages of students in the study are similar across race/ethnicity, gender, first-generation college status, and income levels. Reverse transfer students who earn bachelor's degrees do differ from reverse transfer students who stop out before attaining a postsecondary degree; they are more likely to be women and come from higher income homes compared to reverse transfer students who stop out before attaining a postsecondary degree. Earnings later in life, a result more deeply explored in the next section, are not surprisingly greater for reverse transfer students who earn a bachelor's degree compared to reverse transfer students who earn an associate degree or no degree.

To further understand how undergraduate reverse transfer degree attainment and time to degree differ by student background characteristics, *t* tests were performed. Table 4.6 presents the two-sample *t* tests results on the differences between reverse transfer students and students who began their postsecondary education at a 2-year college by student demographics on associate degree attainment and time to degree, respectively.

Table 4.6: Differences in Associate Degree Attainment by Student Demographics

	Reverse Transfer			Started at a 2-year college (did not reverse transfer)			<i>t</i> test	
	N	Mean/ Percent	SD	N	Mean/ Percent	SD	Diff	Effect Size
<i>Differences in Associate Degree Attainment by Student Demographics</i>								
Race/Ethnicity								
White	261	0.35	0.48	1,147	0.33	0.47	0.024	0.050
Black	155	0.28	0.45	668	0.24	0.42	0.049	0.11
Hispanic/Latinx	63	0.30	0.46	496	0.27	0.45	0.027	0.061
American Indian/Alaska Native	4	0.25	0.50	21	0.38	0.50	0.13	0.26
Asian American/Pacific Islander	9	0.11	0.33	44	0.34	0.48	0.23	0.50
Other/2 or More Races	91	0.23	0.42	519	0.26	0.44	0.027	0.063
First-generation college student	149	0.39	0.49	1,049	0.29	0.45	0.10**	0.22
Female	347	0.32	0.47	1,535	0.32	0.47	0.00063	0.0014
Male	236	0.28	0.45	1,360	0.25	0.43	0.038	0.087
Delayed Enrollment	92	0.35	0.48	1,141	0.24	0.43	0.11**	0.25
Income is at/below poverty level	62	0.34	0.48	502	0.24	0.43	0.10	0.24

Table 4.6 (cont'd)

<i>Differences in Time to Associate Degree Attainment (in months) by Student Demographics</i>								
Race/Ethnicity								
White	92	81.1	50.2	377	55.8	42.7	25.3***	0.57
Black	44	92.0	47.4	157	62.4	45.4	29.6***	0.65
Hispanic/Latinx	19	84.0	43.1	136	59.3	40.6	24.7**	0.61
American Indian/Alaska Native ¹	-	-	-	-	-	-	-	-
Asian American/Pacific Islander ¹	-	-	-	-	-	-	-	-
Other/2 or More Races	21	84.6	47.3	134	58.8	47.9	25.9**	0.54
First-generation college student	58	88.1	46.8	302	58.0	42.7	30.0***	0.69
Female	111	93.5	48.3	492	63.0	45.4	30.5***	0.66
Male	67	69.5	44.0	335	50.9	40.0	18.6***	0.46
Delayed Enrollment	32	86.3	50.9	276	55.5	43.5	30.8***	0.70
Income is at/below poverty level	21	100.8	46.1	119	60.8	43.1	39.9***	0.92

¹Omitted because the sample size was too small.

* p<0.1, ** p<0.05, *** p<0.01

There are no observable differences by race/ethnicity, gender, or low-income status in associate degree attainment for reverse transfer students. A larger percentage of reverse transfer students who are first-generation college completed an associate degree, but they also took on average 30 months, or 2.5 years longer to complete the degree. From Table 4.4, reverse transfer students took approximately two years longer to complete an associate degree. There are observable differences in time to degree across all student background characteristics. This has implications for 2-year colleges as this may result in reverse transfer students getting stuck at the community college. Administrators could see if students are coming in with courses that are not transferring or if many of these students reverse transferring are having to retake previously failed courses.

Table 4.7 presents the two-sample *t* tests results on the differences between reverse transfer students and students who began at a 4-year institution and did not reverse transfer by student demographics on bachelor's degree attainment and time to degree, respectively.

Table 4.7: Differences in Bachelor's Degree Attainment by Student Demographics

Reverse Transfer				Started at a 4-year college (did not reverse transfer)			<i>t</i> test	
	N	Mean/ Percent	SD	N	Mean/ Percent	SD	Diff	Effect Size
<i>Differences in Bachelor's Degree Attainment by Student Demographics</i>								
Race/Ethnicity								
White	261	0.39	0.49	1,302	0.72	0.45	0.33***	0.71
Black	155	0.30	0.46	431	0.54	0.50	0.24***	0.49
Hispanic/Latinx	63	0.32	0.47	208	0.54	0.50	0.22**	0.45
American Indian/Alaska Native	4	0.25	0.50	7	0.86	0.38	0.61*	1.44
Asian American/Pacific Islander	9	0.67	0.50	69	0.77	0.43	0.10	0.23
Other/2 or More Races	91	0.35	0.48	331	0.56	0.50	0.21***	0.43
First-generation college student	149	0.28	0.45	489	0.54	0.50	0.25***	0.52
Female	347	0.38	0.49	1,255	0.69	0.46	0.31***	0.66
Male	236	0.33	0.47	1,093	0.61	0.49	0.28***	0.58
Delayed Enrollment	92	0.22	0.41	351	0.32	0.47	0.10**	0.22
Income is at/below poverty level	62	0.23	0.42	175	0.38	0.49	0.16**	0.33
<i>Differences in Time to Bachelor's Degree Attainment (in months) by Student Demographics</i>								
Race/Ethnicity								
White	103	79.7	38.7	938	55.6	21.2	24.2***	1.03
Black	46	101.9	45.9	232	64.1	27.8	37.8***	1.20
Hispanic/Latinx	20	96.0	46.8	112	61.7	24.3	34.2**	1.19
American Indian/Alaska Native ¹	-	-	-	-	-	-	-	-
Asian American/Pacific Islander	6	76.3	44.6	53	53.9	14.3	22.5	1.18
Other/2 or More Races	32	88.3	43.8	186	55.9	25.5	32.4***	1.12
First-generation college student	42	96.7	48.6	262	62.7	31.4	33.9***	0.99
Female	131	85.6	42.7	863	56.1	22.2	29.5***	1.14
Male	77	90.1	42.9	664	58.8	24.3	31.3***	1.17
Delayed Enrollment	20	109.6	41.0	111	63.1	34.0	46.4***	1.32
Income is at/below poverty level	14	83.3	28.4	67	66.8	28.3	16.5*	0.58

¹Omitted because the sample size was too small.

* p<0.1, ** p<0.05, *** p<0.01

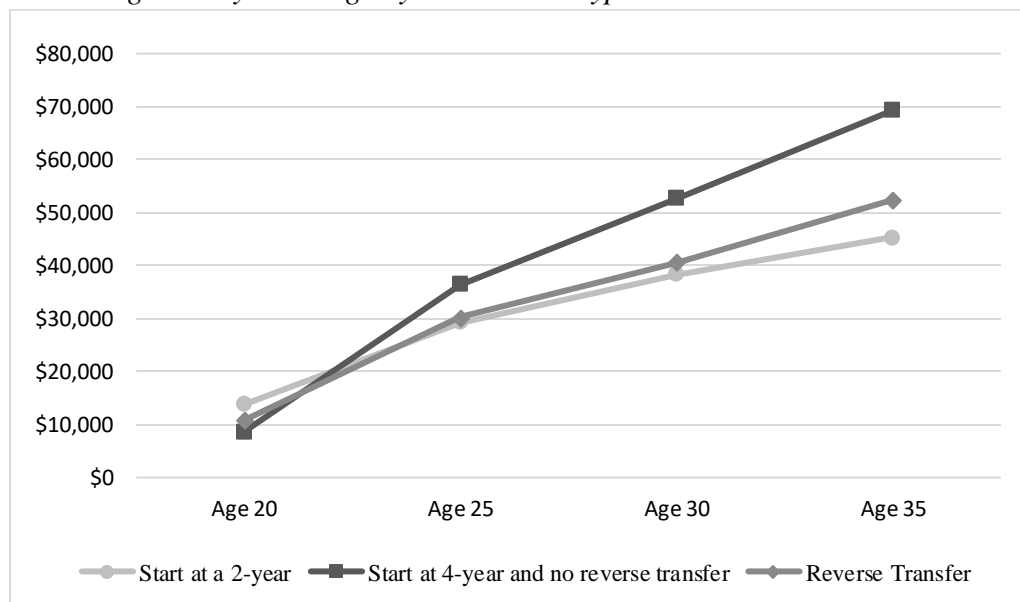
There are statically significant differences in bachelor's degree attainment for reverse transfer students across race/ethnicity, genders, delayed enrollment, and low-income status. In this study, all demographics were shown to graduate at lower rates than their 4-year college peers who did not reverse transfer. Further, reverse transfer students across these demographics and characteristics experience longer graduation timelines. This is in line with prior research that shows gaps in college completion rates across race, gender, and income groups and trends over time (Bailey & Dynarski, 2011; Bound et al., 2010; Holzer & Dunlop, 2013). This points to a penalty for reverse transferring for students who desire to earn a bachelor's degree. This can

present an opportunity if students who are thinking of transferring from a 4-year college to a 2-year college first discuss it with someone who can share these potential implications.

Labor Market Returns

This section presents the findings for Research Question 3: What are the earnings trends for reverse transfer students and how do these vary from students who started at a 2-year college and from those who started at a 4-year college? Figure 4.1 presents the average yearly earnings by enrollment type (i.e., average yearly earnings for those who start at a 2-year college, those who start at a 4-year college and no reverse transfer, and those students who reverse transfer) measured at ages 20, 25, 30, and 35⁸. These ages represent data collected from 1999 to 2017.

Figure 4.1: Average Yearly Earnings by Enrollment Type



Participants in the data who started at a 4-year college and did not reverse transfer may have been, on average, earning less than students who started at a 2-year college at age 20, but since a majority of those participants (77%) earned their bachelor's degree within six years and

⁸ Since participants varied in age from 12-18, earnings were adjusted for inflation for each age group, so they are comparable across time periods.

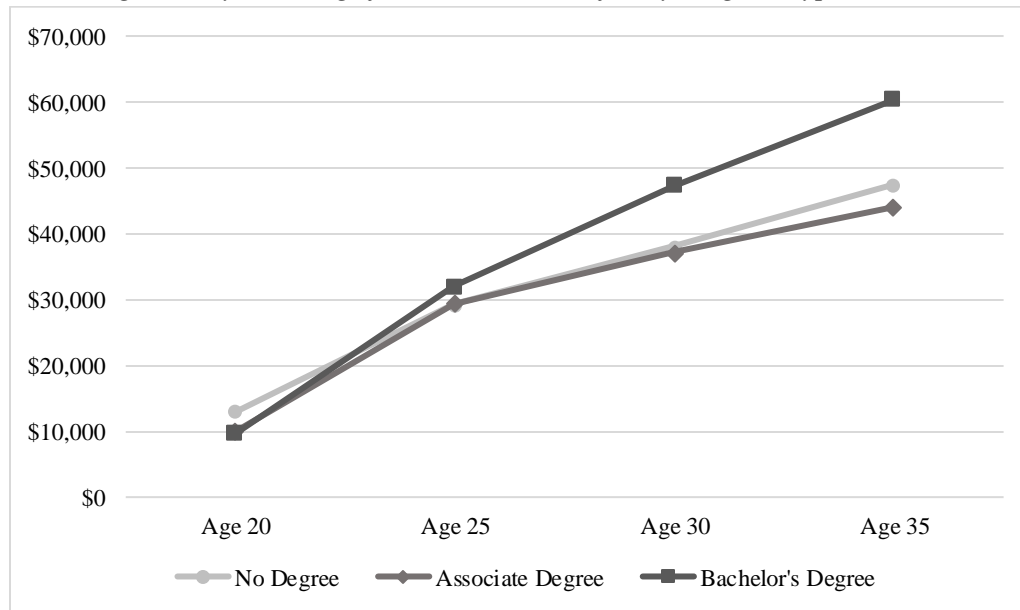
the average age to begin at a 4-year institution was 19, it is no surprise that their earnings data jump starting at age 25 since research shows those with a 4-year college degree have higher annual earnings compared to those with some college education and those with a 2-year college degree (Bailey et al., 2004; Grubb, 2002; Hout, 2012). Those students attending a 4-year college directly out of high school are likely seeing less in annual earnings before college graduation because people who enroll in a 2-year institution are more likely to be working full or part-time (Velez, Bentz, & Arbeit, 2018).

By age 35, those students in the data who started at a 4-year college and did not reverse transfer report annual earnings approximately \$16,000 greater than participants who reverse transferred and \$24,000 greater per year than students who started at a 2-year college. Reverse transfer students and students who begin at a 2-year college in the dataset have similar earning patterns until age 30. This difference may largely be attributed to a higher percentage of reverse transfer earning either an associate degree or a bachelor's degree compared to students who start at a 2-year college (59% of reverse transfer students earn a degree compared to 40% of students who start at a 2-year college), which gives them more job opportunities and access to higher paying positions (Carnevale, Smith, & Strohl, 2013). Additionally, reverse transfer students in this study take two years longer to graduate than their peers at 4-year and 2-year colleges. Witteveen and Attewell (2019) showed using Baccalaureate & Beyond 1993–2003 surveys that delayed graduates earn significantly less than those who graduated on time (within 4 years of starting college), suggesting a longer time-to-degree is associated with a progressively increasing earnings penalty.

Reverse transfer creates an interruption in a student's educational journey. In the data, 31% of reverse transfer students complete an associate degree, 36% go back to a 4-year

institution and finish a bachelor's degree, but 41% ultimately stop out and do not obtain any degree (see Table 4.2). It is likely these choices have impacts on the earnings data of reverse transfer students. To explore this, Figure 4.2 presents the average yearly earnings for reverse transfer students by degree type (i.e., bachelor's degree, associate degree, or no degree).

Figure 4.2 Average Yearly Earnings for Reverse Transfer by Degree Type



Reverse transfer students who leave college without a degree and those who complete an associate degree display similar average yearly earnings trends. Reverse transfer students who earn a bachelor's degree, on the other hand, show an increase in yearly earnings above the other two degree types starting right before age 25, the time many of those students are graduating from college. The gap between baccalaureate achievers and associate or no degree continues to increase as the years progress, and by age 35, bachelor's degree earners are making, on average, approximately \$15,000 more per year than those participants with an associate degree or no degree. Similar to previous literature, those with an associate degree and those with no degree but some college (because they started at a 4-year institution and then reverse transferred to a 2-year college) have comparable annual earnings (Jacobson et al., 2005; Jepsen et al., 2014).

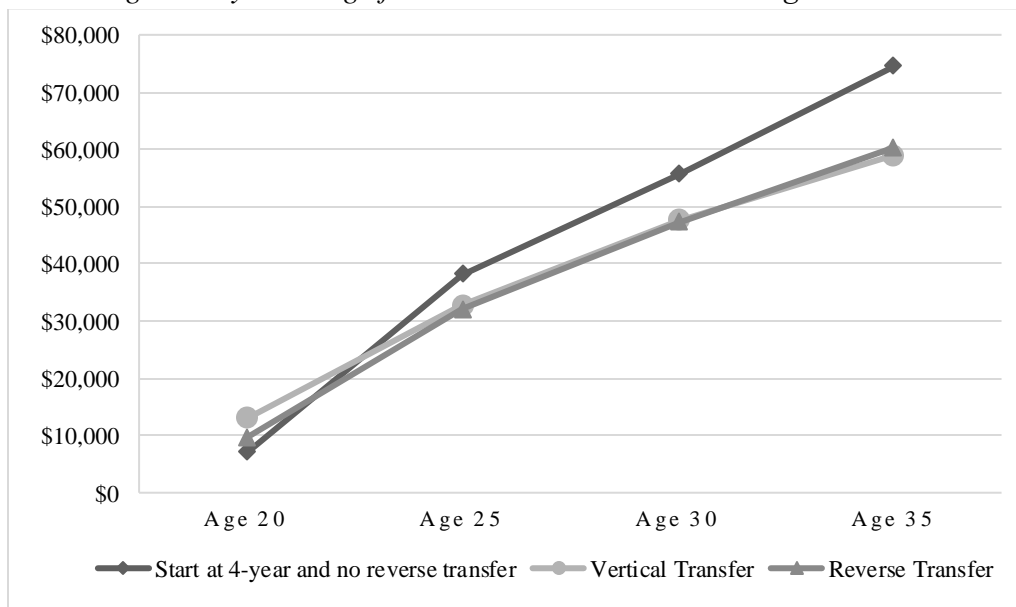
College completion, specifically from a 4-year postsecondary institution, results in higher annual earnings but it is likely to have provided other economic benefits as well, such as career choice and employment stability. Workers with college degrees tend to have the lowest unemployment rates, therefore receiving the best protection from the 2007 recession and having the best prospects for being hired in the recovery (Carnevale, Smith, & Strohl, 2013). It is important to note that participants in the NLSY97 data would have ranged from 22 to 28-years-old in 2007, a time when most would have been entering the work force in professional capacities following higher education.

Since students who reverse transfer initially enrolled in a 4-year institution with the assumed goal of earning a bachelor's degree, this means even after they reverse transfer, they may behave more like vertical transfer students once they are enrolled in a 2-year college. To investigate this and understand how these enrollment behaviors are associated with earnings potential, Figure 4.3 presents the differences for students across enrollment types who have earned a bachelor's degree. Here I look at the average yearly earnings for students earning bachelor's degrees who started at a 4-year college and did not reverse transfer, those who started at a 2-year college and vertically transferred to a 4-year college, and those who reverse transferred and then returned to a 4-year college.

Being a vertical or reverse transfer student and earning a bachelor's degree is associated with lower earnings over time compared to those who do not leave the 4-year college, a shift that begins between age 20 and 25 and by age 35, students who start and remain at a 4-year college earn approximately \$15,000 more annually over those who transfer to a 4-year college. Additionally, reverse transfer students and vertical transfer students have near identical average earnings trends, suggesting that the two populations may behave very similarly and we can use

existing research on vertical transfer students to help inform us on how reverse transfer students who return to complete their bachelor's degree behave.

Figure 4.3: Average Yearly Earnings for Those with a Bachelor's Degree



Next, to further explore how earnings are associated with enrollment types (i.e., starting at a 2-year college or reverse transferring) relative to those starting at a 4-year college when we account for student characteristics, I use the restricted sample of individuals who ever enrolled in postsecondary education to estimate two ordinary least squares regression models. Results are displayed in Table 4.8. The first column for each age group presents the results where the student's enrollment pattern, race, gender, prior ability, parental education, and household income are accounted for. The second column for each age group presents the results when the highest degree attained is also controlled for.

Table 4.8: Earnings if Ever Enrolled in Postsecondary Education

	Age 20 b/se		Age 25 b/se		Age 30 b/se		Age 35 b/se	
Reverse Transfer	0.20*	0.12	-0.18*	-0.17*	-0.23**	-0.15*	-0.17*	-0.05
	(0.089)	(0.089)	(0.077)	(0.077)	(0.070)	(0.074)	(0.081)	(0.079)
Started at a 2-year college	0.43***	0.33***	-0.13**	-0.10*	-0.23***	-0.10*	-0.27***	-0.085
	(0.056)	(0.062)	(0.043)	(0.046)	(0.043)	(0.049)	(0.057)	(0.059)
Highest Degree Received								
High School Diploma		0.32*		0.38**		0.21*		0.22
		(0.15)		(0.15)		(0.10)		(0.15)
Associate Degree		0.17		0.54***		0.30**		0.39*
		(0.16)		(0.15)		(0.11)		(0.16)
Bachelor's Degree		-0.054		0.53***		0.50***		0.66***
		(0.15)		(0.15)		(0.11)		(0.15)
Master's Degree		-0.041		0.56***		0.60***		0.82***
		(0.16)		(0.15)		(0.11)		(0.15)
PhD		-0.091		0.28		0.19		0.71***
		(0.22)		(0.19)		(0.17)		(0.19)
Professional degree (DDS, JD, MD)		-0.10		-0.018		0.82***		0.83*
		(0.19)		(0.22)		(0.16)		(0.39)
Race/Ethnicity								
Black	-0.15	-0.16*	-0.14*	-0.13*	-0.082	-0.081	0.030	0.021
	(0.076)	(0.076)	(0.060)	(0.061)	(0.058)	(0.057)	(0.081)	(0.080)
Hispanic/Latinx	-0.037	-0.057	-0.022	-0.019	0.11	0.11	0.062	0.063
	(0.081)	(0.082)	(0.075)	(0.074)	(0.064)	(0.062)	(0.093)	(0.092)
American Indian/Alaska Native	-0.39	-0.37	-0.40	-0.41	0.12	0.11	-0.72	-0.75
	(0.22)	(0.21)	(0.53)	(0.54)	(0.14)	(0.15)	(1.04)	(1.01)
Asian American/Pacific Islander	-0.20	-0.16	0.091	0.10	0.39***	0.33**	0.44***	0.40**
	(0.14)	(0.13)	(0.14)	(0.13)	(0.11)	(0.11)	(0.13)	(0.13)
Other/2 or More Races	0.094	0.073	-0.039	-0.030	0.023	0.049	-0.038	-0.014
	(0.087)	(0.087)	(0.065)	(0.064)	(0.059)	(0.060)	(0.076)	(0.076)
Female	-0.31***	-0.27***	-0.23***	-0.24***	-0.28***	-0.32***	-0.39***	-0.44***
	(0.046)	(0.048)	(0.039)	(0.041)	(0.037)	(0.038)	(0.053)	(0.054)
First-generation College Student	0.14*	0.12*	0.024	0.027	0.13**	0.15***	0.075	0.090
	(0.056)	(0.057)	(0.048)	(0.048)	(0.041)	(0.040)	(0.057)	(0.055)

Table 4.8 (cont'd)

Household Income								
1 st Quartile	-0.073 (0.071)	-0.083 (0.070)	-0.38*** (0.066)	-0.36*** (0.068)	-0.27*** (0.061)	-0.23*** (0.060)	-0.44*** (0.090)	-0.38*** (0.093)
2 nd Quartile	-0.11 (0.071)	-0.12 (0.070)	-0.16** (0.053)	-0.14** (0.053)	-0.20*** (0.057)	-0.17** (0.057)	-0.27*** (0.065)	-0.22*** (0.064)
3 rd Quartile	0.051 (0.057)	0.044 (0.056)	-0.11* (0.048)	-0.10* (0.049)	-0.11* (0.049)	-0.094 (0.048)	-0.27*** (0.067)	-0.24*** (0.068)
ASVAB Math-Verbal Score Percentile	-0.21 (0.11)	-0.084 (0.11)	0.45*** (0.086)	0.40*** (0.087)	0.53*** (0.083)	0.37*** (0.085)	0.56*** (0.12)	0.29* (0.12)
Constant	8.85*** (0.32)	8.77*** (0.34)	10.13*** (0.21)	9.72*** (0.28)	10.54*** (0.16)	10.17*** (0.20)	10.72*** (0.28)	10.29*** (0.29)

Note. Each row provides the coefficient and robust standard error.

Controlled for census region fixed effects.

* p<0.05, ** p<0.01, *** p<0.001

Other than early in one's professional career or educational journey (age 20), reverse transfer and starting at a 2-year college are negatively associated with earnings relative to starting at a 4-year college, even when overall highest degree earned is considered except at age 35 when there is no longer a statistically significant negative association. These findings are disconcerting as students continue to reverse transfer. While research tells us that some college is better than no college, reverse transfer students, even when they transfer back to a 4-year college do not enjoy similar earnings as baccalaureate earners. This indicates an earnings penalty to reverse transferring.

Qualitative Analysis

The following sections provide the findings from the qualitative phase of this study exploring how students today describe their experience with reverse transfer. Students responded to questions regarding their decisions and experiences to attend their first postsecondary institution, their educational goals initially, their reasons for and experience with transferring to a community college, and their new educational goals. Findings suggest students who engage in reverse transfer patterns do so for a variety of reasons and with diverse goals. For many, lack of social or academic integration to the university or a poor institutional fit are what primarily led to the decision to transfer to a community college. Finances are another reason participants indicated their decision to leave, noting the high cost of the 4-year institution compared to the lower cost of the community college. Some students mentioned struggling with their mental health, for reasons related to the previously stated reasons, but felt it was the deciding factor. And lastly, a change in educational goals led many students in the study to feel the community college was a better fit for them.

Experiences at Initial 4-year Institution

This section describes the findings to Research Question 4: How do students who reverse transferred describe their experiences leading to the decision to transfer from their 4-year institution to a community college? Three broad themes were found: Lack of social and academic integration, poor institutional fit, and struggles with mental health.

Lack of Academic and Social Integration. Tinto's (1993) framework highlights the integral role academic and social integration plays in student retention, a concept that is supported in the findings. According to Tinto (1993), academic integration is defined by students' academic performance, level of intellectual development, and perception of having a positive experience in academic settings, while social integration is defined by involvement in extracurricular activities and the presence of positive relationships with peers. What follows is how the participants in the study described their experiences at the 4-year college that can be viewed as a lack of academic and/or social integration.

Eddie described how he assumed the college work would be equivalent to his high school work, where he was taking AP coursework. He felt because he had "*gotten into a UC [University of California], I should be able to do the work.*" Instead, what he found was the assignments and workload, along with the amount of time spent in class versus outside of class, where so different that he struggled to adjust. This struggle to adjust, along with a desire to do the social college activities, led to failing and near failing grades. When asked what, if any, resources he used, he admitted to not using any, adding "I really thought I could just figure it out on my own." Academic integration includes use of resources, interactions with faculty and staff, and academic performance—all which were missing from the way Eddie described his experience at the 4-year university. Emily describes a very similar experience, "*They expected*

a lot from you because, you know, you got accepted into this prestigious school, you should be able to do all these things and it just started piling up and I was like, wow, this is so tough.”

And while Emily did not initially earn poor grades, she did note that earning B's and C's when she is used to receiving A's in her courses made her feel really bad. From there, she said each quarter her grades got progressively worse.

For another participant, Sofia, academic integration was also a struggle, but it presented differently than it did for Eddie. For Sofia, it was during her new student orientation that she realized she did not get into the nursing major she wanted, which was even more disappointing because she thought she had been accepted into that major. She would then find out in her first year that it would be near impossible to declare that major since she wasn't accepted into the pre-major as an incoming freshman. This led to her seeking out other majors, *“I was a health science major in my second year and then a child development major in my third year.”* But as she struggled to find her place, her grades suffered, and she was not able to fully integrate into the college academically. By her fourth year she found herself on academic probation and still had completed very few major courses. *“All I wanted to do was take classes that talked about child development. So I started to just feel kind of lost and unmotivated...I felt like maybe college wasn't for me.”*

One thing that stood out about Sofia was how much she was socially integrating. She describes really enjoying her initial 4-year university; she was involved in clubs like ballet folklórico, had good friends, and liked her roommates. But Tinto's framework shows academic and social integration are equally important and while Sofia was enjoying her social time, her academic self-concept was suffering as she struggled to find a major she liked or earn good grades.

Rosa, when describing her experience, shows a far less active role in attempting to integrate socially compared to Eddie and Sofia. She even distinctly cites it was not poor academic achievement that was the issue. Rosa was keenly focused on not wanting to be away from home. Rosa prioritized going home each weekend, *“I felt like I was a better student in college because I didn’t procrastinate at all. But that was because I was coming home every weekend and I didn’t want to have homework to do.”* While she mentioned in comments not quoted here to liking her roommates, it does not appear that she made attempts to become involved in campus activities and reported not enjoying the party atmosphere present at the university. While Rosa’s experience describes potential academic integration, by coming home each weekend, she could be viewed as not socially integrating.

Poor Institutional Fit. It is a common belief within higher education that the “fit” between an institution and a student’s attributes, beliefs, interests, etc. plays an important role in college students’ adjustment, satisfaction, and persistence. In a survey of approximately 1,000 colleges and universities, a lack of student institution fit was named as the second-most influential institutional factor that leads to student attrition; only financial aid was rated as being more important (Habley & McClanahan, 2004). Institutional fit is integral to Tinto’s (1993) Student Departure Theory, where he argues that the incongruence or misfit between students’ needs, interests, and preferences and those of the institution can play a key role in students’ decisions to drop out. It is important to note that institutional fit is not synonymous with social and academic integration. According to Tinto (1993),

Incongruence....springs from individual perceptions of not fitting into and/or of being at odds with the social and intellectual fabric of institutional life. In such situations, individuals leave not so much from the absence of integration as from the judgment of

the undesirability of integration. Withdrawal mirrors, in effect, the person's decision that further attendance would not be in his/her own best interests. (p. 50)

This view suggests that institutional fit could lead to departure independent of academic or social integration.

This theme presents itself both as an experience students described at their initial 4-year institution, but also for some as a reason to leave. Detailed here are how students talked about institutional fit as it relates to their experience. As Grace describes how she felt during her time at the 4-year institution, she explained her desire to make it work, *"I went to the club fair, joined the dance club, got a job on campus...I was in a freshman seminar class that offered lots of opportunities to bond with people."* Despite these attempts at being involved, they did not lead to social integration, but it was not because of a lack of effort. Ultimately for Grace, despite these efforts, she just did not feel a fit with the institution. *"Nothing there clicked for me. A majority of my feelings throughout the first year were, 'I don't want to be doing this.' I just didn't find my element [there] at all. But I didn't really feel like I had the option to not be there."*

Noah was initially very excited to start college. He thought he *"had chosen correctly"*, meaning he thought he had made an informed decision and that the college would be a good fit for him, it offered the major he wanted, he had toured the campus and thought it was nice, and it was the perfect distance from home for him. But as time went on, he found less and less he liked. As he put it, *"I thought that, you know, I was getting a good education there, I just didn't like the experience."* He noted how he couldn't point to what it exactly wasn't right, it just wasn't a good fit.

Struggles with Mental Health. Transitioning from high school to college is an important development in many young people's lives and often brings new challenges, such as academic pressures, financial and career concerns, navigation of social relationships, and family pressure. Prior research indicates that students' mental health or well-being prior to or during transition to college life can be an important predictor of whether or not they will return to college after their first year (see Bachrach & Read, 2012; Boyraz, Granda, Baker, Tidwell, & Waits, 2016; Boyraz, Horne, Owens, & Armstrong, 2013). Poor mental health has been found to be a risk factor for inadequate academic performance (Deroma, Leach, & Leverett, 2009; Eisenberg, Golberstein, & Hunt, 2009; Hysenbegasi, Hass, & Rowland, 2005).

Some of the participants in this study made direct references to their mental health when talking about their experiences at their initial 4-year institution. Mariana described feeling very anxious and what she labeled as depressed. *"Classes were hard, I missed my mom, I felt depressed. I tried to get an appointment with CAPS [Counseling and Psychological Services] but the wait was, like, months out. I needed help now, you know?"* She was very frustrated that she could not get in to see a counselor through the resources offered on campus and did not have access to outside counseling resources. She even mentioned, *"if there are so many students that need CAPS, isn't that a problem? And shouldn't the school get more counselors?"* indicating what research and surveys have told us, that there are other students struggling with their mental health and colleges and universities are likely understaffed to deal with the volume.

Grace also mentioned how she felt her mental health suffered as she tried to make it work at her 4-year institution. *"I tried to stick it out and be happy because I know that's what my parents wanted, but I just couldn't. Sometimes I didn't even want to leave my room because*

I just wasn't clicking with anyone." Emily described her experience in a similar way, *"I was just not having a good time there, it was just so depressing."* As Emily spoke about her experience, she said she felt different than others and like she *"wasn't smart enough"* feeling that Emily said was *"very tough for me."* She *"felt like everyone else around me was succeeding but me."* What she described could be defined as imposter syndrome. Imposter syndrome is an ongoing phenomenon that is experienced by people when they question their worth and accomplishments, and debate whether they truly deserve to be in the spaces they occupy (Clance & Imes, 1978). Imposter syndrome was first defined in 1978 by Clance & Imes as a strong sense of self-doubt experienced by individuals who do not feel as if they are enough, or have rightfully earned their place despite their achievements. This feeling can lead to poor mental health as one tries to feel they are good enough and that they belong.

While the interview data shows there were varying experiences at the initial 4-year institution that ranged from students really enjoying their experience to strong feelings of dislike, most students in the study described their experiences in negative ways. These negative experiences ultimately led to reasons to leave, and for these students, to transfer to a 2-year institution. The next section answers Research Question 5: For what reasons do these students engage in reverse transfer?

Reasons for Reverse Transfer

There are three main themes that emerged as reasons students in this study decided to transfer to a community college: financial reasons, academic reasons, and search for a better institutional fit.

Financial Reasons. The first theme, financial reasons, was represented in a couple of ways. One was that community college was appealing because the cost of attendance was less

than the students were paying at their 4-year institutions. Noah said, *“I didn’t know what I wanted to do, and I didn’t love it there, so I might as well go back to the community college and save money.”* Noah was not receiving any financial aid besides loans, which did not cover the full cost of attendance for him. A vast amount of his tuition and housing costs were being paid out of pocket by his parents, which he felt directly responsible for. Grace described something similar, stating *“Since it didn’t feel like college, or that college, was right for me, why not go to [the local community college] for much cheaper and then transfer back to a 4-year school, a different one, one I might like.”* Grace also did not qualify for any federal or state grants, so like Noah, her options were to take out loans and pay out of pocket. For these students, financial pressures may have been more salient than those receiving financial aid.

Another way some students made the decision to reverse transfer was the allure of free community college. While Mariana was receiving the Pell and Cal Grant at her 4-year institution, she qualified for a fee waiver program that allowed her to attend the community college for free. *“I got the fee waiver to go the community college for basically free, so that really helped me make my decision.”*

Academic Reasons. The second theme presented itself as academic reasons. This ranged from students having a change in their academic goals to not being able to get necessary coursework completed, and finally to students not doing well academically at the 4-year institution. For Rosa, she realized in her second year that the major she was pursuing at the 4-year institution was no longer what she wanted to do, *“I started thinking that I didn’t want to do nursing anymore and was thinking of switching to dental hygiene. Then my cousin told me to go the JC [the local community college] to do their dental hygiene program.”* Rosa’s experience also highlights the influence of others on her decision about how to best accomplish her goal.

This aspect is missing from Tinto's (1993) model, which does not consider external factors once enrolled. Like Rosa, Mariana was pursuing a healthcare field major at her initial institution, but *"realized that wasn't for me. And I didn't want to change my major to undeclared because school was so expensive."* She, like Rosa, decided to complete a dental hygiene program at her local community college. These findings provide support for Hillman and colleagues' (2008) hypothesis that students with interests in nursing and health may reverse transfer because related program are quicker to complete and more affordable at community colleges than at 4-year institutions.

Lucero described several reasons for transferring to the community college. Upon reflection, she felt that she just wasn't ready academically or emotionally for a 4-year college. In her two years at the 4-year institution, she described both struggling to get into classes due to them being full by the time she registered and feeling that *"the professors expected us to do it all on our own. They didn't explain anything, just said 'this is your syllabus' and expected us to get it. I didn't understand, and I should have asked for help."* For these reasons, she ultimately left her 4-year institution. *"I couldn't get into any of the classes I needed [at the 4-year college] but have had no problem at the JC [the local community college]. And I feel like the teachers here really care."*

Two students in the study, Eddie and Sofia, attended the community college after being academically disqualified at their 4-year institution. As Eddie stated, *"This was not the choice I wanted to make, but I had to because my grades were so bad."*

Search for a Better Institutional Fit. The third theme is the search for a better institutional fit. This was alluded to as students described their experience at their 4-year institution. No matter what activities students attempted to pursue at the 4-year, they just did not

feel they belonged at the college. Grace's feelings that the school was not a good fit for her ultimately led to her decision to leave. *"I was so desperately miserable. I told my parents I am not doing this anymore. My mom asked, well what are you going to do instead? I said, I don't know, go to the [local community college]."* Grace's decision to leave was not because of finances, doing poorly in school, or having a change in her ultimate goal. In fact, she says, *"I plan to transfer to again [to another 4-year institution]. I want a bigger school next time though."*

After attending a college mostly for its prestige, Emily realized her poor institutional fit, coupled with her other experiences, was reason enough to leave. She said, *"I asked myself, 'do I really want to be here?' I was no longer passionate about being there. It was not where I wanted to be."* She transferred to the local 2-year institution to get closer to home but planned to return to a 4-year college closer to home to complete her degree. Of note, Emily realized this move *"might prolong my academic career, but I was not happy."*

While not all students in the study described their time at the 4-year institution as miserable, the college was still not a good fit. Interestingly, none of the students in the study expressed thinking of transferring to another 4-year institutions. They saw the community college as their only option to leave their 4-year college but stay in higher education. Due to the timing of the interviews being relatively close to the time each student reverse transferred, it is likely students have not had the time or opportunity to fully reflect on these decisions.

Chapter 5: Discussion

In the quantitative portion of this study, the main findings indicate that Black, Hispanic/Latinx, students of more than one race, and female students are more likely to reverse transfer. Reverse transfer behavior seemed to have some negative consequences since undergraduates who reverse transfer are less likely to graduate than their peers, especially compared to 4-year persisters where we observe 65% completing their bachelor's degree compared to only 36% of the reverse transfer students in the study. And when they graduate, they take substantially longer, delaying their entry into the labor market. As we think about reverse transfer students, findings from this study suggest it may be better to think of them similarly to students who start at a 2-year institution due to relatively little differences on associate degree attainment and average annual earnings over time.

And what can we learn from interviewing students who have reverse transferred? Given these interviews occur 20 years after the NLSY97 began its survey, how have things changed? The qualitative findings suggest students who engage in reverse transfer patterns do so for a variety of reasons and with diverse goals. For many, a poor institutional fit tainted students' experiences at their initial 4-year institution and ultimately led many to the decision to transfer to a community college. Finances are another reason participants indicated their decision to leave, noting the high cost of the 4-year institution compared to the lower cost of the community college. And lastly, a change in educational goals led many students in the study to feel the community college was a better fit for them. Interview data revealed how the reverse transfer student decision allowed these students to continue their pursuit for higher education. At the time of the interviews relative to when the students had reverse transferred, the option and decision to reverse transfer was viewed as a positive and beneficial experience. The students had positive

feelings about their decision to reverse transfer from a 4-year college or university to a 2-year community college.

Quantitative results reveal how reverse transferring can have an impact on student outcomes while the qualitative findings provide detail about the paths students take in higher education, some on a continued journey to completion of a bachelor's degree and others on a new path towards a new goal. Findings from both the quantitative and qualitative phase show that the paths of reverse transfer students are diverse and complex.

Reverse Transfer

Between 2000 and 2017, college enrollment has grown by 50% at 4-year institutions (U.S. Department of Education, 2019). The college-for-all aspiration unintentionally encourages many students, some who may be misinformed or not college-ready, to enroll in 4-year institutions. This pressure may result in students enrolling in 4-year colleges and then transferring to a community college due to academic challenges, changes in academic goals, lack of social and academic integration, or a poor institutional fit.

Findings from this study reveals that patterns of student mobility are complex and exposes the potential harmful use of the term 'reverse' to describe this enrollment pattern because ultimately, the participants in the qualitative portion of the study described the decision to reverse transfer as a positive experience and viewed as a form of academic advancement.

Qualitative findings of this study also counter existing literature that finds that academic struggle is the primary reason for reverse transfer (Goldrick-Rab, 2006; Renn & Reason, 2013). While this may still be a reason, several of the students in this study did not report academic struggle as playing a role in their decision. However, academic records of the students were not

requested, so it is not definite that academic struggle was not a component, but many participants emphasized other factors driving their decision.

These findings suggest that students who engage in reverse transfer patterns do so for a variety of reasons and with diverse goals. For many, a poor institutional fit is what primarily led to the decision to transfer to a community college. Finances are another reason students indicated their decision to leave, noting the high cost of the 4-year institution compared to the lower cost of the community college. And lastly, a change in educational goals led many students in the study to feel the community college was a better fit for them.

It is important to understand why students reverse transfer. Potential implications include thinking about how student support service professionals (e.g., counselors) advise students during their pre-college and college years. College administrators and state officials must also understand these mobility behaviors to develop programs and policies that meet the needs of students, the goals of the college, and the educational goals of the state. As patterns of student mobility become more complex and increasingly widespread, institutions not only need to understand the various patterns of student enrollment, but there is also a need to develop systems of tracking student educational progression across institutions and more flexible interinstitutional agreements to aid in student movement between colleges. These patterns also indicate that current measures of student success, progress, and institutional effectiveness may be outdated and do not reflect actual goal attainment.

Degree Attainment and Time to Degree

The low rates of bachelor's degree completion associated with a reverse transfer indicate that reverse transfer is a form of student mobility most deserving of attention. Results from this study show that reverse transfer is negatively associated with bachelor's degree attainment

compared to students who started at a 4-year college and did not reverse transfer. The likelihood for reverse transfer students to earn a bachelor's degree is slightly better than for a student who started at a 2-year college, which means reverse transfer students are more likely to earn a bachelor's degree than vertical transfer students. This could be because they already have some experience in a 4-year institution or because their goal, even though they reverse transferred, was to ultimately return to a 4-year institution to finish their initial degree path.

Controlling for individual and family characteristics, results show that reverse transfer students take significantly longer to earn a degree than other enrollment types, suggesting that reverse transfer students may have a hard time maintaining continuity in their enrollment or are not always enrolled full-time, thus adding time to their total years in college. Reverse transfer students could be stopping out or not able to transfer credits earned at the 4-year institution. Prior research indicates one reason students reverse transfer is academic difficulties (Bach et al., 1999; Goldrick-Rab, 2006; Hillman et al., 2008; LeBard, 1999), which may mean these students are not able to transfer any credits and may be re-taking coursework. Another reason students reverse transfer is a change in academic goals, either major/career interest or a desire to obtain an associate degree (Bach et al., 1999; Hillman et al., 2008; McCormick & Carroll, 1997), this could result in a “starting over” for students, thus adding length to their time to degree. Results also highlight that female students who reverse transfer take longer than male students who reverse transfer to obtain a degree. One possible explanation for this difference in time to degree by gender could be due to having children and taking on more of the familial duties.

The qualitative findings underscore the complex process of decision-making that takes place before and after college placement. They also provide justification to extend Tinto's (1993) Theory of Student Departure model to include factors in the external environment, institutional

fit, and goal change as explanatory features to student departure. Goal change differs slightly from the element of goal commitment, an aspect present in Tinto's model. Goal commitment, according to Tinto (1993), is the student's level of commitment to the 4-year college or university and commitment to the goal of college graduation. A student may still be committed to the goal of graduation, but from where, in what major, and so on, has changed. Based on the findings, none of the students interviewed characterized themselves as dropping out of higher education. Goal change or goal revision seems to play a significant role in students' choice to change institutions. It is also worth noting that many student departure theories present retention from the vantage point of the institution, not the system. So, either a student is retained or not, which ignores transferring to another institution. The phenomenon of students reverse transferring from 4-year institutions to community colleges is becoming more prevalent, yet this growing trend is not adequately accounted for in the retention literature, which treats subsequent student enrollment as a dichotomous yes/no event.

The term reverse transfer comes from the idea that moving from a 4-year institution to a community college is viewed as a backward movement. However, the participants in this study did not describe reverse transfer this way, many found attending a community college was an opportunity to complete general education, figure out their major, or set them on a new career path. Students reported being happy at their current community college and in pursuit of their new goals. As one student in the study put it, *"The best thing I've ever done has been me going from a 4-year program to a 2-year program. You're not going backwards; you're actually going forward because you're finding out what you want to do."* Some students did note that this institutional movement resulted in delays. For example, Lucero liked the community college but felt that the experience did delay her, and Emily stated, *"I knew this might prolong my academic*

career.” Looking at the time it has taken students to complete their education, or their expected completion date, reverse transferring has added years to their postsecondary educational journey.

Labor Market Outcomes

Findings from this study support prior research showing that earning a bachelor’s degree results in better labor market outcomes than earning an associate degree (Averett & Dalessandro, 2001; Hout, 2012; Light & Strayer, 2004). For reverse transfer students in this study, earning a bachelor’s degree results in greater labor market returns than no degree. However, overall, reverse transfer students experience less annual average earnings than students who attended a 4-year institution and do not reverse transfer. One reason for the lower earnings may be the fewer years of full-time working experience among reverse transfer students. Results showed that reverse transfer students tend to stay in school longer, while in contrast, many non-transfer students enter the labor market right after they leave their 4-year institutions. Those 4-year persisters have worked longer and have been able to increase their pay or obtain positions with higher salaries because of experience. Today, the overwhelming consensus is that access to postsecondary education or training is necessary for access to higher earnings, and the findings presented here support this.

Conclusion

This study investigated the phenomenon of reverse transfer, seeking to better understand the factors and reasons why undergraduate students transfer out of a 4-year institution into a 2-year community college and the outcomes of such behavior on attitudes, degree attainment, and labor market returns. This postsecondary enrollment pattern was explored quantitatively through a selective sample of the NLSY97, a nationally representative longitudinal dataset of young people now in their late 30’s and early 40’s. Reverse transfer was further explored qualitatively

through interviews with ten students who had participated in reverse transfer during their undergraduate college years. Findings suggest reverse transfers are common and while conclusions drawn from quantitative analyses may be that outcomes are poor for reverse transfer students; qualitative evidence reminds us that students' goals and how they define success is equally important and may not be discovered through purely quantitative methods. From this study and prior research, we know that many students enroll in the 2-year college after attending a 4-year institution for reasons of lower tuition, location closer to home, more personalized attention, and changes in goals. Based on that, students' use of the community college system appears to be strategic, especially if students' goals were to complete a college degree.

Findings from this study showcase the need for greater attention to what happens after students initially enroll in college. Not all reverse transfer students are staying to complete an associate degree or transfer back to the 4-year college system to earn a bachelor's degree. Some are ultimately leaving school without earning a degree but have likely experienced a significantly reduced income during their time in college and potentially the financial burden of loan debt. For those who do earn a degree, it is taking them significantly longer to finish. This too could be adding to their forgone earnings from being absent from the workforce and potential loan debt. Understanding how to address the increased time to degree for reverse transfer students is crucial. The extended time could be due to courses not transferring, thus collaboration among institutions in developing policies such as dual admissions and course articulation agreements or equivalencies that operate in both directions (2-year college courses that transfer to 4-year institutions and vice versa) may assist students in completing their degrees.

These data and findings suggest that student transfer and mobility is a predominant feature of the higher education system and college student experience, and that policy and

practice must adapt to transfer student patterns. There are implications for how we assess the effectiveness of our institutions. Use of measures such as time to degree and completion rates appear problematic when assessing effectiveness. A long-term perspective that considers not only first-time, first-year college students is needed in order to assess student success defined by degree completion.

I recognize that selection effects are potentially quite important. In particular, it is possible that people who graduate from a 4-year college could have had higher earnings even without going to college. Limitations to this study also include the use of self-reported information rather than actual academic transcript and annual income information. A challenge for papers using longitudinal survey data is that both educational attainment and earnings information are typically self-reported, and sample attrition can become problematic over time. This study used the publicly available data; the restricted-use data would have provided more granular details and allowed for matching students to institutional types and locality, which could provide more insight into the role institution and place play. Reverse transfer behavior may vary with an individual's major or initial institution. For example, certain 4-year colleges or departments may have historically higher rates of reverse transfer, or some programs may be more commonly offered in nearby 2-year colleges than others. Future research could address these potential issues by including academic major and initial 4-year institution characteristics.

Other future research could include including additional college experiences and enrollment behaviors in modeling transfer and withdrawal, including enrollment intensity (full- or part-time), whether or not the student attended an in-state institution, whether or not the student enrolled in developmental coursework in the first year, and first-year college GPA. At the institutional level, future research could also include several institutional characteristics of

the first college attended such as institutional control (public, private not-for-profit, or private for-profit), the cost of attendance, the institution's urbanicity (e.g., urban, rural), the percentage of students of color enrolled, enrollment size, and institutional selectivity.

Many questions remain unanswered about the interaction of factors that contribute to the lack of postsecondary success for students who reverse transfer. For example, how important is a reverse transfer student's choice of major at each level of education? Adjusting for high school achievement, by how much does their performance in college lag behind the postsecondary performances of students who do not reverse transfer? And how much do these factors account for their lower labor market earnings, as opposed to other barriers that impede the accumulation of valuable labor market experience?

Answers to these questions are important if we want to design effective programs and policies to better assist reverse transfer students or potentially prevent students from transferring at all; and such answers require detailed longitudinal micro data on students, their educational institutions and experiences, and labor market outcomes. While some such information is available in existing longitudinal survey datasets on young people—such as the National Educational Longitudinal Study (NELS), High School and Beyond (HSB), or the National Longitudinal Survey of Youth (NSLY)—administrative data on students provides more detailed information on every course taken and on all academic outcomes achieved for every student who ever attended a public school in the relevant years. Until recently such data have not existed at the state level, but in several states these data are now becoming available. This enables researchers to address previously unexplored questions about the experience and outcomes associated with reverse transfer in a number of contexts.

We may continue to see a trend of students participating in reverse transfer as 4-year college prices continue to rise and students realize once they begin that it is just not affordable to maintain. With several states and major cities launching free community college tuition programs since 2014, and many more considering similar legislation, it is likely students will see the monetary benefits to spending some time at a community college even if returning to a 4-year college and ultimately earning a bachelor's degree is the goal.

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APPENDIX

Interview Protocol for Qualitative Phase

The interview protocol was developed from the Input-Environment-Outcomes (I-E-O) theory (Astin, 1991), and the Student Departure Theory (Tinto, 1993). The interview questions sought to uncover reverse transfer student patterns exploring why a student transfers to a 2-year community college. Probing was utilized as a tool to further encourage thorough and meaningful participant responses during the person-to-person interviews (Merriam, 2009). Three additional probes were used throughout to foster further discussion: “How did that make you feel?” “What happened next?” “Tell me more.”

Interview Questions

1. Tell me about your educational background. What kind of high school did you attend? Were there pressures to attend college, was that a “norm” in your high school or in your home?
2. Tell me about your decision to go to college. How/why did you pick the first institution you attended? What was the experience of applying for college like for you?

Did you have a hard time choosing between schools? If you had to do it again, would you do anything differently? Have you attended any other colleges?

3. Tell me about your experience at your previous four-year college or university. What did you expect your college experience to be like? How was it the same or different? What were your initial educational goals (major)?
4. When did you decide to transfer to the community college? Why did you make that decision?
5. Tell me about the process when you transferred. What was the reaction from the 4-year institution? Did you speak to an advisor/counselor at the 4-year institution? Did you speak to an advisor/counselor at the community college?
6. Looking back, is there anything that the four-year college could have done differently to influence your decision to transfer? If so, what? If not, why not?
7. Tell me more about how your experience at the community college. How does it compare to your experience at the 4-year college? What are your goals now?
8. How do you feel about the choice you made to transfer to the community college?
9. *If student plans to transfer back to a 4-year college:* What will you look for in a 4-year college moving forward?
10. What advice would you give to students (either seniors in high school or students thinking about transferring to a community college)?

11. What have learned about yourself through/from this experience?
12. Is there anything else you would like to add or clarify regarding your transfer student experience?

Demographic Survey

Please complete the following questions to the best of your ability. You may leave blank any question you do not feel comfortable answering.

Name: _____

How old are you? _____

What is your current gender identity?

How do you describe your ethnicity?

What is your marital status?

- ☐ Single
- ☐ Married
- ☐ Separated or Divorced
- ☐ Widowed

Do you have children?

- ☐ No
- ☐ Yes; How many? _____

For tuition purposes, which of the following are you considered?

- ☐ College District Resident Student
(Michigan-specific context)
- ☐ In-State Student
- ☐ Out-of-State Student
- ☐ International Student

How many credits are you currently enrolled in? _____

Did you submit the FAFSA for this academic year?

- ☐ Yes
- ☐ No

Are you receiving any type of financial aid for this academic year?

- ☐ No
- ☐ Yes; List: _____
(grants, scholarships, loans, etc.)

Are you working?

- ☐ Not employed
- ☐ Employed part-time
 - Hours worked per week: _____
- ☐ Employed part-time at more than one job
 - Hours worked per week: _____
- ☐ Employed full-time
- ☐ Other: _____

The next two questions are about your parent or parents' highest level of education.

Parent 1

- ☐ Less than high school graduate
- ☐ High school graduate/GED
- ☐ Some college
- ☐ Associate Degree (e.g., AA, AS)
- ☐ Bachelor's Degree (e.g., BA, BS)
- ☐ Master's Degree (e.g., MA, MS)
- ☐ Doctoral Degree (e.g., PhD, EdD)
- ☐ Professional Degree (e.g., MD, JD)

Parent 2

- ☐ Less than high school graduate
- ☐ High school graduate/GED
- ☐ Some college
- ☐ Associate Degree (e.g., AA, AS)
- ☐ Bachelor's Degree (e.g., BA, BS)
- ☐ Master's Degree (e.g., MA, MS)
- ☐ Doctoral Degree (e.g., PhD, EdD)
- ☐ Professional Degree (e.g., MD, JD)