AN ABSTRACT OF THE DISSERTATION OF

Charlie Potter for the degree of Doctor of Philosophy in Adult and Higher Education presented on May 14, 2020.

Title: Characteristics, Pathways, and Predictors Related to the Transfer Behaviors of Adult College and University Students

Abstract approved:

_____

Gloria E. Crisp

Adult students are a population that is critical to addressing the college completion crisis. Retention and completion for adults lags behind students who enter college directly from high school. However, higher education has largely been built around service to younger high school graduates, and institutions are slow to change. A shift in focus to accommodate the needs and interests of adult learners will require additional research regarding the enrollment patterns and behaviors of adult students. This manuscript dissertation uses quantitative methods and the Beginning Postsecondary Students 12/14 data set to consider the role of transfer in the experience of the adult learner, with specific attention to the characteristics, demographics, and experiences of adult transfer students as well as the predictors of reverse and lateral transfer behavior in adult student populations.

Characteristics, Pathways, and Predictors Related to the Transfer Behaviors of Adult College and University Students

by
Charlie Potter

A DISSERTATION

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Presented May 14, 2020
Commencement June 2020

Doctor of Philosophy dissertation of Charlie Potter presented on May 14, 2020

APPROVED:

Major Professor, representing Adult and Higher Education

Dean of the College of Education

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Charlie Potter, Author

ACKNOWLEDGEMENTS

The author expresses sincere appreciation to the AHE program at Oregon State University and to her dissertation committee, with special thanks to Dr. Gloria Crisp for her support, feedback, and encouragement.

TABLE OF CONTENTS

LIST OF APPENDICES

Characteristics, Pathways, and Predictors Related to the Transfer Behaviors of Adult College and University Students

Charlie Potter

Oregon State University

Chapter 1: Overview of Dissertation

By many accounts and measures, the United States faces a college completion crisis. Fewer than half of adults ages 25-64 (39%) possess an associate degree or higher (Lumina Foundation, 2019). Two-thirds of adults in the United States hold less than a baccalaureate degree (Gould, 2018). In addition to the low numbers of adults holding a postsecondary credential, many students attempt postsecondary endeavors but fail to ever complete a postsecondary program. In fact, between 1994 and 2014, more than 31 million students earned college credits but stopped short of completing a degree (Shapiro et al., 2014). Unfortunately, at the same time, the need for postsecondary credentials is increasing. Numerous studies (e.g., Burns, Crow, & Becker, 2015; Carnavale, Strohl, & Ridley, 2017; Turk & Chen, 2017) note the growing importance of postsecondary credentials in the United States economy. The Center on Education and the Workforce specifically notes that sixty-five percent of the jobs will require postsecondary education by 2020, and the United States is likely to need an additional five million workers in order to satisfy the demand (Carnavale, Strohl, & Ridley, 2017).

At the current rates of college completion, the United States will be unable to meet the demands of the workforce. The implications are numerous. Innovation could be slowed, businesses could move to other countries, and unemployment rates could increase. Moreover, the National Adult Learner Coalition (2017) predicts that the demands of the economy cannot be met by focusing college recruitment and completion efforts on new high school graduates alone. The United States will have to change its recruitment, retention, and completion efforts to serve previously-underserved populations and to ensure that those who attempt college are successful in earning a credential or degree.

One strategy for mitigating these problems is to focus on adult students. Adult learners represent a largely untapped population that could help to remedy many of the economic issues related to the college completion crisis (Soares, 2013). The numbers of adult students with some college and no degree (approximately 36 million adults, according to the Lumina Foundation in 2019) are high, and many potential adult students have no college credit whatsoever. However, higher education has largely been built around service to younger high school graduates, and institutions are slow to change. A shift in focus to accommodate the needs and interests of adult learners will require additional research regarding the enrollment patterns and behaviors of adult students. In other words, additional information is needed regarding factors that influence adult student decision making, retention, and completion in order to serve these students and meet the demands of the economy.

In order to better understand adult student behavior and institutional opportunities to serve adult students, this dissertation specifically considers the ways that two factors, transfer behavior and adult student characteristics (including demographics, attributes, and behaviors), interact. Transfer is an important component of conversations regarding retention and completion. Although some types of transfer could indicate institutional successes (e.g., vertical transfer), other kinds of transfer represent lost opportunities (and sometimes failures) on the part of the institution (e.g., reverse and lateral transfer). While traditional age student transfer has been studied by many scholars, adult student transfer behavior has not. Similarly, studies of traditional age student enrollment patterns are plentiful in higher education literature, while adult student enrollment patterns are not well understood. In short, this dissertation attempts to understand adult student characteristics and behaviors as they relate to transfer decisions, factors

that predict adult student transfer behavior, and the characteristics of adult student enrollment more broadly.

This chapter explores these issues in more depth, defining key terms and exploring foundational issues related to understanding adult student transfer behaviors. Additionally, this chapter outlines the problems this dissertation seeks to address, frame theoretically the approach of the dissertation, and provides an overview of the organization of the dissertation. Chapter 1 also discusses briefly the contents of each chapter and introduces the research questions and methodologies used in the two manuscripts included in this dissertation (Chapters 2 and 3).

Overview of the Issues Related to Adult Student Transfer Behaviors

The effects of the inability of postsecondary institutions—in particular, baccalaureate-granting institutions—to recruit, retain, and graduate enough students to match the country's workforce needs are both economic and social (Calhoun, 2006; Gast, 2013; McMahon, 2009). Students who enter the workforce with only a high school diploma have higher unemployment rates and lower earnings than those with a postsecondary credential (Kroeger, Cooke, & Gould, 2016). Additionally, innovation is inhibited by the inability to fill positions and the lack of access to those positions for persons without a postsecondary credential. The National Student Clearinghouse (Shapiro et al., 2014) estimates that students with some college but no degree represent a cost of 500 billion dollars to the United States economy each year. A more educated populace also correlates with private non-market externalities like improved community health, increased participation in democracy, and lower health care costs (Ma, Pender, & Welch, 2016; McMahon, 2009). The costs of an inadequately-educated populace are, in other words, felt by everyone.

Meanwhile, colleges are also feeling pressures to generate additional revenue, and consumers are losing confidence in the value of college degrees. College costs are rising, while public investment in higher education is typically flat or decreasing (Slaughter, Taylor, & Rosinger, 2015). Additionally, completion agenda initiatives that link funding to student success and performance are pervasive. All-the-while, Gallup's Confidence in Institutions 2018 poll suggests that public confidence in higher education is declining significantly (Jaschik, 2018). The effect of public divestment in higher education has largely resulted in increased costs to students, who are facing greater student loan debt than at any point in history. Additionally, many college graduates were unable to find suitable employment during the Great Recession. As a result of facts like these, many people have lost confidence in higher education and view college as unaffordable (Gallup, 2014). The cycle of divestment, debt, and decreased confidence results in a decrease in college enrollments (Berger & Kostal, 2002). College costs are also associated with student decision making about where to attend college, which could also influence the ability of the United States to meet workforce needs (Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009). If potential students cannot afford to complete baccalaureate degrees, the nation will be unable to produce enough highly-skilled workers to satisfy demand.

The Importance of Adult Students

For many years, colleges have pursued recent high school completers at the expense of adult learners, conventionally defined as students attending college for the first time after age 24. According to a recent report issued by the American Council on Education, the "focus on traditional students has made it difficult for colleges to continue to close gaps between traditional age students and today's older, more racially and socioeconomically diverse students" (Soares, Gagliardi, & Nellum, 2017, p. 3). Adult students, although they are population whose success is

integral to improving college completion efforts, have experienced a decline in degree attainment in recent years (Glastris, 2016). This fact exacerbates the economic and college completion crises the United States faces. As the population of potential traditionally-aged college students decreases and the population of potential adult students increases (OECD, 2016), institutions will need to develop new strategies for understanding student enrollment needs and patterns in order to continue to serve changing student needs and to meet goals for completion and success (Soares, 2013).

Although usually omitted from research on "non-traditional" and adult learners, delayed entry students, typically defined as first-time students who are between 21 and 23, are another important population for consideration. While these students are not entering high school directly from college, they have been most commonly grouped with students who do. However, delayed entry students have been shown to be more likely to be married, work full-time, and have dependents that those who enter directly from high school (Goldrick-Rab & Han, 2011). Their enrollment patterns also more closely resemble those of adult students, with greater likelihoods of co-enrolling and/or attending part-time (Goldrick-Rab & Han, 2011).

These and other equity issues related to serving adult students, the "marginalized majority" (Scobey, 2016), are critical to improving outcomes for underserved students on college campuses. An understanding of the body of research on non-traditional students is also critical to this research. In particular, a distinction between emerging conceptions of "non-traditional" students and adult students is useful. Until recently, non-traditional learners were typically defined as students over age 25, but definitions of non-traditional learners have evolved in order to include several characteristics that describe the experience of being "non-traditional." Soares, Gagliardi, and Nellum (2017) undertook a comprehensive effort to categorize the characteristics

associated with the non-traditional label. They found that many definitions of non-traditional students still include references to age (e.g., ACE, Center for Law and Social Policy, IHEP, Lumina Foundation, NCES) and/or delayed enrollment into college (e.g., Excelencia in Education, NCES). Part-time attendance is also included in several definitions (e.g., IHEP, NCES). Financial factors, including independence from parents (e.g., ACE, Center for Law and Social Policy, Lumina Foundation, NCES) and full-time employment (e.g., ACE, Center for American Progress, Center for Law and Social Policy, Excelencia in Education, IHEP, Lumina Foundation, NCES), are also common in definitions of non-traditional students. Additionally, having dependents other than a spouse might define a student as "non-traditional" (e.g., ACE, IHEP, Lumina Foundation, NCES). Other definitions also include students of color, veterans, first-generation students, community and/or technical college students, non-native English speakers, and single parents. Additionally, "non-traditional" learners have also been called post-traditional, working learners, and 21st century students (Soares, Gagliardi, & Nellum, 2017).

In order to expand understanding about the definitions and needs of adult students, this dissertation focuses specifically students age 21 and older. This definition functions based on two premises. First, an expanded definition of non-traditional students is critical for improving student success. Second, as will be demonstrated in Chapter 2 / Article 1, students who are ages 21-23 may have more in common with post-traditional students than their counterparts who recently graduated from high school. Many students who are 21 and older are experiencing the issues outlined by the organizations above (Andrews, 2018; Bozick & DeLuca, 2005; Goldrick-Rab & Han, 2011; Roksa, & Velez, 2012), and equitable services to this complex population will be necessary in order to improve graduation and completion. The recognition that age and other factors are intersectional and should be considered as such is critical to serving adult students.

In short, research on the characteristics and behaviors of adult students is limited (Chen, 2017). More study is needed to understand the ways that colleges—institutions that traditionally served those immediately leaving high school and subsequently enrolling in college—can better accommodate students who are seeking additional education after having accumulated other life experiences. In particular, more research on the enrollment patterns—specifically, transfer behaviors, which are quite common—of adult students will provide a better picture of the ways to provide more equitable service to this important population.

The Significance of Transfer and Student Mobility

In comparison to the literature on adult students, research on transfer is more robust. While college was once a four-year academic endeavor spent entirely at one institution, transfer between institutions has become a common behavior. Within six years of enrollment, 38 percent of students engage in some sort of transfer activity (Shapiro et al., 2018). As student populations change and college options expand (Cruce & Hillman, 2012), undergraduate student transfer has become a phenomenon central to conversations about student enrollment, retention, success, and completion at both community and/or technical colleges and baccalaureate-granting colleges and universities (Deane et al., 2017). For students beginning at community and/or technical colleges who seek to earn a baccalaureate degree, at least one transfer is necessary. Community and/or technical college students want and need to transfer, and institutions of higher education largely recognize the need to facilitate this behavior.

Numerous studies show that, for colleges, retention is cheaper than recruitment (e.g., Hossler & Bean, 1990; Schuh, 2005). For this reason, colleges need to facilitate the types of transfer that are critical to student success (e.g., transfer from a community and/or technical college to a baccalaureate-granting institution) and minimize the types of transfer that potentially

compromise the outcomes of both students and institutions (e.g., transfer from a baccalaureate-granting institution to a community and/or technical college or transfer from one baccalaureate-granting institution to another). In this way, the need for colleges and universities to understand the characteristics, motivations, and predictors of transfer behavior is increasingly important to the attainment of fiscal and completion goals (Jenkins & Fink, 2016). As the number of traditionally-aged college students continues to decrease (CDC, 2017; Cruce & Hillman, 2012; Grawe, 2018), colleges and universities have a strong interest in gauging how to better serve evolving student needs and changing populations. In other words, colleges have a vested interest in understanding adult student transfer behaviors because adult students are a population of increasing importance to college enrollment goals. As with students of traditional age, adult transfer behavior either represents the loss of a student to another institution (a loss that could potentially be prevented if it were better understood) or the progression of a student to the next level of education (which should be understood and celebrated).

In this way, transfer behaviors vary greatly, and each type of behavior represents a potentially-different motivation on the part of the student. Transfer is not inherently good or bad, but student transfer behaviors can inform institutional practices to retain students who might otherwise seek education at another institution through the transfer process. Similarly, the literature on adult and non-traditional students is multi-faceted and worth consideration in the context of this study. Definitions important to the discussion of transfer behaviors follow.

Vertical transfer. Vertical transfer behavior has been the subject of many recent studies in the field of higher education research (e.g., Andrews, Li & Lovenheim, 2014; Dougherty, 2009; Goldrick-Rab, 2006; Hillman, Lum & Hossler, 2008; Ivins, Copenhaver, & Koclanes, 2017; Li, 2010; Millard, 2014; Monroe, 2006). Also called upward or traditional transfer,

vertical transfer refers to transfer from a community and/or technical college to a bachelor's granting college (Shapiro et al., 2018). This path is the most studied of the transfer pathways (Shapiro et al., 2018) and represents, generally, student success in moving from one kind of institution to another in pursuit of continued education (McCormick, 2003). Students engaging in vertical transfer activities might or might not complete a degree at their original community institution; both types of students are considered in the category of vertical transfer in this study. Vertical transfer, in other words, does not always mean the loss of a student to another institution, as the student is sometimes completing one program (e.g., a community and/or technical college degree or certificate) and moving onto another (e.g., a baccalaureate).

Research that considers vertical transfer behaviors reveals many inequities and imbalances across the system, especially in terms of income (Basili & Glynn, 2018; Bowen, Chingos, & McPherson, 2009; Jenkins & Fink, 2015) and race/ethnicity (Crisp & Nuñez, 2014; Shapiro et al, 2018). Several studies and policy documents further underscore the importance of transfer as a social justice and equity issue (Handel & Williams, 2012; Jenkins & Fink, 2016; Millard, 2014). Policy bodies and national organizations (e.g., Altstadt, 2014; Hodara, Martinez-Wenzl, Stevens, & Mazzeo, 2016; NASFAA, 2016; NCPPHE, 2011; Bautsch, 2013; Gándara, Alvarado, Driscoll, & Orfield, 2012) have also long recognized that successful transfer is critical for improving college completion and student success for all populations, especially those who have been historically underserved by institutions of higher education.

Lateral transfer. Lateral transfer can be described as movement by a student from one community and/or technical college to another community and/or technical college or one bachelor's granting institution to another bachelor's granting institution (Shapiro et al., 2018; Goldrick-Rab & Pfeffer, 2009). Lateral transfer may be appropriate for some students, but it

represents a loss of enrollment (i.e., a lost retention opportunity) for the institution of origin. Sometimes, students who transfer laterally return to their original institutions; this phenomenon is often called swirling, which is defined as enrollment at another institution with the intent of returning to one's original institution or enrolling at two different colleges in a single term (Crisp, 2013; McCormick, 2003). Swirl might occur, for example, in student populations that return home for the summer but desire to continue taking courses. Some researchers consider swirl primarily to describe baccalaureate-seeking students who start at bachelor's granting institutions and transfer to community and/or technical colleges only for the summer; these students then return to their original bachelor's granting institutions (Shapiro et al., 2018). For the purposes of the manuscripts in this dissertation, students who indicate that they only took courses at their transfer institutions to complete degrees at their home institutions are excluded from the definition of lateral transfer.

Reverse transfer. Reverse transfer refers to transfer from bachelor's granting institutions to community and/or technical colleges (Hossler et al., 2012; Shapiro et al., 2018). Unlike vertical transfer, reverse transfer has not been a path that colleges and researchers have encouraged for students. In reverse transfer, students may return to their original institutions (i.e., swirling), as in lateral transfer. As with lateral transfer, students only taking reverse transfer courses with the intent of completing degrees at their home institutions are excluded from the reverse transfer populations analyzed in the manuscripts included in this dissertation.

Recent research suggests that the transfer rate of students who start at bachelor's granting institutions is slightly higher than that of students beginning at community and/or technical colleges (Shapiro et al, 2018). Although little is known about reverse and lateral transfer, research shows that fifty-nine percent of transfer activities involve movement from a bachelor's

granting institution to a community and/or technical college (Shapiro et al, 2018). Some of this behavior can be attributed to swirl. Double-dipping is another mobility phenomenon that involves concurrent enrollment at two institutions; this phenomenon is also sometimes called swirling or co-enrollment (McCormick, 2003). Still, even when swirl and double-dipping are considered, little is known about the characteristics and motivations of students who begin at bachelor's granting colleges and engage in transfer behaviors. The research that has been conducted focuses primarily on students of traditional age.

Existing policy documents on reverse and lateral transfer identify disparities among students who reverse and lateral transfer, especially by institution type (NASFAA, 2016; Glynn, 2019). For example, as with vertical transfer, lower income students are less likely to transfer from a less selective bachelor's granting institution to a highly-selective institution (Glynn, 2019). Higher income students are less likely to reverse transfer (NASFAA, 2016). A more comprehensive review of the literature appears in the following manuscripts, but national analyses and research have pointed to the need to better understand the economics and demographics of transfer so that more widely-applicable suggestions can be made about how to ensure equity and access across all groups and institution types (Cahalan, Perna, Yamashita, Ruiz, & Franklin, 2017; Glynn, 2019; NCPPHE, 2011).

Adult Student Enrollment and Transfer Behaviors

Essentially, an understanding of both adult students and transfer behaviors is critical to efforts in the United States to meet changing workforce demands. More specifically, an understanding of adult student transfer behaviors can help to improve retention and completion efforts. A strong knowledge base related to adult students could provide a foundation for developing services and supports to this population. In this way, research on adult student

transfer can facilitate the successful vertical transfer of community and/or technical college students and prevent unnecessary lateral or reverse transfers for baccalaureate students.

However, very little is known about the enrollment and transfer behaviors of adult students. Several national reports (e.g., Cruce & Hillman, 2012; Shapiro et al., 2014) highlight the opportunities to grow enrollment and diversify student populations offered by adult populations. The aforementioned decreases in traditional age student populations and the increasing needs for workforce development underscore the importance of recruiting and retaining adult students. While many states have recognized the need to include adult students in recruitment and retention planning, colleges and universities have not been as quick to adapt to changing demographics (Soares, Gagliardi, & Nellum, 2017). Data from the National Student Clearinghouse suggests that adult learners experienced the largest decrease in degree attainment since 2012, when compared to other student groups (Carapezza, 2016).

While recruiting adult students is critical to solving many of the issues represented by the completion crisis, retaining them is just as important. In a nation where nearly 40 percent of students engage in some kind of transfer activity (Shapiro et al, 2018), pathways for adult students are still described as "sub-optimal" (Soares, Gagliardi, & Nellum, 2017, p. 3). Just as many colleges have failed to transition toward models of service that accommodate the needs of students who are adults, nearly all the literature in higher education focuses on the attrition and transfer of traditional age students. In fact, many existing studies note the absence of research and information regarding adult student transfer behaviors (i.e., Alpay, Ratvasky, Koehler, Levally, & Washington, 2017; Bergman, Gross, Berry, & Shuck, 2014; Monroe, 2006; Stoessel, Ihme, Barbarino, Fisseler, & Sturmer, 2015). Better information about adult student transfer behaviors—especially behaviors like reverse and lateral transfer that have been particularly

understudied—is critical to the ability of institutions to serve changing student demographics; this area of study has the potential to improve and make more equitable the services colleges provide as well as the outcomes they seek to achieve.

Statement of the Problem

Presently, the literature on transfer provides very little information about the characteristics and behaviors of adult students. Transfer behaviors are of specific interest to colleges, who place increasing importance on retention as a strategy for stabilizing enrollment numbers and meeting completion goals. Additionally, researchers currently do not know the factors that serve to predict adult student transfer decisions. These two questions—where adult students go and what might predict their behaviors—are important pieces of the enrollment puzzle for colleges. This dissertation attempts to fill these gaps in the literature in order to provide valuable information to researchers and practitioners that could improve enrollment, retention, and completion efforts.

As mentioned above, equity issues are central to the problems this dissertation seeks to understand. Specific transfer behaviors are associated with certain demographic characteristics in ways that are inequitable; this study will improve understanding of whether the characteristics and behaviors of adult students are related to their transfer behaviors and will thereby help practitioners serve populations more equitably. Moreover, adult students are themselves a marginalized group within higher education. An expanded understanding of adult student characteristics and behaviors could result in improved services and attention for adult students. Such efforts would subsequently improve the equity efforts of colleges and universities.

In these ways, a picture of the transfer patterns of adult students is crucial for the creation of equitable programs and services to attract and retain students who do not transfer in the same

ways that colleges expect traditional age students to do. As most transfer literature has focused on traditional college students, this area of study is particularly important for researchers and scholars. Moreover, a better understanding of the transfer and enrollment behaviors of students will influence the recruitment behaviors of institutions seeking to improve enrollments and serve adult students.

Statement of the Purpose of the Dissertation Study

In order to address these problems, the purpose of this dissertation was two-fold. First, the work included here sought to explore and explain the demographics, characteristics, and behaviors of adult transfer students according to their transfer behaviors. Such an understanding has been achieved for the transfer behaviors of traditional age students (Crisp, 2017), and this dissertation mapped adult student "flow" so that comparisons and contrasts may be made between traditional age and adult students. Second, this dissertation identified predictors of adult student transfer behaviors. Similar work has been completed for the reverse and lateral transfer behaviors of traditional age students (Crisp, Potter, & Taggart, 2020); this dissertation applied a comparable methodology so that the behaviors of different student types could be better understood. Synthesis of the findings of the studies as well as comparisons to previous research on both transfer behavior and adult students were considered in the conclusions of the dissertation.

Key findings from this dissertation included observations about the similarities between students ages 21-23 and students over 24, identification of gaps in reverse transfer between White students and students of color, and recognition of the ways that enrollment intensity college cost are related to adult student transfer. In addition, this dissertation found that age, employment over 20 hours per week, mixed and part-time enrollment, advising, GPA, sense of

belonging, and co-enrollment all predicted reverse and/or lateral transfer outcomes for adult students. Key implications for researchers, policymakers, and practitioners included recommendations for enhanced advising targeted toward adult students, identification of momentum indicators for part-time students, and adoption of policies that promote the well-being and engagement of working adults. In short, the studies in this dissertation provided additional evidence that adult students have different needs from their traditional age counterparts, and colleges failing to accommodate these needs may have unintentionally contributed to a student decision to reverse or lateral transfer.

Structural Overview of the Dissertation

As indicated in Table 1, this dissertation is comprised of four chapters. The second chapter addresses the characteristics, demographics, and motivations of adult students who engaged in a transfer activity. Chapter 3 models predictors of reverse and lateral transfer in adult students. The final chapter identifies commonalities across the two manuscripts and implications for policymakers and institutions. Additionally, Chapter 4 describes topics for future study that build upon the research presented in Chapters 2 and 3.

Table 1: Description of Dissertation Chapters

Chapter Number	Content	Focus	Method	Data Source
Chapter 1	Introduction	Study Overview	N/A	N/A
Chapter 2	Article 1	Characteristics of Adult Student Transfer Behavior	Descriptive Statistics	BPS: 12/14
Chapter 3	Article 2	Predictors of Adult Student Reverse and Lateral Transfer Behavior	Hierarchical Generalized Linear Modeling	BPS: 12/14
Chapter 4	General Conclusions	Lessons and Implications	N/A	N/A

Overview of Manuscripts

The two manuscripts in this dissertation were designed to be read as "stand-alone" pieces of research, written with the ultimate goal of publication in a peer-reviewed journal. The studies are related topically, but each has a separate purpose. An overview of the two manuscripts (Chapters 2 and 3) and the concluding chapter (Chapter 4) follows.

Chapter 2: Characteristics and Pathways Related to the Transfer Behaviors of Adult College and University Students

The recruitment, retention, and success of adult students will be critical to satisfying changing workforce demands (National Adult Learner Coalition, 2017). As the need for highly skilled workers grows (Burns, Crow, & Becker, 2015; Carnevale, Strohl, & Ridley, 2017; Turk & Chen, 2017), colleges must improve their ability to serve this important population. Transfer behaviors are directly related to enrollment, retention, and student achievement; vertical transfer signifies success for the student and institution, but reverse and lateral transfer can signify challenges and lost opportunities. In higher education literature, the characteristics and behaviors of traditional age students are better researched and understood than those of adult students. Characteristics, attributes, and behaviors associated with transfer decisions are no exception (Soares, Gagliardi, & Nellum, 2017). In other words, researchers do not currently have a clear picture of who adult student transfer students are or where they are transferring.

A better understanding of adult student transfer behavior is essential to enhancing services for these students and subsequently improving the ability of the institution to contribute to the workforce. Transfer itself is becoming more common and more complex (Crisp, 2017), and additional perspectives and critical approaches are needed in order to fully comprehend adult student transfer behaviors. This manuscript mapped the flow of adult student vertical, lateral, and

reverse transfer behavior in an attempt to explicate patterns that could lead to improved services and outcomes for adult students. Beginning with a discussion of what is known about adult student attrition, transfer, and enrollment, this chapter diagrammed adult student flow with particular attention to demographics and institutional variables. Demographics and characteristics were provided according to institutional selectivity and transfer decisions. The article closes with a discussion of the relevance of the findings for researchers and practitioners.

Chapter 3: Predictors of Adult Student Lateral and Reverse Transfer Behaviors

The increasing complexity of transfer behaviors has been a topic of several recent pieces of research (e.g., Andrews, Li & Lovenheim, 2014; Crisp, 2017; Goldrick-Rab, 2006; Hillman, Lum & Hossler, 2008; Li, 2010; Millard, 2014). More than thirty-eight percent of students participate in a transfer activity (Shapiro et al, 2018). However, several studies note the absence of literature on the predictors of transfer behaviors of adult students (Dougherty, 2009; Ivins, Copenhaver, & Koclanes, 2017; Monroe, 2006). Even less information is available about lateral and reverse transfer (Goldrick-Rab, 2006). In other words, the factors that influence adult student transfer behaviors are an aspect of transfer that is not well understood.

Information about the predictors of adult student transfer is important for several reasons. College enrollments are shrinking, due in part to declines in the population of traditional age potential college students (Deane et al., 2017). Meanwhile, adult learners are experiencing decreases in degree attainment that outpace other student groups (Carapezza, 2016). Between 1994 and 2014, more than 31 million students earned college credits but stopped short of completing a degree (Shapiro et al., 2014). Adult students will be critical to satisfying workforce demands (Soares, 2013), and understanding factors that influence their behavior can contribute to the success of both colleges and the adult students they serve.

Without a strong understanding of the factors influencing adult student transfer decisions, colleges are unable to adequately support adult students in successful vertical transfer. Moreover, colleges are unable to prevent unnecessary lateral or reverse transfer without understanding the possible predictors of such behavior. In order to accommodate these increasingly complex transfer behaviors and to ensure that institutions can appropriately serve adult students, research on the predictors of adult student transfer behaviors and predictors is needed. Using the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14) dataset, this manuscript used hierarchical generalized linear modeling (HGLM) to illustrate the complex predictive relationships of student characteristics, college experiences, and institutional characteristics to the reverse and lateral transfer behaviors of adult students. Implications for institutions, policy bodies, and researchers were explored based on the results of the analysis.

Chapter 4: General Conclusions

This chapter summarized, compared, contrasted, and synthesized the findings of Chapters 2 and 3. Areas for further research and study were highlighted, and overarching conclusions about the nature of adult student transfer behavior were included. Reflections on the methodological choices were also included. Finally, connections to the literature on “traditional” student transfer were made, with particular attention to actions that can be taken to improve institutional and student success.

References

Alpay, N., Ratvasky, P., Koehler, N., LeVally, C., & Washington, T. (2017). Redesigning a statistical concepts course to improve retention, satisfaction, and success rates of non-traditional undergraduate students. *Journal of Educational Multimedia and Hypermedia*, *26*(1), 5–27.

Altstadt, D. (2014). Driving the direction of transfer pathways reform: helping more students achieve their baccalaureate goals by creating structured transfer pathways with the end in mind. *Jobs for the Future*. Retrieved from https://www.jff.org/resources/driving-direction-transfer-pathways-reform/

Anderson, L. (2015). Reverse transfer: The path less traveled. *Education Commission of the States*. Retrieved from https://www.ecs.org/clearinghouse/01/18/77/11877.pdf

Andrews, B. D. (2018). Delayed enrollment and student involvement: Linkages to college degree attainment. *The Journal of Higher Education, 89*(3), 368–396.

Andrews, R., Li, J., & Lovenheim, M. F. (2014). *Heterogeneous paths through college: Detailed patterns and relationships with graduation and earnings*. Retrieved from http://www.nber.org/papers/w19935

Bahr, P. R. (2012). Student flow between community and/or technical colleges: Investigating lateral transfer. *Research in Higher Education*, *53*(1), 94-121.

Basili, G. & Glynn, J. (2018). Persistence: The success of students who transfer from community and/or technical colleges to selective four-year institutions. *Jack Kent Cooke Foundation*. Retrieved from https://www.jkcf.org/research/persistence/

Bautsch, B. (2013). State policies to improve student transfer: Hot topics in higher education. *National Conference of State Legislatures.* Retrieved from http://www.ncsl.org/documents/educ/student-transfer.pdf

Berger, M., & Kostal, T. (2002). Financial resources, regulation, and enrollment in US public higher education. *Economics of Education Review, 21,* 101-110.

Bergman, M., Gross, J., Berry, M., & Shuck, B. (2014). If life happened but a degree didn't: Examining factors that impact adult student persistence. *Journal of Continuing Higher Education, 62*(2), 90–101.

Bowen, W. G., Chingos, M. M., & McPherson, M. S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton: Princeton University Press.

Bozick, R., & DeLuca, S. (2005). Better late than never? Delayed enrollment in the high school to college transition. *Social Forces, 84*(1), 531–554.

Burns, B., Crow, M., & Becker, M. (2015). Innovating together: Collaboration as a driving force to improve student success. *Educause Review*, *50*(2), 10-20.

Cahalan, M., Perna, L. W., Yamashita, M., Ruiz, R., & Franklin, K. (2017). *Indicators of higher education equity in the United States: 2017 trend report.* Washington, DC: Pell Institute.

Calhoun, C. (2006). The university and the public good. *Thesis Eleven, 84*(1), 7-43.

Carapezza, K. (2016). A new college ranking designed for adults. *On Campus: The WGBH News Higher Education Blog*. Retrieved from http://blogs.wgbh.org/oncampus/2016/9/8/different-kind-college-ranking

Carnavale, A. P., Ridley, N., & Strohl, J. (2017). Good jobs that pay without a BA: A state-by-state analysis. Retrieved from https://goodjobsdata.org/wp-content/uploads/Good-Jobs-States.pdf

Centers for Disease Control. (2017). Natality Dashboard. Retrieved from https://www.cdc.gov/nchs/nvss/vsrr/natality-dashboard.htm

Chen, J. C. (2017). Nontraditional adult learners: The neglected diversity in postsecondary education. *SAGE Open*, *7*(1).

Crisp, G. (2017). Student flow and success at 2- and 4-year broadly accessible institutions. *New Directions for Institutional Research, 2016*(170), 103-113.

Crisp, G., Potter, C., & Taggart, A. (2020). Characteristics and predictors of reverse and lateral transfer from four-year institutions. Manuscript under review.

Crisp, G., & Nuñez, A. (2014). Understanding the racial transfer gap: Modeling underrepresented minority and nonminority students' pathways from two- to four-year institutions. *The Review of Higher Education, 37*(3), 291-320.

Cruce, T. M., & Hillman, N. W. (2012). Preparing for the silver tsunami: The demand for higher education among older adults. *Research in Higher Education*, *53*(6), 593-613.

Deane, K. C., Fink, J., Gordon, M., Jenkins, P. D., Kadlec, A., & Wyner, J. (2017). Tackling transfer: A guide to convening community and/or technical colleges and universities to improve transfer student outcomes. Retrieved from https://academiccommons.columbia.edu/doi/10.7916/D8B00CGZ

Dougherty, B. (2009). Measuring effectiveness in transfer practices for adult learners. *The Journal of Continuing Higher Education, 57*(1), 54-58.

Dougherty, K. J., & Kienzl, G. S. (2006). It's not enough to get through the open door: Inequalities by social background in transfer from community and/or technical colleges to four-year colleges. *Teachers College Record, 108*(3), 452-487.

Gallup (2014). *The 2014 Gallup-Lumina Foundations Study of the American Public's Opinion on Higher Education: Postsecondary education aspirations and barriers*. Retrieved from http://www.gallup.com/topic/category_education.aspx

Gándara, P., Alvarado, E., Driscoll, A., & Orfield, G. (2012). Building pathways to transfer: Community and/or technical colleges that break the chain of failure for students of color. *Civil Rights Project*. Retrieved from https://www.civilrightsproject.ucla.edu/research/college-access/diversity/building-pathways-to-transfer-community-colleges-that-break-the-chain-of-failure-for-students-of-color/policyrept-Building-Pathways-to-Transfer-2-3-12.pdf.

Gast, A. (2013). Current trends in adult degree programs: How public universities respond to the needs of adult learners. *New Directions for Adult and Continuing Education, 140*, 17-25.

Glastris, P. (2016) America's best colleges for adult learners. *Washington Monthly*. Retrieved from https://washingtonmonthly.com/magazine/septemberoctober-2016/americas-best-colleges-for-adult-learners/

Glynn, J. (2019). Persistence: The success of students who transfer from community and/or technical colleges to selective four-year institutions. Retrieved from https://www.achievingthedream.org/resource/17587/persistence-the-success-of-students-who-transfer-from-community-colleges-to-selective-four-year-institutions

Goldrick-Rab, S. (2006). Following their every move: An investigation of social-class differences in college pathways. *Sociology of Education, 79*, 61–79.

Goldrick-Rab, S., & Han, S. W. (2011). Accounting for socioeconomic differences in delaying the transition to college. *Review of Higher Education, 34*(3), 423–445.

Goldrick-Rab, S. & Pfeffer, F. T. (2009). Beyond access: Explaining socioeconomic differences in college transfer. *Sociology of Education, 82*(2), 101-125.

Gould, E. (2018). Two-thirds of adults have less than a four-year degree. *Economic Policy Institute.* Retrieved from https://www.epi.org/publication/two-thirds-of-adults-have-less-than-a-four-year-degree-policymakers-should-work-to-make-college-more-attainable-for-them-but-also-strengthen-labor-protections-that-help-all-workers/

Grawe, N. D. (2018). *Demographics and the demand for higher education*. Baltimore: JHU Press.

Handel, S. J., & Williams, R. A. (2012). The promise of the transfer pathway: Opportunity and challenge for community and/or technical college students seeking the baccalaureate degree. *College Board Advocacy & Policy Center*. Retrieved from https://secure-media.collegeboard.org/digitalServices/pdf/professionals/handel-williams-the-promise-of-the-transfer-pathway-summary.pdf

Hillman, N., Lum, T., & Hossler, D. (2008). Understanding Indiana's reverse transfer students: A case study in institutional research. *Community College Journal of Research and Practice, 32*(2), 113-134.

Hodara, M., Martinez-Wenzl, M., Stevens, D., & Mazzeo, C. (2016). Improving credit mobility for community and/or technical college transfer students. *Planning for Higher Education*, *45*(1), 51.

Hossler, D., & Bean, J. P. (1990). *The strategic management of college enrollments*. San Francisco: Jossey-Bass.

Hu, S. (2011). Reconsidering the relationship between student engagement and persistence in college. *Innovative Higher Education, 36*, 97-106.

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging, *Sociology of Education, 70*(4), 324-345.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 77*(5), 861-885.

Ivins, T., Copenhaver, K., & Koclanes, A. (2017). Adult transitional theory and transfer shock in higher education: Practices from the literature. *Reference Services Review*, *45*(2), 244-257.

Jaschik, S. (2018, October 9). Falling confidence in higher ed: Gallup finds unusually large drop—primarily but not exclusively among Republicans—between 2015 and 2018. *Inside Higher Ed.* Retrieved from https://www.insidehighered.com/news/2018/10/09/gallup-survey-finds-falling-confidence-higher-education

Jenkins, D., & Fink, J. (2015). What we know about transfer. New York, NY: Columbia University, Teachers College, Community College Research Center.

Jenkins, D., & Fink, J. (2016). *Tracking transfer: New measures of institutional and state effectiveness in helping community and/or technical college students attain bachelor's degrees.* Retrieved from https://files.eric.ed.gov/fulltext/ED563499.pdf

Kroeger, T., Cooke, T., & Gould, E. (2016). The class of 2016: The labor market is still far from ideal for young graduates. *Economic Policy Institute*. Retrieved from https://www.epi.org/publication/class-of-2016/

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education, 79*(5), 540-563.

Langrehr, K. J.; Phillips, J. C.; Melville, A.; & Eum, K. (2015). Determinants of nontraditional student status: A methodological review of the research. *Journal of College Student Development, 56*(8), 876–881.

Li, D. (2010). They need help: Transfer students from four-year to four-year institutions. *The Review of Higher Education, 33*(2), 207-238.

Lumina Foundation. (2019). *A stronger nation*. Retrieved from http://strongernation.luminafoundation.org/report/2019/#nation

Ma, J., Pender, M., Welch, M. (2016). *Education pays 2016: The benefits of higher education for individuals and society*. Retrieved from https://trends.collegeboard.org/sites/default/files/education-pays-2016-full-report.pdf

McCormick, A. C. (2003). Swirling and double-dipping: New patterns of student attendance and their implications for higher education. *New Directions for Higher Education*, *2003*(121), 13.

McMahon, W. W. (2009). *Higher learning, greater good: The private and social benefits of higher education*. Baltimore: Johns Hopkins University Press.

Millard, M. (2014). *Students on the move: How states are responding to increasing mobility among postsecondary students.* Retrieved from http://www.ecs.org/clearinghouse/01/12/29/11229.pdf

Monroe, A. (2006). Non-traditional transfer student attrition. *Community College Enterprise, 12*(2), 33-54.

National Adult Learner Coalition. (2017). *Strengthening America's economy by expanding educational opportunities for working adults: Policy opportunities to connect the working adult to today's economy through education and credentials.* Retrieved from https://onlinelearningconsortium.org/wp-content/uploads/2017/02/Strengthening-Americas-Economy-National-Adult-Learning-Coalition-White-Paper-Final.pdf

National Association of Student Financial Aid Administrators (2016). *Reverse transfer: What is the best route to take?* Retrieved from https://www.nasfaa.org/news-item/6005/Policy_Brief_Successful_State_Reverse_Transfer_Policies_Indicate_Best_Practices

National Center for Education Statistics (NCES). (2015). *Demographic and enrollment characteristics of nontraditional undergraduates: 2011-12.* Retrieved from https://nces.ed.gov/pubs2015/2015025.pdf

National Center for Public Policy and Higher Education. (2011). *Affordability and transfer: Critical to increasing baccalaureate degree completion.* Retrieved from http://www.highereducation.org/reports/pa_at/index.shtml

Noble, J. (2000). *Effects of differential prediction in college admissions for traditional- and nontraditional-aged students (ACT research report series; 2000-9)*. Iowa City, Iowa: ACT.

Organization for Economic Cooperation and Development. (2016). Education at a Glance. Retrieved from https://www.oecd.org/education/skills-beyond-school/education-at-a-glance-2016-indicators.htm.

Roksa, J., & Velez, M. (2012). A late start: Delayed entry, life course transitions and Bachelor's degree completion. *Social Forces, 90*(3), 769–794.

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P.K., Bhimdiwali, A., Nathan, A., & Youngsik, H. (2018). *Transfer and mobility: A national view of student movement in postsecondary institutions, Fall 2011 Cohort (Signature Report No. 15).* Herndon, VA: National Student Clearinghouse Research Center.

Shapiro, D., Dundar, A., Yuan, X., Harrell, A., Wild, J., Ziskin, M. (2014, July). Some college, no degree: A national view of students with some college enrollment, but no completion (Signature Report No. 7). Herndon, VA: National Student Clearinghouse Research Center.

Shapiro, D., Dundar, A., Wakhungu, P.K, Yuan, X., & Harrell, A. (2015). *Transfer and mobility: A national view of student movement in postsecondary institutions, Fall 2008 cohort*. Retrieved from https://nscresearchcenter.org/signaturereport9/

Schuh, J. H. (2005). Finances and retention: Trends and potential implications. In A. Seidman, College student retention: A formula for success (pp. 277-294). San Francisco: Jossey-Bass.

Scobey, D. (2016). Marginalized majority: Non-traditional students and the equity imperative. *Diversity and Democracy*, *19*(1).

Slaughter, S., Taylor, B. J., & Rosinger, K. O. (2015). A critical reframing of human capital theory in US higher education. In A. M. Martínez-Alemán, B. Pusser, E. M. Bensimon (Eds.), *Critical approaches to the study of higher education: A practical introduction* (80-102). Baltimore: Johns Hopkins Press.

Soares, L. (2013). *Non-traditional learners and the transformation of postsecondary education: A manifesto for college leaders.* Washington, DC: American Council on Education.

Soares, L., Gagliardi, J. S., & Nellum, C. (2017). The non-traditional learners manifesto revisited: Aligning postsecondary education with real life for adult student success. Washington, DC: American Council on Education.

Spitzer, T. M. (2000). Predictors of college success: A comparison of traditional and nontraditional age students. *NASPA Journal, 38*(1), 82-98.

St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2000). Economic influences on persistence reconsidered: How can finance research inform the reconceptualization of persistence models? In J. M. Braxton (Ed.), *Reworking the student departure puzzle.* Nashville: Vanderbilt University Press.

Stoessel, K., Ihme, T., Barbarino, M., Fisseler, B., & Stürmer, S. (2015). Sociodemographic diversity and distance education: Who drops out from academic programs and why? *Research in Higher Education, 56*(3), 228–246.

Sturtz, A. J. (2006). The multiple dimensions of student swirl. *Journal of Applied Research in the Community College*, *13*(2), 35-42.

Sujitparapitaya, S. (2006). Considering student mobility in retention outcomes. *New Directions for Institutional Research*, *2006*(131), 35-51.

Titus, M.A. (2004). An examination of the influence of institutional context on student persistence at 4-year colleges and universities: A multilevel approach. *Research in Higher Education*, 45(7), 673-699.

Turk, J., & Chen, W. (2017). Improving the odds: An empirical look at the factors that influence upward transfer. *American Council on Education Center for Policy Research and Strategy*. Retrieved from http://www.acenet.edu/news-room/Documents/Improvingthe-Odds.pdf

Wyatt, L. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59*(1), 10-20.

Xuereb, S. (2014). Why students consider terminating their studies and what convinces them to stay. *Active Learning in Higher Education, 15*(2), 145-156.

Chapter 2 / Manuscript 1: Characteristics and Pathways Related to the Transfer Behaviors of Adult College and University Students

Over the last thirty years, the number of adult students enrolled in colleges and universities has increased dramatically (Soares, Gagliardi, & Nellum, 2017). Due in part to national initiatives to increase rates of college graduation, colleges have begun to understand that the goal of growing the proportion of people in the United States with college degrees cannot be met by targeting recent college graduates alone (National Adult Learner Coalition, 2017). Moreover, as completion agendas become more prevalent and investments in education decrease, colleges are looking to less-traditional populations in order to maximize enrollments (Gould, 2018). Adult students—whether attending college for the first time or returning to college after a previous attempt—are a population essential to meeting these enrollment and completion goals. As a result, the population of adult students in higher education is now growing faster than the population traditional age student, making adult students a majority-minority population in many colleges and universities (Scobey, 2016).

Adult student needs and behaviors are often different from those of traditional age students. While students of traditional age are fairly homogenous (e.g., recent high school graduates attending college for the first time), adult students characteristics are more diverse (e.g., an adult student could be a mid-career professional or a retiree who has attended college previously) (Pelletier, 2010). Adult students are more likely to be part-time, working, and caring for dependents (Soares, Gagliardi, & Nellum, 2017). Nevertheless, institutional policies are typically catered toward a traditionally-aged population, which can result in confusion and unnecessary struggles for adult students. While many scholars and organizations (e.g., Pelletier, 2010; Kasworm, 2010; National Adult Learner Coalition, 2017; OECD, 2016; Soares, 2013) note

the importance of revising policies and services to meet adult student needs, few studies exist that attempt to describe the behaviors of adult students in order to identify patterns and trends that might illuminate common needs. In other words, the actual behaviors of adult students are not well-understood or well-studied.

Developing an understanding of the enrollment and transfer patterns of undergraduate adult students is an especially important step in improving completion and success. Some types of transfer are potential indicators of student advancement, while others can represent obstacles to success. Transfer is increasingly common and complex (Wang, Wickersham, & Sun, 2016), and generating a clear picture of transfer behavior—especially adult transfer behavior—is becoming more critical for the work of both researchers and practitioners. Within six years of enrollment, thirty-eight percent of students engage in some form of transfer (Shapiro et al, 2018). While the enrollment and transfer behaviors of traditional age students are well-studied, extant literature on adult and higher education provides little information about adult student enrollments or adult student transfer behavior (Soares, Gagliardi, & Nellum, 2017). As a result, policymakers and institutions are left trying to apply what might be true for students of traditional age to a growing population of adult students.

Moreover, transfer research within the field of higher education is in need of additional critical lenses through which to understand the full picture of student behavior (Laanan & Jain, 2017). However, without a descriptive foundation for the transfer behaviors in which adult students are engaging, little can be done to change policy or apply new critical lenses effectively. When considered together, these issues highlight the need for the development of a descriptive understanding of adult student transfer behavior in order to promote policies and practices that ensure adult student success.

In order to offer insights into the transfer behaviors of adult students and to offer a new critical lens through which to understand transfer activity, this research used data from the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14) dataset to diagram the movement of adult students (defined as students 21 and older) according to demographic and institutional factors. The resulting map and discussion of adult student demographics, characteristics, and transfer choices offers insights for researchers, policymakers, and practitioners seeking to better understand adult students and transfer behaviors. This article concludes with a discussion of the relevance of these diagrams for future research and practice.

Literature Review

Literature relevant to this study falls into two categories: transfer behaviors and adult student enrollment and success. While transfer behaviors are well-researched, research on adult student success is somewhat limited. Research on adult student transfer and enrollment behaviors is lacking.

Vertical, Lateral, and Reverse Transfer

Transfer plays a significant role in degree completion; as such, it is an important indicator of student success (Hossler et al., 2012). However, transfer activities are not homogenous. Some represent positive outcomes for students, while others may represent challenges to student success. For example, students who transfer vertically from community and/or technical colleges to bachelor's granting institutions are generally thought to be progressing toward baccalaureate degree completion. However, students may also reverse transfer from bachelor's granting institutions to community and/or technical colleges or laterally transfer across similar institution types. Although not well-understood in the research on transfer, the latter two types of transfer (reverse and lateral) could indicate a lack of fit with the original institution or an unmet need for

remediation (Hossler et al., 2012). In other words, transfer is an indicator of progress toward a goal or of potential obstacles encountered in pursuit of a goal.

A significant body of literature attempts to describe transfer from community and/or technical colleges to bachelor's granting institutions (e.g., Adelman, 1999; Bahr, 2008; Cohen et al., 2014; Crisp & Delgado, 2014; Crisp & Nuñez, 2014; Dougherty & Kienzl, 2006; Dowd, 2012 LaSota & Zumeta, 2015; Urias, Falcon, Harris, & Wood, 2017; Wang 2009; Wang, 2012; Wood & Palmer, 2013). Many of these studies (e.g., Adelman, 1999; Bahr, 2008; Wang, 2012) considered student characteristics as they relate to transfer decisions. Several of the studies (Crisp & Nuñez, 2014; Meza, Bragg, & Blume, 2018; Mooring & Mooring, 2016) specifically examined the relationship between race and transfer behavior.

While most of these studies consider non-traditional students and/or adult students, none focus explicitly on modeling or predicting adult student transfer behaviors. Chances of successful vertical transfer have been shown to decrease with age, and older students transfer vertically in lower proportions than traditional age students (Stern, 2016). Studies that address adult student enrollment specifically tended to focus on swirl (moving back and forth between institutions) and enrollment intensity. Swirl is often associated with lower completion rates (Ishitani, 2006; Kuh et al., 2007; Li, 2010; Selingo, 2013; Sinha, 2010; Yang, 2007). Full-time enrollment has also been connected to adult student success (Miller, 2014). Monroe (2006) completed a qualitative study of adult student transfer, with participants reporting that past experiences, personal issues, institutional fit, academic integration, and institutional communication all influenced transfer success. While this research is helpful in understanding adult student enrollment behaviors more generally, it provides little insight into the prevalence of specific transfer decisions being made by adults.

Nevertheless, some connections can be made that provide insight into the challenges and opportunities adult students encounter when seeking to transfer vertically. Overwhelmingly, research suggests that vertical transfer is less common for underserved populations (Cohen et al., 2014; Crisp & Nuñez, 2014; Dougherty & Kienzl, 2006; Dowd, 2012; Wang, 2012; Urias, Falcon, Harris, & Wood, 2017). Students of color are at particular risk (Dougherty & Kienzl, 2006; Urias, Falcon, Harris, & Wood, 2017; Wood & Palmer, 2013). Factors like part-time enrollment, employment while in college, and previous academic preparation may also inhibit vertical transfer (Cohen et al., 2014; Dowd, 2012; Wang, 2012). Student and faculty support services have been found to promote vertical transfer (Cabrera, Burkum, & La Nasa, 2005; Eagan & Jaeger, 2009). Institutional selectivity and control have specifically been a focus of a few studies (e.g., Blume & Meza, 2018; Cheslock, 2015; Crisp, 2017; Jenkins & Fink, 2016; Porchea, Allen, Robbins, & Phelps, 2010; Wang, 2016). Most transfer behavior is occurring between community and/or technical colleges and broadly accessible or moderately selective institutions (Crisp, 2017; Hossler et al., 2012; Jenkins & Fink, 2016). Some research (Blume & Meza, 2018; Ehrenberg & Smith, 2004; Xu et al. 2018) explored transfer decisions in relationship to institutional characteristics consider the success of institutional pairings, suggesting that policies that govern transfer should be cross-institutional.

Additionally, while vertical transfer is fairly well understood, studies on reverse and lateral transfer behaviors are less common in literature. Although several articles exist (e.g., Bahr, 2012; Crisp, 2017; Crisp, Potter, & Taggart, 2020; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009; Hillman, Lum, & Hossler, 2008; Hossler et al., 2012; Kalogrides & Grodsky, 2011; Sujitparapitaya, 2006; Winter, Harris, & Ziegler, 2001) that attempted to explain these transfer behaviors, none have considered reverse and lateral transfer in relation to adult students

specifically. Demographic findings from research on transfer from bachelor's granting institutions suggests that baccalaureate transfer students have higher grades and higher attrition than vertical transfer students (Aulck & West, 2017), are more likely to enroll full-time (Crisp, 2017), and are less likely to be from an underserved population (Crisp, 2017). Underprepared students are more likely to reverse transfer (Goldrick-Rab & Pfeffer, 2009; Hillman et al., 2008; Sujitparapitaya, 2006). Additionally, major (Hillman et al., 2008) and low social capital (Goldrick-Rab & Pfeffer, 2009) appear to contribute to reverse transfer decisions. Reverse transfer is more common than lateral transfer for students at public bachelor's granting institutions, with more than half of students who transfer moving to community and/or technical colleges (Hossler et al., 2012). Only one study of reverse or lateral transfer has considered age as a variable. Hillman, Lum, & Hossler (2008) found no relationship between reverse transfer and age, although their study did not disaggregate adult student age beyond age 29. In other words, all adult students in this study were classified as being 25-29 or over 30.

Adult Student Enrollment and Success

The absence of meaningful information about adult student enrollment behaviors in the literature on student success and transfer is significant. A limited set of studies consider adult student behaviors comprehensively, and few (if any) studies explore the enrollment decisions of adult students. Chung, Deborah, & Chur-Hansen (2017) explored the role of resilience in adult student success; however, this phenomenological study does not consider student outcomes but focuses on student perceptions of self-efficacy. Other studies (Francois, 2017) used a similar qualitative methodology to understand how adult student perceive themselves and their abilities. Kasworm's (2010) theories of adult learning and student identity were built on similar concepts but also did not consider student outcomes or behaviors.

Kasworm (2010) used four categories to map adult student priorities and assets: learner roles, life roles, life experience, and knowledge mastery. In this model, adult students are thought to participate in different activities outside of college (e.g., full-time employment, parenting) and to bring different experience and knowledge to the classroom than do students of traditional age. Adult students need to have this specific positionality recognized and accommodated in order to succeed in college, and their autonomy is critical to their growth (Kasworm, 2010). Academic programs, policies, systems, and relationships all influence adult student success in this model, and these institutional factors interface with adult student identity and autonomy. Soares, Gagliardi, & Nellum (2017) supplemented Kasworm's theory by highlighting the significance of formal, informal, and nonformal learning for adult students. Adults bring classroom experiences (formal learning), life experiences (informal learning), and cultural and/or emotional experiences (nonformal learning) to the college environment. For these reasons, prior learning assessments and prior learning credit are critical for adult student success (Gast, 2013). Credit loss and accumulation are central to conversations around transfer and completion, and these issues have been shown to impede adult student completion (Gast, 2013; Monaghan & Attewell, 2015).

Due at least in part to the phenomena noted by Kasworm (2010), adult students are more prone to attrition than students of traditional age (Ma et. al., 2016; Soares, 2013). Researchers (Osam, Bergman, & Cumberland, 2017; Soares, 2013) have observed that this attrition is likely connected to the increasingly complexity of life for adult learners, who are often balancing work and family with their education. Findings related to the impact of age on student success were uneven. Some studies suggested that age negatively impacts student success (Ishitani, 2006), while others (Paulson, 2012; Schatzel et al., 2011) found that age may correlate with retention when combined with other factors (e.g., returning to school).

In addition, previous studies have found that adult student transfers are less successful than those of traditional age students. When adult students transfer, they are more likely to depart from the institution to which they transferred (Li, 2010). In other words, transfer has been found to correlate negatively with adult student completion negatively. Despite these findings, little is known about how common adult student transfer behaviors are or about the other characteristics possessed by adult students who transfer.

Research Questions

As indicated above, descriptive information is needed about adult student transfer behavior and flow. This study sought to provide an understanding of adult student transfer using descriptive data and diagrams of transfer behaviors. In order to close gaps in the literature on transfer behavior and adult student success, this study specifically explored two research questions: What are the demographic characteristics, institutional contexts, early college experiences, and student supports of baccalaureate degree seeking adult college students (defined as first-time students who are 21 and older) who transfer (vertical, lateral, or reverse) prior to their third year of college (RQ1)? What differences exist between groups who transfer (RQ2)?

Methods

Dataset and Sample

This research relied on data from the current cohort of the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14). BPS: 12/14 data were taken from the 2011-12 National Postsecondary Student Aid Study (NPSAS:12), Integrated Postsecondary Education Data System (IPEDS:10-11), and other data sources (Hill, Smith, Wilson, & Wine, 2016). The data set included information related to student characteristics, student motivations, pre-college

experiences, and institutional characteristics. Expanded data on student services, institutional factors, and enrollment activities were also included in this data set.

A nationally-representative sample of adult students (defined as first-time students who are 21 and older) who began college during the 2011-12 academic year at a Title IV eligible college or university in the United States were used in this study. The analytic sample for this research included the 3,770 adult students who initially enrolled at a community and/or technical college or bachelor's granting institution. Definitions for the coding of institutional types were derived from IPEDS definitions. Community and/or technical colleges were, for the purposes of this study, defined as institutions that offer programs of at least two but less than four years' duration. Baccalaureate granting colleges were defined as institutions offering baccalaureate degrees.

The study modeled the adult students who vertically transferred from a community and/or technical college to a bachelor's granting institution (n=80), laterally transferred to another institution (n=220), and the students who reverse-transferred to a technical or community and/or technical college by the third academic year (n=140). For the purposes of analysis, reverse and lateral transfer outcomes were combined. Students who only took courses at another institution to transfer credit back to their original institution were excluded. Sample sizes were rounded to the nearest 10th per IES guidelines.

Variables

This study analyzed and mapped the flow of adult student transfer behaviors, using research on transfer and adult student behaviors as the basis for variable inclusion. Drawing from the work of Kasworm (2010) and Nora (2004), this study attempted to illuminate patterns in descriptive data on the demographics, motivations, early college experiences, and institutional

contexts of adult students who transfer. These variables were mapped onto three outcome variables: vertical transfer from a community and/or technical college to a bachelor's granting college before the third year of college, lateral transfer to another institution before the third year of college, and reverse transfer to a community or technical college before the third year of college. Descriptive data for all variables was provided. Additionally, using transfer outcomes as a sorting device, descriptive data were mapped to demonstrate the flow of adult students according to demographics and characteristics.

Institutional characteristics were included in the model, due to their significance in previous research. Institutional type, institutional control, the cost of attendance, the school's urbanicity, and the percent of students of color enrolled were included based on the relationships between student success and institutional factors found in previous studies (Bean & Metzner, 1985; Goings, 2018; Soares, Gagliardi, & Nellum, 2017; Stern, 2016). Institutional control was mapped to show the flow of students based on attendance at public, private not-for-profit, and for-profit institutions, based on the significance of the variable in previous studies (Gelbgiser, 2018).

Additional variables aligned with findings from the literature related to adult student success and enrollment. Nora's (2004) student/institution engagement model suggested that students bring specific characteristics to the college environment that influence their success. This concept aligned with Kasworm's (2010) research on adult student life roles. Socio-demographics were associated with specific transfer behaviors (Crisp, 2017; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009) and were mapped as a part of the study. Specifically, this study mapped race and age according to transfer type (Goings, 2018; Markle, 2015; Soares, 2013; Stern, 2016). A racial transfer gap was expected as a finding (Crisp, Potter, Robertson, &

Carales, 2020; Sujitparapitaya, 2006). Degree expectations, self-esteem, and motivation (Bergman et al., 2014; Shillingford & Karlin, 2013) were also included, based on the findings of previous research, and were expected to correlate positively with vertical transfer or a decision not to transfer.

Descriptive data on employment, financial aid, financial support, and social capital were provided according to transfer type (Bowers & Bergman, 2016; Chen & Hossler, 2017). Higher costs were expected to be associated with reverse and lateral transfer (Gast, 2013; Osam, et al., 2017). Increased employment was expected to be associated with a decrease in reverse and lateral transfer (Osam, et al., 2017; Soares, 2013). Student support services (academic advising, academic services and career services) and measures of engagement (social satisfaction and sense of belonging) have been shown to improve adult student success (Goings, 2018; Hurtado & Carter, 1997) and were expected to increase rates of vertical transfer and no transfer.

Enrollment behaviors were also modeled. Although data specific to adult student transfer is lacking, previous transfer studies of traditional age populations (Crisp & Delgado, 2014; Kalogrides & Grodsky, 2011; Kuh et al., 2008; Hillman et al., 2008; Hu, 2011; Sujitparapitaya, 2006) have found that enrollment intensity, first-year GPA, developmental coursework, and co-enrollment behaviors were salient characteristics that correlate with transfer behavior. Moreover, Kasworm's (2010) framework for adult student decision making noted knowledge mastery as a central construct. For these reasons, enrollment-related variables were included in the descriptive data in order to improve understanding about their applicability for adult student populations.

Limitations

This study cannot account for the pre-college experiences and characteristics (specifically, high school GPA and high school courses taken) of adult students, as this

information was not included in the BPS dataset. Therefore, such characteristics cannot be mapped onto transfer behaviors as they might be for traditional age students. Potentially, these could be important to understanding transfer (Nora, 2004). Additionally, this study did not include information about all students who fit the broader definition of "non-traditional" or post-traditional students, which made some of the variables and findings difficult to generalize for that population as a whole. The inclusion of students aged 21-23 is evidence of an attempt to help to mitigate this issue. Nevertheless, data were disaggregated to account for many of the factors critical to non-traditional and post-traditional populations, but the specificity of the study to adult learners was nevertheless a limitation. Additionally, the ability to fully analyze certain variables—specifically, race/ethnicity—was limited by sample sizes.

This study also only considered students who transferred at least one time during their first three years of college enrollment. Only the first transfer was modeled in the sample. In other words, students may have transferred multiple times during their first three years, but this study only accounted for their first transfer.

Results

This section includes a summary of key characteristics for specific transfer outcomes. In order to enhance understanding of adult student transfer behaviors, descriptive data were analyzed in two different ways. Table 1 provides descriptive data on transfer behavior in order to highlight the demographic data, student characteristics, motivations, and institutional characteristics that might be associated with specific transfer decisions. Figures 1 through 3 serve as flow charts that highlight specific similarities and differences in adult student transfer behavior according to variables of interest.

Students Who Did Not Transfer

As indicated in Table 1, adult students who did not transfer (n=3,320) comprised the largest portion (88%) of the sample. Key demographic findings revealed that, on average, students who did not transfer were 29.4 years old. First generation students comprised 31% of the group.

Most students who did not transfer also did not work (59%). Twenty-five percent of students in this group took developmental courses, and students who did not transfer did not typically co-enroll (1%). Students who did not transfer reported higher levels of engagement than any other transfer group (76%). They also reported having higher senses of belonging (77%) and higher social capital (79%) than all other groups.

Students who did not transfer were commonly enrolled at in-state institutions than other groups (75%). They also were the group least often enrolled at private for-profit institutions (62%). Additionally, they were the only adult student group in the sample with enrollments at very selective institutions, although such enrollments were still uncommon (0.4%).

Students Who Vertically Transferred

Students who vertically transferred composed the smallest group in the sample (2%). Demographically, some differences existed between students who vertically transfer and other students. For example, when compared to other types of transfer, African Americans comprised a smaller percentage (18%) of vertical transfers overall. Students who vertically transferred were also more commonly first generation students (20%) than other groups, and they were slightly younger (27.5) than those who did not transfer. When compared to other groups, students who vertically transferred were the group second least likely to work (70%).

Variables related to student motivation were also important in this group. For example, an intention to earn a doctoral degree was the goal for 17% of students who vertically

transferred, higher than any other group. Additionally, students who vertically transferred reported the highest levels of self-efficacy of any transfer group (90%).

The early college experiences and institutional supports for this group revealed many variables that were similar to other groups. Students who vertically transferred reported the second highest rates (74%) of engagement across the groups and the third highest senses of belonging (71%). Full-time and part-time enrollment were almost equally common in this group (51% vs. 49%). However, students who vertically transferred reported the highest rates of enrollment in developmental education (33%).

Institutional characteristics also varied for this group. Students who vertically transferred did not attend for-profit colleges. Additionally, their college costs were lower than any other group ($13,387 on average). Their institutions were more commonly urban than other groups (60%).

Students Who Laterally Transferred

Lateral transfers (n=220) represented the second largest category (6%) in the sample. On average, lateral transfer students were 28 years old. Forty-two percent either worked full-time or part-time, more than any other group proportionally. This group also had the largest proportion of female students (55%), which is two percent higher than those who reverse transferred and five percent higher than those who did not transfer.

Financial and employment variables revealed that lateral transfer students more commonly did not work than other groups (58%). Their financial aid packages were the highest of any group ($11,698), nearly $800 larger on average than the next closest group. They were the group that reported the lowest levels of financial support (94%).

Levels of engagement (73%) and sense of belonging (73%) were higher than reverse transfer students (60% and 63%, respectively) and lower than students who did not transfer (76% and 77%, respectively). Students who laterally transferred were the group second most likely to attend in-state (70%). Also, they were much more likely to attend full-time (58%) than vertical (51%) and reverse (50%) transfer students.

Students in this group attended public institutions (30%) at much lower frequencies than private for-profit institutions (65%). They were the group least frequently to attend schools in small towns or rural communities (8%). Their college costs were higher than any other group ($20,287); this figure is nearly $7,000 more than the group (vertical transfer) with the lowest college costs ($13,387).

Students Who Reverse Transferred

Students who reverse transferred composed four percent of the sample (n=140). Demographically, African Americans more commonly reverse transferred than other groups (31%). Reverse transfer students tied vertical transfer students as the youngest groups in the sample (27.7). They were the group most frequently found to be not working (74%).

In terms of motivations, this group was the least likely to report seeking a doctoral degree (5%). They also reported the lowest levels of self-efficacy (71%). Additionally, their reported levels of self-efficacy were more than ten percent lower than the next closest group (lateral transfer at 84%).

Engagement (60%) and sense of belonging (63%) were the lowest among students who reverse transferred. They were the group least frequently found to be attending full-time (50%) and least likely to attend in-state (66%). Developmental course taking was found more often in this group (81%) than any other. Their first-year GPAs were lower than any other group (2.63).

In terms of institutional characteristics, this group had the largest percentage of private for-profit attendees (84%). This figure was nine percent higher than the next largest group (lateral transfer at 65%). This group also had the lowest exposure to diversity (31%).

Comparison between Transfer Groups

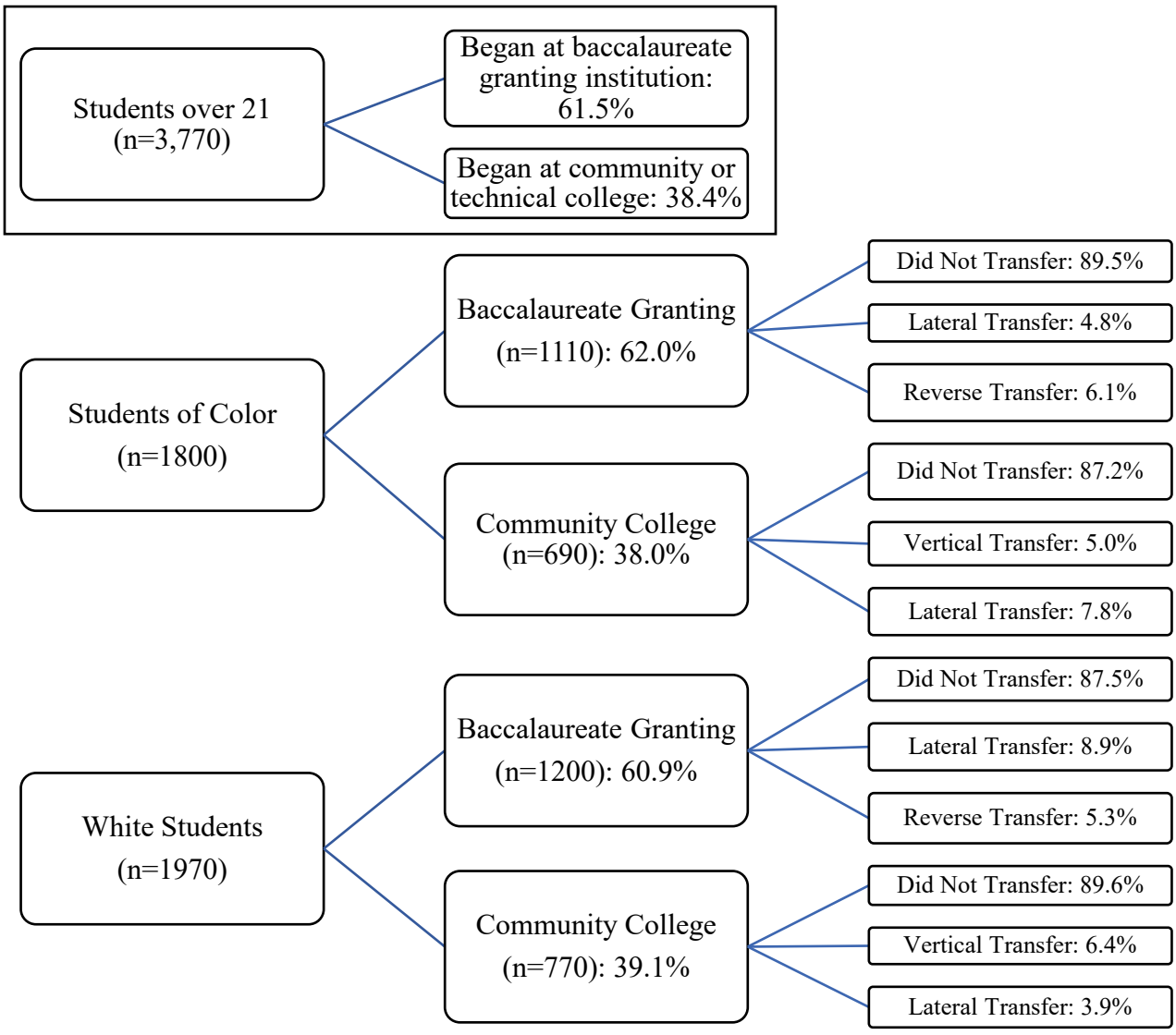
Differences between groups were also a consideration of this study. Chi square information was calculated for qualitative categorical variables (e.g., race/ethnicity), and ANOVA information was considered for quantitative variables (e.g., GPA) in order to identify significant differences across the groups (Mertler & Reinhart, 2016). Several significant differences were found.

Race and Transfer.

Race and ethnicity were found to correlate with transfer behavior, and White students comprised a comparatively small proportion of students who reverse transferred (47%) and a comparatively large proportion of the students who vertically transferred (59%). Conversely, African American students also composed a large percentage of students who reverse transferred (31%) and a small percentage of students who vertically transferred (18%).

Although the sample sizes for many racial groups were too small to report when disaggregated by transfer outcome, combining outcomes for adult students of color provided the opportunity for analysis. Specifically, when race was considered alone, most transfer outcomes for adult students did not appear to be substantially different according to race (Figure 1). Lateral transfer was the only area where outcomes differed by more than two percent. White students who begin at community and/or colleges laterally transfer less frequently (4%) than students of color (8%). However, students of color who begin at baccalaureate granting institutions laterally transfer less frequently (5%) than do White students (9%).

Figure 1. Reverse and lateral transfer behaviors of adult students of color and White adult students by beginning institution type who laterally or reverse transferred within three years of attending a community college or bachelor's granting institution for the first time.



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14)

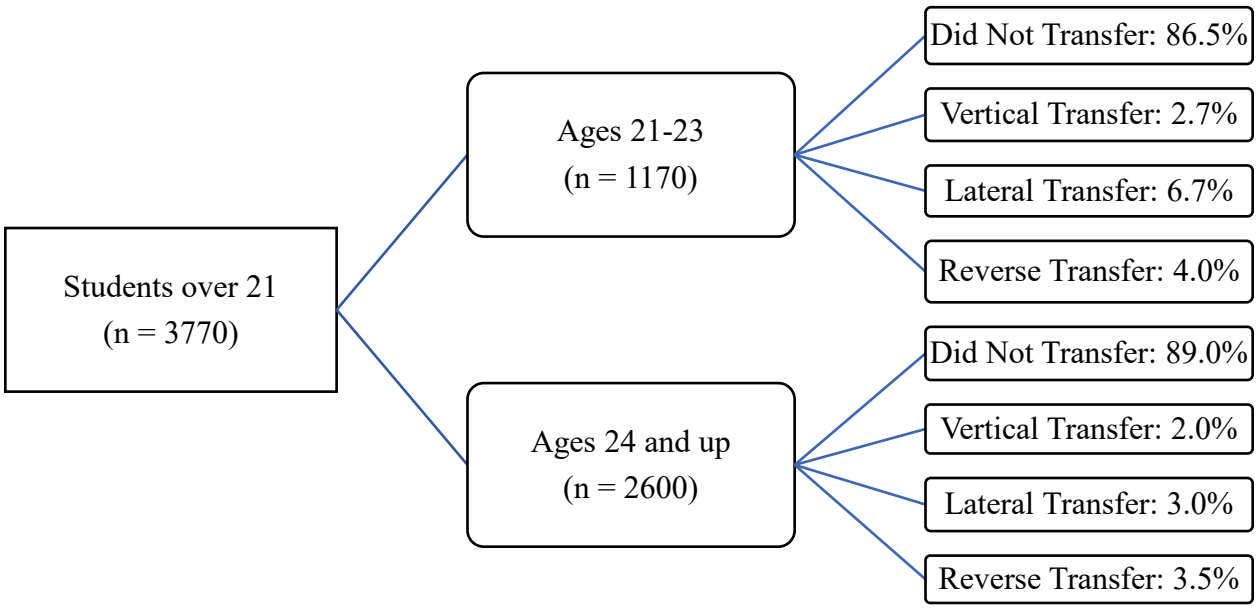
Age and Transfer.

Age was also found to correlate significantly with transfer behavior. Students who did not transfer were, on average, 29.4 years of age, while students who vertically and reverse

transferred were nearly two years younger on average. Students who laterally transferred were an average of 28.1.

Although significant differences were found for age itself, significant differences were not found between students aged 21-23 and those ages 24 and older. As Figure 2 suggests, transfer outcomes for students aged 21-23 closely resembled those of students ages 24 and older. Lateral transfer appeared to be more common (7%) among students aged 21-23 than those aged 24 and older (3%). Rates of non-transfer, vertical transfer, and reverse transfer were similar or identical between the groups.

Figure 2. Transfer behaviors of students who transferred within three years of attending a community college or bachelor's granting institution for the first time according to age group.



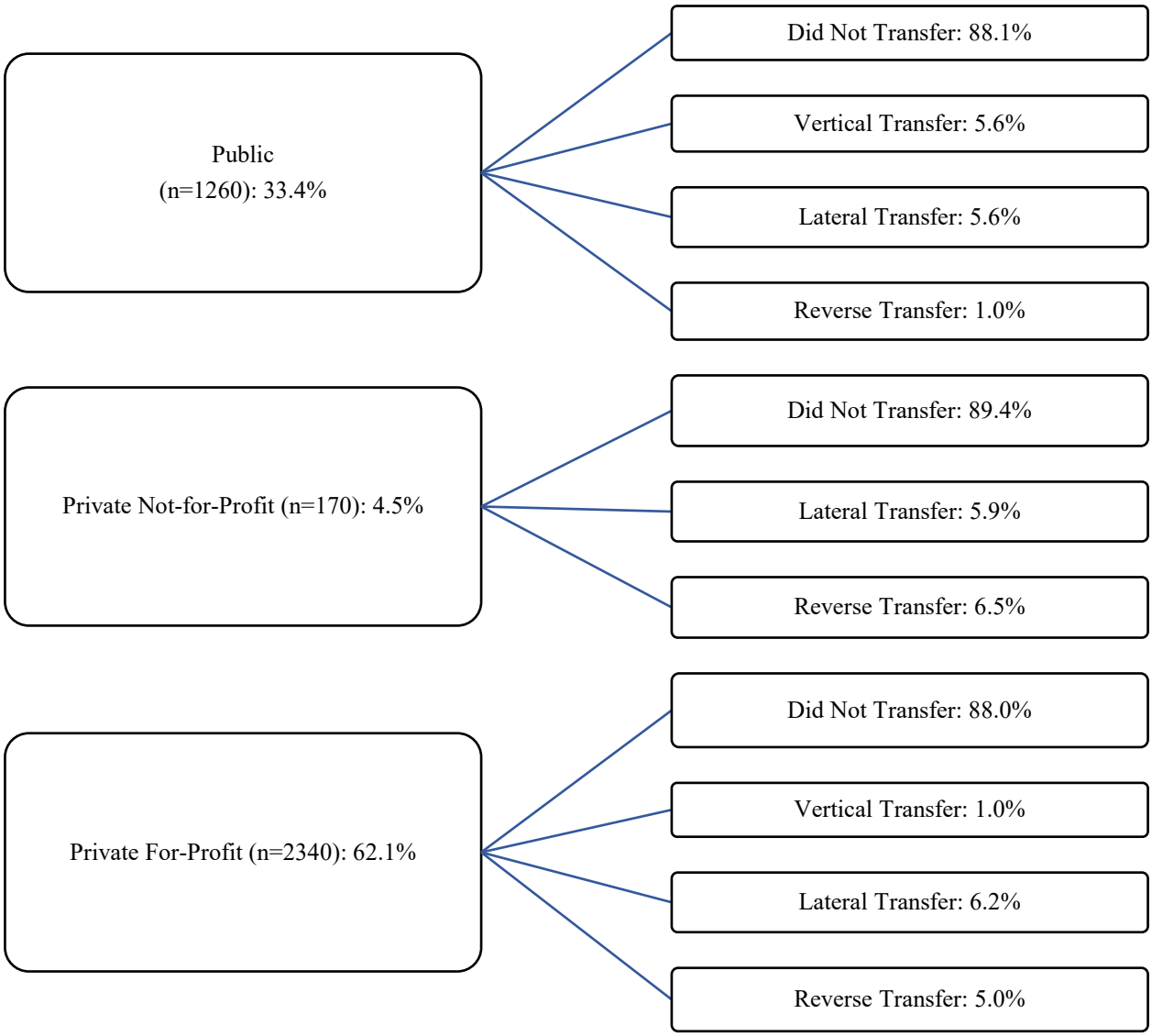
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14)

Institutional Control and Transfer.

Institutional control was also significantly associated with transfer behavior. As noted in Table 1, 62% of the adult students who did not transfer attended for-profit colleges. Figure 3 was

designed to further demonstrate the ways that transfer outcomes were related to institutional characteristics. Although numbers could not be disaggregated according to the level of the institution (i.e., community/technical college or baccalaureate institution) due to sample size concerns, the numbers nevertheless suggested trends in transfer according to institution control. Reverse transfer was far more common in adult students at private non-profit (7%) and for-profit (5%) institutions than in public institutions (1%). However, attendees of private, for-profit colleges composed 84% of students who reverse transferred. Vertical transfer was less common for private for-profit students (1%) than for students in public institutions (6%). The percentage of adult students attending for-profit institutions (62%) when compared to other institution types was also notable. Few adult students attended private non-profit institutions (5%).

Figure 3. Flow of adult students by institutional control who transferred within three years of attending a community/technical college or bachelor's granting institution for the first time.



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14)

Additional Differences.

In addition to race, age, and institutional control, several other significant differences were noted between groups. Several financial variables also correlated significantly with transfer behavior. Specifically, students who did not work composed 70% of the students who vertically transferred and 75% of the students who reverse transferred. Students who worked more than 20 hours per week comprised 36% of the students who did not transfer but only 23% of the students

who vertically transferred. Financial aid was also a significant factor, and the average award for students who laterally transferred was more than $1,500 larger than that of students who did not transfer. College cost was similarly higher for students who laterally transferred than for students who did not transfer.

Motivations and early college experiences also correlated with transfer behavior. Students reporting high levels of self-efficacy comprised a relatively large portion of students who vertically transferred (90%) and a relatively low portion of students who reverse transferred (71%). Similarly, students reporting low self-efficacy comprised a large portion of students who reverse transferred (22%). Sense of belonging and engagement also mattered, with students reporting low levels of engagement constituting a large percentage (21%) of reverse transfers. Students with low senses of belonging comprised comparable segments of the reverse transfer population (63%). Students with high senses of belonging were the largest portion of students who did not transfer (77%). Average academic performance was also a key factor with reverse and lateral average first-year GPAs being lower than 3.0. Students who did not transfer or vertically transferred had average first-year GPAs above 3.0.

Enrollment behaviors were also associated with transfer outcomes. Students who always enrolled full-time composed the largest section of students who did not transfer (60%) or laterally transferred (58%), and students with primarily mixed or part-time enrollment status made up half of the students who vertically or reverse transferred. Coenrollment was also a significant factor, and 99% of students who did not coenroll also did not transfer. Coenrollment behavior was more common among students who laterally transferred (22%).

Discussion

The findings of this study aligned with existing research on adult students and transfer in several ways. For example, adult student choices related to institutional variables have been the subject of several studies, some of which (Iloh, 2016; Morey, 2004) have considered the adult students in for-profit contexts. Other studies (e.g., Crisp, 2017; Crisp & Nuñez, 2014; Crisp, Potter, Robertson, & Carales, 2020; Meza, Bragg, & Blume, 2018; Mooring & Mooring, 2016; Sujitparapitaya, 2006) have considered racial transfer gaps, although not for adult students. Additional studies (e.g., Aulck & West, 2017; Bahr, 2012; Crisp, Potter, & Taggart, 2020; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009; Hillman, Lum, & Hossler, 2008; Hossler et al., 2012; Sujitparapitaya, 2006; Winter, Harris, & Ziegler, 2001) have considered reverse and lateral transfer; again, these studies have not focused on adult students.

More specifically, the findings of this study affirmed several previous findings. Notably, the findings of this study aligned with those of Hillman et al. (2008) and Goldrick-Rab and Pfeffer (2008), who found that poor academic performance was associated with reverse and lateral transfer in traditional age student populations. Although these studies did not consider adult students, their findings correspond with the findings in this study that show that low first-year GPA correlated with adult transfer; moreover, the descriptive findings showed impacts for reverse and lateral transfer specifically. Lower GPA and lower self-efficacy were found more frequently in students who reverse transferred. Conversely, these variables were higher in students who vertically transferred.

Findings on outcomes related to adult students specifically also aligned with previous studies. Winter, Harris, and Ziegler (2001) found that age was specifically a factor in the success of reverse transfer adult students. Although this study did not consider success, it did find that age correlated with transfer. Additionally, Austin (2006) found that finances and mentoring were

factors in adult student success and transfer. By comparison, this study similarly found that college cost and financial aid were significant factors in adult student transfer, with higher costs on average for lateral transfer students and lower costs for vertical transfer students. Although this study did not consider mentoring, it did find that several indicators of belonging and engagement were significant for adult student transfer. Students who had lower senses of belonging and engagement were found, for example, to more frequently reverse transfer. Self-efficacy was also previously found (Chung, Deborah, & Chur-Hansen, 2017; Francois, 2017) to contribute to adult student success, and the findings of this research supported their finding.

However, this study also differed from previous findings. For example, although the descriptive data showed that developmental education enrollment was more common in students who reverse transferred than in every other group except vertical transfers, the differences between groups were not statistically significant. This contradicts previous work (Goldrick-Rab & Pfeffer, 2009; Hillman et al., 2008), which showed a relationship between reverse transfer and underpreparation. Perhaps the effect of developmental education was different somehow for adult students, as Goldrick-Rab's study focused on students of traditional age. Additionally, gender was not found to correlate with transfer, which contradicts some previous findings (Goings, 2018). Unsurprisingly, institutional selectivity was not a significant factor in transfer outcomes for adult students. This was possibly attributable to the very small number of adult students who attended selective institutions.

This study also added to conversations about adult student experiences. Due to its inclusion of institutional control, the study answered Gelbgiser's (2018) call for focused attention on the large proportion of the adult student population attending for-profit institutions. These students were found to be unlikely to transfer, and further study is needed to determine

whether this phenomena is associated with attrition and/or completion. The findings also engaged with ongoing conversations related to age and student success. Previous studies found that age both correlated with retention (Paulson, 2012; Schatzel et al., 2011) and also might have contributed to attrition (Ma et. al., 2016; Soares, 2013). Although further study is needed, the results of this study suggested that age was indeed significantly related to transfer. In addition, this research noted the need for an expanded definition (21 and older) of adult students in order to fully understand the population.

Implications for Policy and Practice

Although the descriptive results provided many key insights into adult transfer behaviors, further action is warranted in order to improve the experiences of adult transfer students. The results of this study have several implications for institutions and policymakers. Primarily, this study suggested that students who delay entry into college might be better classified and considered alongside post-traditional students than those who enter college directly out of high school. Colleges might benefit from targeting these students with interventions that have previously been successful with older students.

Relatedly, sense of belonging, self-efficacy, and engagement are worthy of attention. Like traditional age students, adult students also need to be engaged and feel like they are a part of a college community (Gast, 2013; Osam et al., 2017). For adult students, this can be a special challenge, as mixed and part-time enrollment are more common and inherently reduce the amount of time students spend on campus. Activities designed to engage adult students are important (Wyatt, 2011). Specifically, tutoring and counseling services targeted at adult students have been shown to be successful practices (Wyatt, 2011). Communication and marketing services directed toward adult students have also been demonstrated as helpful for retaining adult

students (Wyatt, 2011). Peer relationships have been shown to matter to adult students, as have quality relationships with administrators (Lundberg, 2003). Programs that connect adults with one another and with college staff should be considered in relation to adult student transfer.

College cost is a critical issue related to transfer. Findings of this study showed that adult students who transfer laterally have higher college costs and higher financial aid packages than other students. More research needs to be completed to understand the relationship between financial variables and lateral transfer, but these results raise questions about whether students are transferring laterally in order to reduce costs. For institutions seeking to retain adult students, this is a concern, and additional programs to assist adult students with paying for their education may be beneficial to reducing lateral transfers. In other words, this research underscores the need for colleges and policymakers to make college more affordable for adult students. Adult student struggles with income and tuition and fees are well-documented (see Taliaferro & Duke-Benfield, 2016), and adult students face challenges (e.g., childcare, housing) that students who enter college directly from high school. Some research has proposed free college policies for adults (Pingel, Parker, & Sisneros, 2016), and policymakers should consider ways to reduce college costs specifically for adult students. Public benefits and refundable tax credits are other potential policy options (Duke-Benfield, 2015; Titus & Pusser, 2011).

Additionally, colleges and policymakers should consider the relationship between enrollment intensity, co-enrollment, and transfer outcomes. According to the findings of this study, students who did not co-enroll very rarely transferred, while students who did co-enroll engaged in transfer behaviors more frequently. Lateral transfer was a particular concern for those who co-enrolled. Structurally, such students did not need to reverse or laterally transfer if they began at baccalaureate granting institutions, so co-enrollment should factor into institutional

decision making. This research agreed with previous suggestions (Spellman, 2007) that colleges would be wise to consider their course offerings and schedule to ensure that students can get the courses they need when they need them, making co-enrollment less necessary for students seeking baccalaureate degrees.

Institutional control was another issue emerging from this study with import for colleges and policymakers. As for-profit institutions become more prevalent (Gelbgiser, 2018), institutions and policymakers need to develop a better understanding of whether the lack of transfer from for-profit institutions is a sign of student success and/or a sign that obstacles to transfer exist. For example, Iloh (2016) noted in a previous study of for-profit institutions that one student reported that "almost too many resources were allocated to students that were on the verge of dropping out or underperforming" (p. 450). This may also be the case with transfer. In other words, for-profit institutions may be devoting resources to preventing transfer; this could be a harmful practice, or it could potentially be a practice from which other institutions could learn. Other studies (Chung, 2012; Erickson, 2012) noted the significance of geography in the selection of a for-profit institution. When coupled with the findings of this study that for-profit students were frequently in-state, these studies suggest that institutions and policymakers should ensure that college access is appropriately provided for all communities.

Implications for Further Research

While the research presented here offered support to previous studies, it also provided an opportunity to take a fresh look at several issues that may affect adult students and their transfer outcomes. Three clear areas for further research emerged from this study. First, an enhanced understanding of the similarities and differences between delayed entry students and students over age 24 would possibly provide a more comprehensive picture of the needs of students who

do not enter college directly from high school. Second, further research into the relationship between adult student enrollment, transfer, and for-profit institution attendance is needed. Finally, this study emphasizes the importance of developing momentum metrics for adult students, as relatively few studies have considered the factors that signal success or struggle for adult students specifically.

Specifically, given the somewhat unique definition of adult students as individuals aged 21 and older adopted for this study, consideration of the behaviors of students aged 21-23 and those over aged 24 adds insight to ongoing conversations about understanding post-traditional students. This study found that these two populations did not transfer at significantly different rates, although age itself was significant. Researchers should consider reviewing data for 21-23-year-old students to evaluate whether it is significantly different from data associated with either younger or older student populations. Additionally, further research is needed to explore the relationship between age and transfer. While this study found that the "typical" breakdown of age (under 24 vs. 24 and over) was not significant, significant differences may exist for other age groups.

As noted in the section above, additional research on the relationship between transfer and for-profit institutions would also be valuable. This study found that many adult students were attending for-profit institutions and were not transferring. The absence of transfer activity could be due to successful institutional practices, but it might also be due to the difficulties students experience when trying to transfer credits from for-profit institutions (Belfield, 2013). In this way, further qualitative study could provide insight into issues associated with adult student transfer from for-profit institutions.

Finally, the results of this study suggested that an improved understanding of adult student success metrics is needed. While many studies and metrics exist for students who enter college directly from high school, relatively few studies have considered what success looks like for adult students who are more likely to be part-time, working, and juggling responsibilities outside the classroom. In the context of transfer, more information is needed about whether certain behaviors (for example, co-enrollment) are more, less, or similarly beneficial for adult students than they are for traditional age populations. Improved data sources are needed in order to complete this work, as evidenced in the small sample size of adult students available in the BPS: 12/14 dataset. Researchers and research organizations should be careful to ensure that adult populations are proportionally represented in national datasets.

Conclusions

This study considered demographics, characteristics, motivations, and institutional experiences of adult students who engage in transfer behaviors during their first three years of college. Some of the findings of this study agreed with previous results. For example, academic preparation, financial concerns, and engagement were all found to correlate with transfer behaviors. Other findings were more ambiguous. For example, age was found to correlate with transfer behavior in adults, but differences were not present between students aged 21-23 and students aged 24 and older. Institutional control was significant, and the study found that most adult students attending for-profit institutions did not engage in transfer behaviors.

Based on the findings of this study, policymakers, researchers, and practitioners should consider enhancing services to adult students, reducing college costs, and ensuring that colleges and the services they provide are accessible to adult students. Additional research is warranted on the relationship between age and transfer. Also, the relationship between transfer and for-

profit institutions needs additional research and attention. Finally, as the population of adult students grows, research on adult student populations and needs more generally—as well as the datasets necessary for conducting this research—will be critical to addressing community, workforce, college, and student needs effectively.

Table 1. Salient characteristics of students aged 21 and older who transferred within three years.

Characteristic	Students who did not transfer (n = 3320) [1]	Students who vertical transferred (n = 80)	Students who reverse transferred (n = 140)	Students who laterally transferred (n = 220)	Sig. Chi Square or ANOVA
Socio-Demographic Characteristics					
Race/ethnicity					29.84*
African American	22.9	18.1	30.9	23.4	
Latinx	17.1	‡	14.4	15.8	
Asian American	2.3	‡	‡	‡	
American Indian, Hawaiian, and Pacific Islander	2.0	‡	‡	‡	
Biracial	3.4	‡	‡	‡	
White	52.3	59.0	46.8	54.5	
Socioeconomic status					9.04
Low	23.5	21.7	32.4	23.4	
Low middle	23.3	18.1	20.9	21.2	
High middle	26.4	31.3	25.2	26.1	
High	26.8	28.9	21.6	29.3	
Gender					3.01
Male	50.4	49.4	46.8	45.0	
Female	49.6	50.6	53.2	55.0	
Age	29.4 (*SD* = 8.48)	27.5 (*SD* = 7.53)	27.7 (*SD* = 6.96)	28.1 (*SD* = 7.56)	4.56**
Age Group					4.92
Age 21-23	30.5	38.6	33.8	35.1	
Age 24 and older	69.5	61.4	66.2	64.9	
First generation status					
First generation	30.8	19.3	29.3	26.6	
Continuing generation	65.0	80.7	69.4	68.3	
Employment, Financial Aid, Social Capital					
Work commitments					19.78**
More than 20 hours per week	35.9	22.9	23.7	35.6	
20 hours per week or less	5.6	7.2	2.2	6.3	
Did not work	58.6	69.9	74.1	58.1	
Financial aid	$10,114.01 (*SD* = 7,635)	$7,179.84 (*SD* = 6,164)	$10,907.63 (*SD* = 8,243)	$11,698.21 (*SD* = 9,649)	7.45***
Financial support					2.81
No	91.3	89.2	90.6	94.1	
Yes	8.7	10.8	9.4	5.9	

Social capital					.73
Disagree	7.3	7.2	11.5	8.1	
Neutral	14.1	14.5	10.8	15.8	
Agree	78.6	78.3	77.7	76.1	
Motivations					
Degree expectations					9.05
Bachelor's degree and cert	60.9	53.0	61.9	59.9	
Master's degree	28.9	30.1	33.1	29.3	
Doctoral or professional degree	10.2	16.9	5.0	10.8	
Self-efficacy					11.72***
Disagree	6.2	4.8	22.4	10.8	
Neutral	6.1	4.8	10.1	5.4	
Agree	86.8	90.3	70.5	83.8	
Early College Experiences and Institutional Supports					
Accessed advising services	49.5	49.4	39.6	48.2	5.33
Accessed academic services	31.1	30.1	23.7	36.0	6.08
Accessed career services	18.4	18.1	22.3	14.4	3.74
Engagement					10.53***
Disagree	8.5	12.0	20.8	10.9	
Neutral	15.6	14.5	18.7	15.8	
Agree	75.9	73.5	60.4	73.4	
Sense of belonging					9.26***
Disagree	8.6	8.4	19.4	10.8	
Neutral	14.7	20.5	17.3	16.7	
Agree	76.9	71.1	63.3	72.5	
Enrollment intensity					76.01***
Always part time or mixed	39.7	49.4	49.7	42.4	
Always full time	60.3	50.6	50.4	57.7	
In-state attendance					18.78***
Out of state or international student	25.5	‡	34.5	29.7	
In state student	74.5	‡	65.5	70.3	
Developmental courses					5.518
Yes	24.8	32.5	18.7	25.7	
No	75.2	67.5	81.3	74.3	
First-year GPA	3.08 (*SD* = .89)	3.08 (*SD* = .88)	2.63 (*SD* = 1.10)	2.94 (*SD* = 1.01)	12.35***
Co-enrollment					384.85***
Coenrolled	1.3	15.7	17.3	21.6	
Did not coenroll	98.7	84.3	82.7	78.4	
Institutional Context and Characteristics					
Control					148.60***
Public	33.5	86.7	7.9	30.2	

Private not-for-profit	4.6	13.3	7.9	4.5	
Private for-profit	62.0	0	84.2	65.3	
College cost	$18,311.65 (*SD* = 9,656)	$13,387.30 (*SD* = 6,274)	$19,468.45 (*SD* = 9,699)	$20,287.00 (*SD* = 10,575)	9.62***
Urbanicity					7.09
City	57.6	60.2	57.6	55.4	
Suburb	24.4	18.1	28.1	26.6	
Town and Rural	13.1	21.7	14.4	7.7	
Exposure to diversity	33.42 (*SD* = 20.48)	32.27 (*SD* = 18.85)	30.91 (*SD* = 19.89)	33.14 (*SD* = 20.67)	.747
Institutional selectivity					7.48
Open admission or community/technical college	71.0	100	53.2	65.8	
Minimally or moderately selective	28.6	0.0	46.7	34.3	
Very selective	0.4	0.0	0.0	0.0	
Beginning Institution		0.0			199.74***
Community/technical college	61.4	100.0	0.0	34.7	
Bachelor's granting	38.6	0.0	100.0	65.3	

* p < .05, ** p < .01, *** p < .001

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14)

[1]Data are rounded to the nearest 10th per IES guidelines.

‡Reporting standards not met.

References

Adelman, C. (1999). Answers in the toolbox: Academic intensity, attendance patterns, and bachelor's degree attainment. Retrieved from: http://www2.ed.gov/pubs/Toolbox/toolbox.html

Alpay, N., Ratvasky, P., Koehler, N., LeVally, C., & Washington, T. (2017). Redesigning a statistical concepts course to improve retention, satisfaction, and success rates of non-traditional undergraduate students. *Journal of Educational Multimedia and Hypermedia*, *26*(1), 5–27.

Andrews, R., Li, J., & Lovenheim, M. F. (2014). *Heterogeneous paths through college: Detailed patterns and relationships with graduation and earnings*. Retrieved from http://www.nber.org/papers/w19935

Aulck, L., & West, J. (2017, April). Attrition and performance of community and/or technical college transfers. *PLOS One, 12*(4), 1-23.

Austin, S. A. (2006). A successful university-foundation partnership to assist non-traditional transfer women. *Journal of College Student Retention: Research, Theory & Practice*, *8*(3), 275–295.

Bahr, P. R. (2008). Does mathematics remediation work? A comparative analysis of academic attainment among community and/or technical college students. *Research in Higher Education, 49*(5), 420–450.

Bahr, P. R. (2012). Student flow between community and/or technical colleges: Investigating lateral transfer. *Research in Higher Education, 53*(1), 94–121.

Bahr, P. R., Toth, C., Thirolf, K., & Massé, J. C. (2013). A review and critique of the literature on community and/or technical college students' transition processes and outcomes in

four-year institutions. In *Higher education: Handbook of theory and research* (pp. 459-511). Springer, Dordrecht.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, *55*(4), 485-540.

Belfield, C. (2013). Student loans and repayment rates: The role of for-profit colleges. research in higher education, *54(1)*, 1–29.

Bergman, M., Gross, J. P. K., Berry, M., Shuck, B. (2014). If life happened but a degree didn't: Examining factors that impact adult student persistence. *Journal of Continuing Higher Education*, *62*, 90-101.

Blume, G., & Meza, E. (2018). Identifying effective and equitable institutional pairs in postsecondary transfer. CCRI Working Paper No. 2. Retrieved from https://www.washington.edu/ccri/research/transfer/

Bowers, A., & Bergman, M. (2016). Affordability and the return on investment of college completion: Unique challenges and opportunities for adult learners. *The Journal of Continuing Higher Education, 64*(3), 144–151.

Cabrera, A. F., Burkum, K. R., & La Nasa, S. M. (2005). Pathways to a four-year degree: Determinants of transfer and degree completion. In A. Seidman (Ed.), *College student retention: A formula for student success* (pp. 155–209). Westport, CT: ACE/Praeger Series on Higher Education.

Chen, J., & Hossler, D. (2017). The effects of financial aid on college success of two-year beginning nontraditional students. *Research in Higher Education, 58*(1), 40–76.

Cheslock, J. J. (2005). Differences between public and private institutions of higher education in the enrollment of transfer students. *Economics of Education Review*, *24*, 263–274.

Chung, A. S. (2012). Choice of for-profit college. *Economics of Education Review, 31*(6), 1084–1101.

Chung, E., Deborah T., & Chur-Hansen, A. (2017). Differences in resilience between 'traditional' and 'non-traditional' university students. *Active Learning in Higher Education, 18*(1), 77-87.

Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2014). *The American community and/or technical college* (6th ed.). San Francisco, CA: Jossey-Bass.

Crisp, G. (2013). The influence of co-enrollment on the success of traditional age community and/or technical college students. *Teachers College Record, 115*(10), 1-25.

Crisp, G. (2017). Student flow and success at 2- and 4-year broadly accessible institutions. *New Directions for Institutional Research, 2016*(170), 103-113.

Crisp, G., & Delgado, C. (2014). The impact of developmental education on community and/or technical college persistence and vertical transfer. *Community College Review, 42*(2), 99–117.

Crisp, G., & Nuñez, A. (2014). Understanding the racial transfer gap: Modeling underrepresented minority and nonminority students' pathways from two- to four-year institutions. *The Review of Higher Education, 37*(3), 291-320.

Crisp, G., Potter, C., Robertson, R., & Carales, V. (2020). Documenting early racial transfer gaps: Empirical and practical implications for transfer partnerships. In D. Bragg, T. Ling, E. Meza, & L. Wetzstein (Eds.), *New Directions for Community Colleges: Transfer Partnerships for Improved Equity and Outcomes, 2020*(192), xx-xx.

Crisp, G., Potter, C., Taggart, A. (2020). Characteristics and predictors of reverse and lateral transfer from four-year institutions. Manuscript under review.

Dougherty, B. (2009). Measuring effectiveness in transfer practices for adult learners. *The Journal of Continuing Higher Education, 57*(1), 54-58.

Dougherty, K. J., & Kienzl, G. S. (2006). It's not enough to get through the open door: Inequalities by social background in transfer from community and/or technical colleges to four-year colleges. *Teachers College Record, 108*(3), 452-487.

Dowd, A. (2012). Improving transfer access for low-income community and/or technical college students. In A. Kezar (Ed.), *Recognizing and serving low-income students in higher education: An examination of institutional policies, practices, and culture* (pp. 217–231). New York: Routledge

Duke-Benfield, A. E. (2015). Bolstering non-traditional student success: A comprehensive student aid system using financial aid, public benefits, and refundable tax credits. *Center for Law and Social Policy: Center for Postsecondary and Economic Success.* Retrieved from http://www.clasp.org/resources-andpublications/publication1/Bolstering-NonTraditional-Student-Success.pdf

Eagan, M. K., & Jaeger, A. J. (2009). Effects of exposure to part-time faculty on community and/or technical college transfer. *Research in Higher Education, 50*, 168–188.

Ehrenberg, R. G., & Smith, C. L. (2004). Analyzing the success of student transitions from 2-to 4-year institutions within a state. *Economics of Education Review*, *23*(1), 11-28.

Erickson, R. A. (2012). Geography and the changing landscape of higher education. *Journal of Geography in Higher Education, 36*(1), 9–24.

Francois, E. (2017). Motivational orientations of non-traditional adult students to enroll in a degree-seeking program. *New Horizons in Adult Education and Human Resource Development, 26*(2), 19-35.

Gast, A. (2013). Current trends in adult degree programs: How public universities respond to the needs of adult learners. *New Directions for Adult and Continuing Education, 140*, 17-25.

Gelbgiser, D. (2018). College for all, degrees for few: For-profit colleges and socioeconomic differences in degree attainment. *Social Forces, 96*(4), 1785–1824.

Gilardi, S., & Guglielmetti, C. (2011). University life of non-traditional students: Engagement styles and impact on attrition. *Journal of Higher Education, 82*(1), 33–53.

Goldrick-Rab, S. (2006). Following their every move: An investigation of social-class differences in college pathways. *Sociology of Education, 79*, 61–79.

Goldrick-Rab, S. & Pfeffer, F. T. (2009). Beyond access: Explaining socioeconomic differences in college transfer. *Sociology of Education, 82*(2), 101-125.

Goings, R. B. (2017). Traditional and nontraditional high-achieving black males' strategies for interacting with faculty at a Historically Black College and University. *The Journal of Men's Studies, 25*(3), 316–335.

Gould, E. (2018). Two-thirds of adults have less than a four-year degree. *Economic Policy Institute.* Retrieved from https://www.epi.org/publication/two-thirds-of-adults-have-less-than-a-four-year-degree-policymakers-should-work-to-make-college-more-attainable-for-them-but-also-strengthen-labor-protections-that-help-all-workers/

Hill, J., Smith, N., Wilson, D. & Wine, J. (2016). *2012/14 Beginning postsecondary students longitudinal study (BPS: 12/14): Data file documentation (NCES 2016-062)*. Retrieved from https://nces.ed.gov/pubs2016/2016062.pdf

Hillman, N., Lum, T., & Hossler, D. (2008). Understanding Indiana's reverse transfer students: A case study in institutional research. *Community College Journal of Research and Practice, 32*(2), 113-134.

Hossler, D., Shapiro, D., Dundar, A., Ziskin, M., Chen, J., Zerquera, D., & Torres, V. (2012). *Transfer & mobility: A national view of pre-degree student movement in postsecondary institutions*. Herndon, VA: National Student Clearinghouse Research Center.

Hu, S. (2011). Reconsidering the relationship between student engagement and persistence in college. *Innovative Higher Education, 36*, 97-106.

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging, *Sociology of Education, 70*(4), 324-345.

Iloh, C. (2016). Exploring the for-profit experience: An ethnography of a for-profit college. *American Educational Research Journal, 53*(3), 427–455.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 77*(5), 861-885.

Ivins, T., Copenhaver, K., & Koclanes, A. (2017). Adult transitional theory and transfer shock in higher education: Practices from the literature. *Reference Services Review*, *45*(2), 244-257.

Jenkins, D., & Fink, J. (2016). *Tracking transfer: New measures of institutional and state effectiveness in helping community and/or technical college students attain bachelor's degrees*. Retrieved from Community College Research Center website: http://ccrc.tc.columbia.edu/publications/tracking-transfer-institutional-state-effectiveness.html

Kasworm, C. E. (2010). Adult learners in a research university: Negotiating undergraduate student identity. *Adult Education Quarterly*, *60*(2), 143–160.

Kalogrides, D., & Grodsky, E. (2011). Something to fall back on: Community and/or technical colleges as a safety net. *Social Forces, 89*(3)*,* 853-877.

LaSota, R., & Zumeta, W. (2015). What matters in increasing community and/or technical college students' upward transfer to the baccalaureate degree: Findings from the Beginning Post-Secondary Study 2003–2009. *Research in Higher Education, 57*(3), 152–189.

Laanan, F., and Jain, D. (2016). Advancing a new critical framework for transfer student research: Implications for institutional research. *New Directions for Institutional Research 170*, 9-21

Langrehr, K. J., Phillips, J. C., Melville, A., & Eum, K. (2010). Determinants of nontraditional student status: A methodological review of the research. *Journal of College Student Development 56*(8): 876-81.

Li, D. (2010). They need help: Transfer students from four-year to four-year institutions. *The Review of Higher Education, 33*(2), 207-238.

List, A., & Nadasen, D. (2017). Motivation and self-regulation in community and/or technical college transfer students at a four-year online university. *Community College Journal of Research and Practice, 41*(12), 842–866.

Lundberg, C. A. (2003). The influence of time-limitations, faculty, and peer relationships on adult student learning: A causal model. *The Journal of Higher Education, 74*(6), 665–688.

Ma, J., Pender, M., & Welch, M. (2016). *Education pays 2016: The benefits of higher education for individuals and society*. College Board. Retrieved from https://trends.collegeboard.org/sites/default/files/education-pays-2016-full-report.pdf

Markle, G. (2015). Factors influencing persistence among nontraditional university students. *Adult Education Quarterly*, 65(3), 267–285.

Meza, E. A., Bragg, D.D., & Blume, G. (2018, February). Racial equity in transfer partnerships (Transfer Partnerships Series, Data Note 2). Seattle, WA: Community College Research Initiatives, University of Washington. Retrieved from http://ccri.uw.edu/hptp_datanote2/

Miller, N. B. (2014). Nontraditional student graduation rate benchmarks. *Journal of Continuing Higher Education, 62*(3), 141-151.

Milsom, A., & Sackett, C. (2018). Experiences of students with disabilities transitioning from 2-year to 4-year institutions. *Community College Journal of Research and Practice, 42*(1), 20–31.

Monroe, A. (2006). Non-traditional transfer student attrition. *Community College Enterprise, 12*(2), 33-54.

Mooring, R. D., & Mooring, S. R. (2016). Predictors of timely baccalaureate attainment for underrepresented minority community and/or technical college transfer students. *Community College Journal of Research and Practice*, *40*(8), 681-694.

Morey, A. (2004). Globalization and the emergence of for-profit higher education. *Higher Education, 48*(1), 131–150.

National Adult Learner Coalition. (2017). *Strengthening America's Economy by expanding educational opportunities for working adults: Policy opportunities to connect the working adult to today's economy through education and credentials.* (White paper). Retrieved from https://onlinelearningconsortium.org/wp-content/uploads/2017/02/Strengthening-Americas-Economy-National-Adult-Learning-Coalition-White-Paper-Final.pdf

Nora, A. (2004). The role of habitus and cultural capital in choosing a college, transitioning from high school to higher education, and persisting in college among minority and nonminority students. *Journal of Hispanic Higher Education*, 3(2), 180–208.

Osam, E., Bergman, M., & Cumberland, D. (2017). An integrative literature review on the barriers impacting adult learners' return to college. *Adult Learning, 28*(2), 54-60.

Paulson, A. (2012). *Transition to college: Nonacademic factors that influence persistence for underprepared community and/or technical college students*. (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No.3546033)

Pelletier, S. G. (2010). Success for adult students. *Public Purpose*, *12*, 2-6.

Pingel, S., Parker, E., & Sisneros, L. (2016). Free community college: An approach to increase adult student success in postsecondary education. *Education Commission of the States*.

Porchea, S. F., Allen, J., Robbins, S., & Phelps, R. P. (2010). Predictors of long-term enrollment and degree outcomes for community and/or technical college students: Integrating academic, psychosocial, socio-demographic and situational factors. *Journal of Higher Education, 81*(6), 750–778.

Reyes, M. (2011). Unique challenges for women of color in stem transferring from community and/or technical colleges to universities. *Harvard Educational Review, 81*(2), 241–263.

Schatzel, K.,Callahan, T., Scott, C., Davis, T. (2011). Reaching the non-traditional stopout population: A segmentation approach. *Journal of Marketing for Higher Education*, *21*(1), 47-60.

Scobey, D. (2016). Marginalized majority: Non-traditional students and the equity imperative. *Diversity and Democracy*, *19*(1).

Selingo, J. (2013). *College (un)bound: The future of higher education and what it means for students*. New York, NY: Houghton Mifflin Harcourt Publishing Company.

Shapiro, D., Dundar, A., Wakhungu, P.K, Yuan, X., & Harrell, A. (2015). *Transfer and mobility: A national view of student movement in postsecondary institutions, Fall 2008 cohort*. Retrieved from https://nscresearchcenter.org/signaturereport9/

Shillingford, S., & Karlin, N. J. (2013). The role of intrinsic motivation in the academic pursuits of nontraditional students. *New Horizons in Adult Education and Human Resource Development*, *25*(3), 91-102.

Sinha, E. (2010). *Indicators of college success of freshman and transfer undergraduate students.* Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3419222)

Soares, L. (2013). *Post-traditional learners and the transformation of postsecondary education: A manifesto for college leaders.* Washington, DC: American Council on Education.

Soares, L., Gagliardi, J. S., & Nellum, C. (2017). The post-traditional learners manifesto revisited: Aligning postsecondary education with real life for adult student success. *Washington, DC: American Council on Education*.

Spellman, N. (2007). Enrollment and retention barriers adult students encounter. *Community College Enterprise, 13*(1), 63–79.

Spitzer, Tam M. (2000). Predictors of college success: A comparison of traditional and nontraditional age students. *NASPA Journal, 38*(1), 82-98.

St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2000). Economic influences on persistence reconsidered: How can finance research inform the reconceptualization of

persistence models? In J. M. Braxton (Ed.), *Reworking the student departure puzzle.* Nashville: Vanderbilt University Press.

Stern, J. (2016). The effect of articulation agreements on community and/or technical college transfers and bachelor's degree attainment. *Community College Journal of Research and Practice, 40*(5), 355–369.

Stoessel, K., Ihme, T., Barbarino, M., Fisseler, B., & Stürmer, S. (2015). Sociodemographic diversity and distance education: Who drops out from academic programs and why? *Research in Higher Education, 56*(3), 228–246.

Sujitparapitaya, S. (2006). Considering student mobility in retention outcomes. *New Directions for Institutional Research*, *2006*(131), 35-51.

Taliaferro, W., & Duke-Benfield, A. E. (2016). Redesigning state financial aid to better serve nontraditional adult students: Practical policy steps for decision makers. Retrieved from: https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/Redesigning-State-Financial-Aid-to-Better-Serve-Nontraditional-Adult-Students.pdf

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.

Titus, M.A. (2004). An examination of the influence of institutional context on student persistence at 4-year colleges and universities: A multilevel approach. *Research in Higher Education*, 45(7), 673-699.

Titus, M., & Pusser, A. (2011). States' potential enrollment of adult students: A stochastic frontier analysis. *Research in Higher Education, 52*(6), 555–571.

Urias, M., Falcon, V., Harris, F., & Wood, J. (2016). Narratives of success: A retrospective trajectory analysis of men of color who successfully transferred from the community and/or technical college. *New Directions for Institutional Research, 170*, 23–33.

Wang, X. (2009). Baccalaureate attainment and college persistence of community and/or technical college transfer students at 4-year institutions. *Research in Higher Education, 50*(6), 570–588.

Wang, X. (2012). Factors contributing to the upward transfer of baccalaureate aspirants beginning at community and/or technical colleges. *The Journal of Higher Education, 83*(6), 851–875.

Wang, X. (2013). Baccalaureate expectations of community and/or technical college students: Socio-demographic, motivational, and contextual influences. *Teachers College Record, 115*(4), 1–39.

Wang, X. (2016). Transfer and selectivity: A multilevel analysis of community and/or technical college students' transfer to four-year institutions of varying selectivity. *Teachers College Record, 118*(12), 1–23.

Wang, X., Wickersham, K., & Sun, N. (2016). The evolving landscape of transfer research: Reconciling what we know in preparation for a new era of heightened promise and complexity. *New Directions for Institutional Research, 170,* 115–121.

Winter, P., Harris, M., & Ziegler, C. (2001). Community and/or technical college reverse transfer students: A Multivariate analysis. *Community College Journal of Research and Practice, 25*(4), 271–282.

Wood, J. L., & Palmer, R. T. (2013). The likelihood of transfer for Black males in community and/or technical colleges: Examining the effects of engagement using multilevel, multinomial modeling. *The Journal of Negro Education, 82*(3), 272-287.

Wyatt, L. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59*(1), 10-20.

Xu, D., Ran, X., Fink, J., Jenkins, P. D., & Dundar, A. (2018). Strengthening transfer paths to a Bachelor's degree: Identifying effective two-year to four-year college partnerships. *Community College Review, 46*(3), 231-256.

Yang, P. (2007). *Four-year college transfer, academic match, and student success.* (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3285207)

Chapter 3 / Manuscript 2: Predictors of Reverse and Lateral Transfer Behaviors for Adult College and University Students

Transfer activity is an important indicator of success or struggle for college students and institutions of higher education. Nearly forty percent of students engage in transfer within six years of enrollment (Shapiro et al., 2018). For students who begin at a community and/or technical college and seek to earn a baccalaureate degree, transfer is necessary for success. However, transfer can also indicate challenges for students and institutions. Transfer from bachelor's granting institutions may suggest that students are not well-matched to a college or that colleges are not appropriately supporting students. Little is known about why students who begin at bachelor's granting universities choose to transfer; unlike transfer activities from most community and/or technical college programs to bachelor's granting programs, reverse and lateral transfer among students originally enrolling at bachelor's granting institutions is not required in order to obtain a baccalaureate degree. As transfer behaviors become more complicated, the research must attempt to understand their increasing complexity alongside ongoing demographic changes in student populations. For these reasons, understanding what contributes to a student's decision to transfer is critical to improving college completion outcomes (Jenkins & Fink, 2016). If colleges gain a strong understanding of what contributes to positive and negative transfer outcomes, they can better support students, strengthen enrollments, and increase their completion numbers.

Being able to predict and support transfer success is especially important for the success of adult students, who comprise an ever-larger percentage of college and university enrollments (Soares, 2013). Degree attainment for adult students is currently declining, while adult student enrollments are growing (Glastris, 2016). As populations of "traditional" age college students

decrease (CDC, 2017; Cruce & Hillman, 2012; Grawe, 2018), the success of adult students will be central to college enrollment and completion goals (National Adult Learner Coalition, 2017). Both transfer (for community and/or technical colleges and their students) and retention (for bachelor's granting colleges and their students) are elements critical to supporting the success of adult students, who comprise an increasing proportion of the thirty-eight percent of students who transfer each year.

Unfortunately, much attention in transfer literature is paid to students of traditional college age who transfer vertically (Dougherty, 2009; Ivins, Copenhaver, & Koclanes, 2017; Monroe, 2006). Typically, these students attend college directly or nearly directly after high school. Historically, traditional age college students were the primary population of individuals attending college. This statistic has changed, and economic and social factors suggest that older students have increasing access and desire for additional postsecondary education (NCES, 2015; Wyatt, 2011). In fact, adult students now comprise the majority of students in many institutions of higher education (National Adult Learner Coalition, 2017; Soares, 2013).

Moreover, very little research exists about reverse and lateral transfer behaviors, even for traditional age student populations (Goldrick-Rab, 2006). Baccalaureate degree seeking students who elect to transfer laterally or in reverse are leaving institutions when they do not necessarily need to do so; conversely, in vertical transfer, a move from one institution to another gets a student closer to a baccalaureate degree. The high numbers of adults with some college and no degree underscore the need to pay attention to adult student retention and unhelpful transfer behavior. The changing realities and economic needs noted above make the absence of information regarding adult student transfer choices—especially traditionally under-studied transfer outcomes like reverse and lateral transfer—an important area for research.

For these reasons, a better understanding of the predictors of these lateral and reverse transfer behaviors in the adult student population could provide insight into enrollment patterns, student success and retention conversations, and student success operations. Building upon previous transfer prediction studies (e.g., Crisp, Potter, & Taggart, 2020; Crisp & Nuñez, 2014; Goldrick-Rab, 2006), this study considered the complex relationships of adult student characteristics, college experiences, and institutional characteristics to the reverse and lateral transfer behaviors of adult students using hierarchical generalized linear modeling (HGLM) and the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14) dataset. Additionally, this research identified implications for policymakers and practitioners related to the factors contributing to the transfer choices of adult students in increasingly-complex college environments.

Background and Literature Review

Literature relevant to this study falls into several categories: adult student learning and success, transfer behaviors, and adult student transfer. Typically, literature on adult student learning addressed student outcomes, retention, and persistence, as well as perspectives related to higher education. Research on transfer behaviors tended to focus on factors, characteristics, and actions that predict and/or correlate with specific transfer decisions. Although few studies have considered specifically the transfer behaviors of adult students, some relevant research that looks at both issues—transfer and adult student outcomes—was found.

Research on Adult Student Learning and Success

Adult student learners are the population most prone to attrition (McFarland et al., 2017; Ma et al., 2016; Serowick, 2017; Soares, 2013). Previous studies (Gast, 2013; Osam, Bergman, & Cumberland, 2017) have suggested that time and finances are the most common situational

barriers to degree completion. However, at least one study (Lundberg, 2003) found that working and commuting do not negatively influence learning for adult students, suggesting that adult students are confident in their time management abilities. Lack of confidence was also noted as a barrier to success (Osam et al., 2017; Samuels, Beach, & Palmer, 2011). Institutional barriers also inhibit the success of adult students. Previous research has also suggested that confusing enrollment, remediation, and financial aid programs and policies can all discourage student retention and persistence (Osam et. al., 2017; Gast, 2013; Soares, 2013). Additionally, individualistic, cognitive, and Eurocentric educational approaches have been shown in several qualitative studies to impeded adult student success (Buckmiller, 2010; Guy, 1999; Kasworm, 2002; Peterson, 1999). For example, Buckmiller (2010) conducted a qualitative study in order to understand the lived experiences of Native American adult students on a predominantly White college campus. This study suggested that Native American students feel disenfranchised by the prevalence of White "ways of knowing." Similarly, Peterson (1999) used critical race theory to emphasize the importance of culturally-relevant learning opportunities for African American adult students.

Conversely, educational aspirations, institutional responsiveness, and familial encouragement have all been found to impact retention and completion positively for adult students (Bergman, Gross, Berry, & Shuck, 2014; Ray, 2012; Samuels, Beach, & Palmer, 2011; Serowick, 2017). For example, a logistic regression conducted by Bergman, Gross, Berry, and Shuck (2014) on data on returning adult students found that "campus environment accounted for more of the variation in adult student persistence than student entry characteristics or external factors" (p. 98). Using narrative inquiry, Samuels, Beach, and Palmer (2011) had similar findings that emphasized the overall importance of campus supports to adult students. This study also

noted the importance of student attitudes regarding education and "[s]upports in the life-world" environment (p. 368). Student support services have also been found to improve student experiences (Ray, 2012; Ross-Gordon, 1998). Descriptive statistics and a multiple linear path model offered by Lundberg (2003) revealed that adult student learning may be enhanced by peer learning and relationships on campus (Lundberg, 2003). Intrinsic motivation was also found to be positively associated with adult student success (Bergman et al., 2014; Shillingford & Karlin, 2013). Shillingford and Karlin (2013), for example, conducted analyses of variance on adult student responses to the Academic Motivation Scale survey and found a possible relationship between intrinsic motivation and the decision to enroll in college.

Demographic factors have also been shown to be related to adult student success. A phenomenological study of adult students by Serowick (2017) suggested that women are less likely to return to college as adults but more likely to succeed than adult men. However, a separate mixed-methods study suggested that gender was shown not to predict adult student persistence (Markle, 2015). Income and socioeconomic status also matter (Bowers & Bergman, 2016; Chen & Hossler, 2017), and higher earners were found to be more prevalent in college classrooms (Serowick, 2017). Gaps were also found to exist in the persistence of adult students according to race, and White students were found to comprise eighty-five percent of the adult student population (Goings, 2018; Paulsen, 2012; Schatzel et al., 2011). Using hierarchical linear modeling, Stern (2016) found that age has also been shown to influence transfer behavior. As age increased, the likelihood of vertical transfer was found to decrease (Stern, 2016); while this study focused solely on vertical transfer, its findings raise interesting questions about the relationship between age and other transfer outcomes.

Enrollment patterns may also relate to adult student success. Lower persistence and completion rates have been found to be associated with attendance at numerous colleges (or "swirl") throughout an academic career (Ishitani, 2006; Kuh et al., 2007; Li, 2010; Selingo, 2013; Sinha, 2010; Yang, 2007). However, no research was found that specifically addressed the issue of adult student co-enrollment or swirl. A meta-analysis of graduation rate data by Miller (2014) suggested that enrollment intensity may be associated with adult student success. Miller (2014) specifically found that full-time adult students were more likely to graduate. The transferability of credit has also been previously shown to be an impediment to success (Gast, 2013; Monaghan & Attewell, 2015), but credit for prior learning and prior learning assessments were found to increase the odds of graduation (Gast, 2013).

Research on Transfer Behaviors

As previously suggested, recent transfer-related research in the field of higher education has focused on vertical transfer outcomes and traditional age students (Cohen, Brawer, & Kisker, 2014). While not necessarily applicable to reverse and lateral transfer, this research is important to consider because it provides some information about what might help or impede students looking to move between institutions. Much of this research (Crisp & Delgado, 2014; LaSota & Zumeta, 2015; Wang 2009; Wang, 2012) focused on the persistence and success of transfer behaviors of community and/or technical college students who pursue baccalaureate degrees at bachelor's granting institutions. Most research on vertical transfer considered student-level characteristics like socioeconomics, previous academic preparation, academic standing, and employment status (Adelman, 1999; Bahr, 2008; Dougherty & Kienzl, 2006; Wang, 2012). The prevailing finding of research on vertical transfer related to student-level characteristics was that positive outcomes are less common for historically underserved populations (Cohen et al., 2014;

Crisp & Nuñez, 2014; Dougherty & Kienzl, 2006; Dowd, 2012; Wang, 2012; Urias, Falcon, Harris, & Wood, 2017). Specifically, Black and Hispanic students were found to have lower rates of vertical transfer (Dougherty & Kienzl, 2006; Urias, Falcon, Harris, & Wood, 2017; Wood & Palmer, 2013). Part-time enrollment, employment while in college, and previous academic preparation were also associated with poor transfer outcomes (Cohen et al., 2014; Dowd, 2012; Wang, 2012).

Institutional factors also mattered when considering vertical transfer behavior, although this area needs additional study. Several quantitative studies have considered the role of institutional selectivity in transfer success (Crisp, 2017; Porchea, Allen, Robbins, & Phelps, 2010; Wang, 2016). Characteristics of specific institutions were also found to contribute to successful transfer for students. Specifically, student support services (Cabrera, Burkum, & La Nasa, 2005) and faculty support (Cabrera et al., 2005; Eagan & Jaeger, 2009) have been found to contribute to vertical transfer success.

As previously noted, reverse and lateral transfer are not as well understood as vertical transfer. Some quantitative research (e.g., Crisp, 2013; Johnson & Muse, 2012; Wang & McCready, 2013; Wang & Wickersham, 2014) attempted to explain co-enrollment, defined as enrollment at more than one institution at the same time, and swirl, defined as the process of enrolling at a second institution with the intention of returning to the institution of origin. Although these concepts are not the same as lateral or reverse transfer, co-enrollment can help researchers understand some behaviors and characteristics that might also motivate lateral and reverse transfer. A few quantitative studies explored reverse and lateral transfer specifically (Aulck & West, 2017; Bahr, 2012; Crisp, Potter, & Taggart, 2020; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009; Hillman, Lum, & Hossler, 2008; Hossler et al., 2012;

Sujitparapitaya, 2006; Winter, Harris, & Ziegler, 2001). Even fewer (Goldrick-Rab, 2006) attempted to use multivariate statistical modeling to understand reverse and lateral transfer behavior.

Descriptive findings on reverse and lateral transfer suggested that, as with vertical transfer, underserved populations were less likely to be successful. For example, regression analyses by Goldrick-Rab & Pfeffer (2009) suggested that students with low socioeconomic status, first generation students, and working-class students are more likely to reverse transfer. Historically underserved students also appeared to reverse transfer at higher rates (Sujitparapitaya, 2006). College experiences were also found to impact transfer behaviors. For students of traditional age, financial concerns, under-preparation for college (Hillman et al., 2008), lower social capital (Goldrick-Rab & Pfeffer, 2009), and unclear degree aspirations (Hillman et al., 2008) were all associated with reverse transfer. Poor academic performance has also been shown to predict transfer from bachelor's granting institutions (Goldrick-Rab & Pfeffer, 2009; Hillman et al., 2008; Kalogrides & Grodsky, 2011;Sujitparapitaya, 2006).

Contradictions and omissions also emerged in the small body of research on reverse and lateral transfer. For example, a regression analysis by Hillman, Lum, and Hossler (2008) suggested that males are less likely to reverse transfer, while a case study conducted by Sujitparapitaya (2006) found males to be more likely to transfer from bachelor's granting institutions. Additionally, although many academic and social experiences also served to connect students with their institution and thereby decrease transfer behavior, these factors have not been well studied in reverse and lateral transfer research. These discrepancies and omissions further underscore the need to better understand the differences in and predictors of various transfer behaviors.

Research on Adult Student Transfer Behavior

Despite the ever-increasing population of adult learners in institutions of higher education, adult student transfer behavior is underrepresented in literature on student transfer behaviors. Much of the literature that addressed adult student populations did so obliquely. For example, Milsom and Sackett (2018) published a phenomenological study on students with disabilities who vertically transfer; their study included adult students, but these students were not the specific focus of their research. Other studies (List & Nadasen, 2017; McCormick, 2003; Reyes, 2011; Stern, 2016; Winter, Harris, & Ziegler, 2001) on transfer also included adults but fail to disaggregate results by age; the lack of disaggregation in the research makes identifying meaningful findings for adult students difficult.

Notably, only one study considered specifically the reverse and lateral transfer behaviors of adult students. A discriminant analysis by Winter, Harris, and Ziegler (2001) found that older reverse transfer students were less likely to complete college, suggesting that "age is the only significant discriminator between completer and non-completer reverse transfer students" (Winter, Harris, & Ziegler, 2001, p. 279). However, the study specifically focused on outcomes, rather than predictors, of transfer.

At the time of this study, only two articles were found that addressed adult student transfer as the primary subject of research. Austin (2006) published a qualitative study that considered the attributes and outcomes of a scholarship program for adult female community and/or technical college transfer students. The study found that scholarships, mentoring, and access to academic resources and counseling improve transfer outcomes of adult women who transfer. Monroe (2006) also completed an ethnographic study of adult student attrition that attempted to understand why adult students choose to attend and then leave institutions.

Although this study did not focus specifically on transfer, it addressed transfer as a component of attrition. Monroe (2006) found that poor program design, customer service, institutional fit, and academic integration may all contribute to student attrition.

In sum, the lack of attention on adult student transfer represents a significant gap in the literature. Some of the research (e.g., Crisp & Nuñez, 2014; Jackson, 2013; Sujitparapitaya, 2006; Urias, Falcon, Harris, & Wood, 2017; Zamani-Gallaher & Choudhuri, 2016) has attempted to use critical and creative lenses to better understand transfer. In other words, specific attempts to study the relationship between "non-traditional" students and unconventional enrollment behaviors is becoming more common in the literature. Unfortunately, a major gap still exists in research on adult student transfer behavior. More specifically, only two studies have been conducted that specifically consider adult student transfer; both studies were qualitative, which underscores the need for a quantitative approach to this topic. As Laanan and Jain (2017) have suggested, additional critical perspectives are necessary in the literature on transfer. In other words, transfer literature needs new approaches, perspectives, and voices. The inclusion of adult students into transfer studies is one strategy for accomplishing this goal, as it incorporates previously-understudied populations into the collective knowledge base of transfer. This inclusive approach also stands to benefit institutions looking to retain students and improve equity. Adult student transfer behaviors of all types need additional attention and understanding so that this important and underserved student population may find greater success.

Theoretical Overview and Research Questions

Questions about the relationship between adult student success and transfer can be situated at the intersection of nontraditional student development theory, persistence theory, and student/institution engagement theory. Each of these theories informs hypotheses about what

may influence an adult student to make choices that result in transfer and, eventually, persistence and/or completion. Development theory (Kasworm, 2010; Soares, Gagliardi, & Nellum, 2017) takes a holistic and psychological approach to adult student decision making, persistence theory (Bean & Metzner, 1985; Tinto, 1993) examines obstacles and factors that contribute to persistence or attrition, and student/institution engagement theory (Nora, 2004) attempts to explain the specific role of the institution on transfer behavior and other outcomes. In this way, the models for this study consider overlapping trends: student persistence in higher education institutions in the form of transfer and student decision making (both developmental and environmental) about what kind of transfer activity in which to engage.

Kasworm (2010) created a developmental framework for understanding the decisions made by adult student populations, noting that learner roles, life roles, life experience and knowledge mastery are the central constructs that apply to adult students. In addition, these forces are influenced by academic programs, policies and practices, institutional clusters and systems, and faculty/staff relationships. Kasworm (2010) suggested that learner roles include the positionality of the student and their autonomy as learners. Life roles encompass the activities and priorities a student has outside of school. Life experiences refer to the information and knowledge gained by being a more mature student; these experiences include world view and beliefs about education. Knowledge mastery describes the unique knowledge and skills adult students often bring to the classroom as a result of having already been participants in the workforce. Each of the external factors (academic programs, policies and practices, institutional clusters and systems, and faculty/staff relationships) interplay with the central constructs and influence student outcomes.

Soares, Gagliardi, & Nellum (2017) built on Kasworm's research to create an additional framework to describe the experiences of adult students and argued that institutions "tend to focus too narrowly on … learner and life roles" at the expense of life experience and knowledge mastery (Soares, Gagliardi, & Nellum, 2017). In response to this concern, the learning ecosystem modeled by Soares, Gagliardi, & Nellum included informal learning, nonformal learning, and formal learning. Informal learning describes the knowledge acquired through life experiences and work, while nonformal learning relies on knowledge gained by cultural experiences and human relationships. Formal learning refers to traditional, "school-based" knowledge. While traditional age students also bring learning experiences from each of these areas to college (and this is an area worthy of additional research and consideration for traditional age students), they generally have fewer years of work experience and life experience due to their age.

Deil-Amen (2014) offered a similar model that notes the interplay of dimensions of diversity in the life of a student. Age is only one dimension, and other life factors (e.g. support networks, work history, health) all matter to student success. Moreover, she noted that each of these factors can be marginalizing for students, who are often expected to fit into a very specific mold of what a college student should be. These factors are especially true when one considers adult student development and the ways that adult students have had more time to accrue life experiences, relationships, and hardships than those of traditional age.

While development theory attempts to explain the ways that psychology and life experience interface with college decisions and success, persistence theory seeks to understand the reasons why students choose to stay in college, despite obstacles they encounter along the way. Tinto's (1993) model of student departure was the foundation for most of the theories in this category. Student departure theory seeks to understand the reasons that students persist and

succeed at the institutions they choose. Tinto (1975; 1988; 1993) created and popularized a specific model of student departure that suggested that attrition could be attributed to combined factors associated with student characteristics and institutional factors. Tinto (1993) emphasized the importance of commitment: in order for students to be retained, students must commit to institutions, and institutions must commit to students. Integration and acclimation of students (and the support of integration and acclimation by the institution) were identified as key contributors to retention.

Bean & Metzner's (1985) non-traditional undergraduate student attrition model, based on Tinto's institutional departure model, is an example of the application of Tinto's work to adult students. Tinto (1993) suggests that, in addition to variables specific to the student, institutional and social variables contribute to whether a student persists. The theory of institutional departure addresses several of these institutional and social variables (e.g., the influence of faculty and staff interactions on a student's experience). Bean & Metzner (1985) also specifically assessed the relationship of external variables to adult student success. As the characteristics of adult and traditional age students become more similar (due to increased access to college and flexible course modalities, among other variables), the adult undergraduate student attrition model may have increasing applicability for all student types.

While student departure and persistence models are valuable to this research, numerous studies have both supplemented and critiqued them (e.g., Metz, 2004 provided a comprehensive, article-length overview of the far-reaching influence of student departure theory) in order to account for issues related to accuracy and equity. In addition, several studies have sought to better understand the specific institutional attributes that support student success. In fact, Tinto (1993) revised his previous model to emphasize the importance of the institution in

understanding student success. Additionally, although Tinto originally focused on the baccalaureate college experience, several researchers (Bean & Metzner, 1996; Cabrera et al., 1992; Elkins, Braxton, & James, 2000) have applied variations of student departure theory to community and/or technical colleges. The findings have been mixed. Student demographics and characteristics have been heavily considered in student departure models, resulting in a chicken-egg situation wherein one cannot easily tell whether the student's characteristics create an environment where success is not possible or whether institutions make success impossible for students with specific characteristics.

Nevertheless, questions of institutional selectivity and control were central to the research included in this study, which focuses, in part, on the institutional pathways that students choose when they make transfer decisions. For example, what factors influence a student's decision to attend or remain at a specific institution? Similarly, student departure theory attempts to explain, at least in part, the influence of institutional characteristics on student success and decision making. Vertical transfer has traditionally been viewed as evidence of student success: a student seeks to further their education at an institution with more comprehensive offerings. While neither reverse or lateral transfer are inherently successful or unsuccessful moves, the research in this study explored the ways that these choices are influenced by other factors that are associated with student success, especially for adult students.

The limitations of Tinto-oriented persistence theories benefit from the addition and consideration of a theory like Nora's (2004) student/institution engagement model. This model attempted to account for the factors that influence transfer behavior by considering the attributes students possess when they attend college (e.g., financial circumstances) as well as the environmental factors (e.g., employment, parenting) that contribute to and/or compromise their

ability to engage in collegiate endeavors. These factors can be used to "map" and understand transfer decisions. In other words, Nora's (2004) model observed that, for example, environmental pull factors could influence transfer behaviors.

Persistence and engagement theories also overlap with the development theory work of Kasworm (2010) and Soares, Gagliardi, & Nellum (2017). Specifically, Bean and Metzner (1985) attempted to outline the departure-related factors influencing adult students. Like Kasworm (2010), Bean and Metzner (1985) identified variables that impact retention. Study habits, academic advising, absenteeism, major selection, course availability, finances, hours of employment, outside encouragement, family responsibilities, and opportunity to transfer are all included in their model. Social integration variables, although less well-defined, are also considered. Nora's (2004) model considered similar factors but reorganizes them to emphasize characteristics and pull factors. In these ways, this study attempts to create cohesion across models of adult student development, persistence, and student/institution engagement by employing them together as tools for understanding adult student behaviors. Additionally, the research included here provides ideas about how these models might be supplemented through a greater focus on and understanding of adult student needs and choices.

Research Questions

In order to better understand the transfer behaviors of adult students, this study addressed the following research question, within the larger frameworks of student departure theory, adult student development theory, and student/institution engagement theory: Which demographic characteristics, institutional contexts, early college experiences, and student supports help to predict adult student lateral and reverse transfer behaviors before the third year of college for students with the intent of earning baccalaureate degrees (RQ1)? After accounting for student

characteristics and experiences, which aspects of the institutional context help to explain differences in the transfer choices and behaviors of adult students (RQ2)?

Methods

Data Source and Sample

Follow-up data from the current cohort of the Beginning Postsecondary Students Longitudinal Study (BPS: 12/14) were used for this research. These data were taken from the 2011-12 National Postsecondary Student Aid Study (NPSAS:12), Integrated Postsecondary Education Data System (IPEDS:10-11), and other data sources (Hill, Smith, Wilson, & Wine, 2016). BPS data have been available for many years, and this data cohort allowed for comparison with previous cohorts. Additionally, new variables were added to the 12/14 dataset, including data on student services, institutional factors, and enrollment activities. Each of these new data points were considered in this study and subsequently provided descriptive information previously unavailable about adult student preferences, activities, and behaviors.

Specifically, this study used a nationally-representative sample of adult students (defined as first-time students who are 21 and older) who began college during the 2011-12 academic year at a Title IV eligible college or university in the United States. The analytic sample for this research included the 3,680 adult students who initially enrolled at a community and/or technical college or bachelor's granting institution. The study modeled the adult students who laterally transferred to another similar institution (n=220) and the students who reverse transferred from a bachelor's granting college to a technical or community and/or technical college by the third academic year (n=140)[1]. Definitions for the coding of institutional types were derived from IPEDS definitions. Community and/or technical colleges were, for the purposes of this study,

[1] Sample sizes were rounded to the nearest 10th per IES guidelines.

defined as institutions that offered programs of at least two but less than four years' duration. Baccalaureate granting colleges were defined as institutions offering baccalaureate degrees. Students who only took courses at another institution to transfer credit back to their original institution were excluded.

Variables / Conceptual Model

As indicated in the literature review, several previous studies (Crisp, 2017; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009) suggested a relationship between socio-demographics and transfer behavior, although none of them directly addressed adult transfer behaviors. Similarly, pre-college experiences and supports are thought to influence traditional age student transfer (Hillman et al., 2008; St. John, Cabrera, Nora & Asker, 2000), but the effect of these experiences on adult students is not well-understood. Early college experiences, some of which are new to the BPS data set, were also thought to play a role in transfer for traditional age students (Hu, 2011; Hurtado & Carter, 1997; Kuh et al., 2008); for that reason, this study considered their influence on adult students, as well. Institutional characteristics like urbanicity, percentage of students of color, and institutional control have also been found to influence traditional age student transfer behavior (Crisp, 2017) and were considered in this study of adult students.

Using research on transfer, adult student behaviors, and the frameworks of student development and student departure as a foundation, this study analyzed independent variables from the following BPS categories: socio-demographic characteristics, early college experiences, and institutional characteristics. These categories were identified in a previous study as having relevance for transfer behaviors for traditional age student populations (Crisp, Potter, & Taggart, 2020). Additionally, this study combined two related variables into a dependent variable: lateral transfer to another institution before the third year of college and reverse transfer to a community

or technical college before the third year of college. The comparison group for these variables was comprised of adult students who did not transfer. Drawing from the work of Bean and Metzner (1985) and Kasworm (2010), this study hypothesized that a combination of demographics, motivations, early college experiences, and institutional contexts influences transfer decisions.

Demographic data were important to this analysis. This model considered race/ethnicity, socioeconomic status, gender, age, and generational status (defined as whether or not a student's parent has earned a baccalaureate degree). Each of these characteristics were known to influence traditional age student transfer behaviors (Soares, 2013). It was expected that these variables would similarly impact adult student behaviors. Stern (2016) also found that minoritized populations are less likely to transfer. The relationship between race and adult student success has been explored in at least one qualitative study (Goings, 2018), which suggested that social factors were associated with success for Black male adult students. In another study, gender was shown not to predict adult student persistence (Markle, 2015). However, this study suggested that, for each gender, the factors that result in persistence are different; for example, GPA and self-confidence matter for both men and women, while part-time status affected persistence positively in women only.

Using the aforementioned student departure and development models, one can also hypothesize that financial factors and student motivations influence adult student transfer decisions. Previous studies (Bowers & Bergman, 2016; Chen & Hossler, 2017) have explored the importance of financial factors in adult student success. For this reason, financial factors were considered, including the average hours a student worked per week, the total amount of financial aid received, financial support from family or friends, and social capital (defined as support from

friends about postsecondary education). Greater financial need was expected to relate to decisions to reverse transfer. Additionally, the highest degree a student expects to earn and a student's academic self-concept at the beginning of college were expected to be related to a decision to transfer; intrinsic motivation factors have been previously associated with adult student success (Bergman et al., 2014; Shillingford & Karlin, 2013), and high intrinsic motivation was expected to predict against reverse and lateral transfer. For adult students, motivation has been previously shown to be correlated with GPA (Warden & Myers, 2017); this model attempted to account for this relationship and predicts that higher GPAs will predict against reverse and lateral transfer.

Support services (academic advising, academic services and career services) and measures of engagement (social satisfaction and sense of belonging) were included in the model (Goings, 2018; Hurtado & Carter, 1997). Enrollment intensity, first-year GPA, developmental coursework, and co-enrollment behaviors were also examined, due to findings from previous transfer studies (Crisp & Delgado, 2014; Kalogrides & Grodsky, 2011; Kuh et al., 2008; Hillman et al., 2008; Hu, 2011; Sujitparapitaya, 2006). Miller (2014) found that enrollment intensity was correlated with improved graduation rates in adult populations, and full-time status was expected to correlate with lateral transfer. Part-time enrollment and developmental coursework were not expected to be associated with reverse transfer, as is the case for traditional age students, due to the complexities of adult student lives as noted in the aforementioned conceptual models.

Institutional characteristics were also included in the model. Institutional control, the cost of attendance, the school's urbanicity, the percent of Underrepresented Minority (URM) students enrolled, and institutional selectivity were all considered. Specifically, it was hypothesized that institutional contexts would have a unique effect for adult students. While traditional age

students were less likely to transfer from private non-profit institutions (Goldrick-Rab, 2006), it was expected that the data will show the opposite effect for adult students based on the influence of socioeconomic factors in the lives of adult students (Bean & Metzner, 1985; Soares, Gagliardi, & Nellum, 2017). Urban students were expected to reverse and lateral transfer more frequently, due to issues related to immobility and institutional access (Bean & Metzner, 1985). However, urbanicity was also a factor in vertical transfer, with a higher percentage of rural students transferring than urban students (Stern, 2016). Additionally, the percentage of URM student enrolled was expected to influence reverse and lateral transfer decisions for adult students in ways similar to traditional age students (Crisp, 2017; Goings, 2018; Ishitani, 2006; Titus, 2004).

Analysis

Hierarchical generalized linear modeling (HGLM) was used for the analysis. This study was interested in the influence of student and institutional characteristics on the transfer behaviors of adult students. The dependent variable was dichotomous (transferred or did not transfer), and students were nested within particular types of higher education institutions. For these reasons, HGLM was an appropriate inferential technique (Raudenbush & Bryk, 2002). In other words, the random effects at each level will not be normally distributed, due to the dichotomous nature of the dependent variable. The multiple levels (students and institutions) required a hierarchical model. Moreover, variance in the random effects relied upon predicted values, which are restricted in a dichotomous scenario only to values of 0 and 1. These were not "real" values; they were probabilities, which makes an HGLM the model of choice (Raudenbush & Bryk, 2002). Student-level predictors were added to within-institution models in order to

interpret the influence of student-level variables on transfer behaviors. An additional level of variables was added to model the hypothesized contextual predictors of transfer.

HGLM analyses were run using STATA 13. Missing data (3% across all variables) were handled using multiple imputations (MI) with LISREL (Manly & Wells, 2015). Data were cleaned prior to analysis, and multicollinearity among the predictor variables was analyzed according to variance inflation factors (VIF) (Warner, 2013). All variables were shown to have a VIF less than 10. Descriptive statistics were provided in order to provide disaggregated information about reverse and lateral transfer as well as key information about student and institutional characteristics associated with transfer frequencies.

Limitations

This study only considered the transfer behaviors of students aged 21 and older. The study did not specifically account for broader definition of non-traditional or post-traditional students, although demographic data and environmental pull factors were analyzed in the model. Additionally, pre-college experiences were not collected in the dataset for adult students. This limitation reduced the ability of the study to measure the impacts of these experiences on transfer behavior and institutional engagement, although they may indeed be significant (Nora, 2004).

The predictive modeling in this study did not consider lateral and reverse transfer separately. Due to sample size concerns, the data could not be disaggregated. However, the findings will still be instructive for colleges seeking to reduce attrition related to unnecessary transfer behaviors more generally.

Additionally, this research only considered students who transfer at least one time during their first three years of college enrollment. Students may transfer multiple times. Although these

transfers beyond the first were not included, they are worthy of additional consideration in future studies.

Results

This section provides a summary of key descriptive and inferential findings. A discussion of the significant student and institutional variables of adult students who reverse or laterally transfer before the third year of college is followed by HGLM findings that consider the variables that increase or decrease odds of reverse and lateral transfer in adult student populations. Full sets of descriptive and HGLM findings are found in Tables 1 and 2.

Students Who Did Not Transfer

Demographically, 52 percent of adult students who did not transfer were White. African American students represented the second largest group (23%). Fifty percent of adult students who did not transfer were male. The average age was 29.4 (*SD*=8.47), and 47 percent of students who did not transfer were of low middle or low socioeconomic status.

Analysis of financial variables revealed that most adult students who did not transfer (59%) did not work, but those who did work typically worked more than 20 hours per week (36%). On average, their financial aid packages were $10,114 (*SD*=7, 635). Nine percent reported receiving financial support from family members.

In terms of motivations and early college experiences, most students who did not transfer sought a baccalaureate degree (61%). They averaged 4.42 (*SD*=1.0) on a five-point scale of self-reported self-efficacy, with five being the highest rating. On another five-point scale, students who did not transfer reported similar levels of engagement (4.14, *SD*=1.10) and sense of belonging (4.18, *SD*=1.10). These students were most frequently enrolling full-time (60%) and

attending in-state (75%). They rarely co-enrolled (1%). Their first-year GPAs averaged 3.08 (*SD*=0.88), and twenty-five percent took developmental courses.

Institutional variables suggested that most (62%) students who did not transfer were attending for-profit institutions, and five percent attended private not-for-profit colleges. Most students (71%) attended open admission or community/technical colleges. More specifically, 61 percent began at community/technical colleges.

Students Who Reverse or Laterally Transferred

Of the bachelor's degree seeking students aged 21 and over in the national sample, 10% reverse or laterally transferred. Demographic analysis revealed that 52 percent of adult students who reverse or laterally transferred were White. The second largest race/ethnicity category was African American (26%). Forty-eight percent were classified as low or low-middle socioeconomic status. The average student age was 27.9 (*SD*=7.32), and most were female (54%).

In terms of employment and financial support, most adult students who reverse or laterally transferred were not working (64%). Thirty-one percent, however, worked more than 20 hours per week. Their financial aid packages averaged $11,394 (*SD*=9,129). Seven percent reported receiving financial support from family members.

Students who laterally or reverse transferred most commonly expected to earn a baccalaureate as their highest degree (61%). Their self-reported self-efficacy was 4.16 (*SD*=1.25) on a five-point scale. Forty-five percent reporting accessing advising services, and lower percentages reported accessing academic (31%) and career (18%) services. On average, these students reported levels of engagement of 3.88 (*SD*=1.25) and sense of belonging of 3.91 (*SD*=1.27). They most commonly enrolled full-time (55%) and attended in-state (69%). Twenty-

three percent took developmental courses, and their average first-year GPA was 2.82 (*SD*= 1.06). Twenty percent co-enrolled.

Institutionally, these students frequently attended for-profit institutions (73%). Their college costs were, on average, $19,969 (*SD*=10,235). No students attended very selective institutions, and most students attended moderately or minimally selective colleges (51%). Seventy-seven percent began at baccalaureate granting institutions.

Predictors of Reverse and Lateral Transfer for Adult Students

Findings from the unconditional model indicated that the odds of transfer varied significantly across institutions ($p < 0.001$), verifying the appropriateness of the HGLM analysis. Analysis of demographic and employment/financial variables revealed that age was a significant predictor of transfer behavior ($p < .01$). As age increased, reverse and lateral transferred became slightly more likely, when compared with non-transferring adult students. Working more than 20 hours per week was a predictor that adult students would not lateral or reverse transfer ($p < .05$), when compared with students who did not transfer.

Most of the significant findings related to early college experiences. When compared to students who did not transfer, students who reporting seeking advising services in their first year were also more likely to reverse or lateral transfer ($p < .05$, odds ratio 1.41). Enrollment behaviors were also significant predictors of reverse and lateral transfer. Mixed enrollment ($p < .001$) greatly increased the odds of reverse or lateral transferring (odds ratio = 1.86), as did co-enrollment ($p < .001$, odds ratio = 11.43). Relatedly, sense of belonging was also a predictor of reverse and lateral transfer ($p < .05$), with higher senses of belonging being correlated with a slight increase in the odds of transfer. First-year GPA was also found to predict transfer ($p < .001$), with higher GPAs suggesting slightly higher odds of transfer. Enrollment in open

admission colleges also predicted reverse and lateral transfer ($p < .05$, odds ratio = 1.646). Similarly, students who enrolled part-time were less likely to reverse or lateral transfer as compared to adult students who did not transfer ($p < .01$).

Discussion and Conclusions

Baccalaureate degree seeking students who participated in lateral or reverse transfer behaviors were, structurally, engaging in unnecessary activities. In other words, such students should have been able to progress at their institutions of origin in order to meet their academic goals. This study found that the rate of adult student lateral and reverse transfer (10%) was identical to that of traditionally aged students (Crisp, Potter, & Taggart, 2020). Additional comparison with previous studies revealed numerous similarities and discrepancies. Specifically, no predictive relationship between race/ethnicity and transfer was found, but age predicted reverse and lateral transfer when compared to adult students who did not transfer. Enrollment variables predicted transfer in unsurprising ways, but financial factors were not found to predict transfer. Additionally, advising and sense of belonging findings contradicted previous studies in several key ways. Finally, of the institutional variables studied, attendance at an open admission college was the only one to predict reverse or lateral transfer for adult students.

While previous studies of traditional age populations suggested that race/ethnicity may predict transfer (Stern, 2016), this study found no relationship for adult students. Age, however, was found to be a significant predictor of transfer; this was possibly the first study to consider adult student age specifically as a potential contributor to transfer. Other studies (List & Nadasen, 2017; McCormick, 2003; Reyes, 2011; Stern, 2016) have assessed adult student transfer and evaluated age as a factor in completion of students who reverse or lateral transferred

(Winter, Harris, & Ziegler, 2001), but they did not consider age specifically as a predictor of reverse and lateral transfer behavior.

The inferential findings of the study revealed that several enrollment-related factors increased the likelihood of reverse and lateral transfer in adults, when compared with adult students who did not transfer. While mixed enrollment and co-enrollment increased the odds of reverse and lateral transfer for adult students when compared to students who did not transfer, part-time enrollment decreased transfer odds. These findings were expected and aligned with previous studies related to adult students (Miller, 2014) and traditional age students (Crisp & Delgado, 2014; Kalogrides & Grodsky, 2011; Kuh et al., 2008; Hillman et al., 2008; Hu, 2011; Sujitparapitaya, 2006).

This study did not align with previous findings that financial concerns might influence transfer in adult students (Bowers & Bergman, 2016; Chen & Hossler, 2017). Although college costs and financial aid packages were found to be higher for adult students who reverse and lateral transferred than for students who did not transfer, the relationship was not predictive. One potential explanation for this finding may be that the high percentage of adult students enrolling at for-profit institutions inhibits transfer (Iloh, 2016), regardless of college cost, due to potential credit loss/lack of transferability of programs. Another explanation may be that disaggregation of reverse and lateral transfer populations would yield different results, although this was not possible in this study due to sample size.

Of particular interest was the finding that, for adult students, seeking advising in the first year predicted reverse and lateral transfer. The inverse was true for traditional age students (Crisp, Potter, & Taggart, 2020), and previous research on advising (Deil-Amen & Rosenbaum, 2003) suggested that participation in this activity contributed positively toward adult student

success. Several explanations for this finding are possible. For example, advising may be inappropriate or unhelpful for the adult or post-traditional experience and/or focused primarily on concerns of traditional age students. Another potential explanation is that adult students might gain information during an advising session that makes them realize that their academic ambitions may be better served at a community and/or technical college or at another institution. It is possible that adult students who attend advising appointments receive less pressure and/or attention related to their academic goals, given their age or life experience.

The study also resulted in one especially puzzling finding. Sense of belonging has long been found to correlate with positive outcomes for students (e.g., Bergman, Gross, Berry, & Shuck, 2014; Hu, 2011; Kuh et al., 2008). Although the significance and relationship are not strong, this study suggests that the opposite may be true for adult students. Adult students who reported higher senses of belonging were slightly more likely to transfer than those who did not transfer. The descriptive data in the study were relatively inconclusive in this regard. College may be a more transactional experience for adult learners, and/or such learners may bring more established relationships into their college experience and therefore sense of belonging factors less into their decisions about whether or not to transfer.

Only one institutional characteristic or context was found to predict adult student transfer behavior: attendance at an open admission college. This finding contradicted numerous previous studies (e.g., Crisp, 2017; Goings, 2018; Goldrick-Rab, 2006; Ishitani, 2006; Stern, 2016; Titus, 2004) that connected traditional age student transfer with institutional factors like diversity, cost, control, and urbanicity. Perhaps this finding could be attributed to the lack of difference in adult student attendance by institutional selectivity (with 71% of students who did not transfer

attending open admission/community colleges) and institutional control (with 73% of students who transferred attending for-profit institutions).

Implications and Recommendations

Adult students are increasingly critical to colleges and the communities they serve. For this reason, understanding adult student retention and success of college students is important for the success of colleges and the communities they serve. Transfer outcomes are an important aspect of this conversation, and unnecessary lateral and reverse transfer behaviors are especially crucial to understand. This study illuminated some of the predictors of these behaviors, and implications exist for policymakers, colleges, and researchers seeking to improve adult student outcomes.

Recommendations for Policymakers and Practitioners

The findings of this study underscored the significance of understanding enrollment behavior and accommodating adult student enrollment needs. Colleges should consider whether their course offerings and schedules meet the needs of adult students in particular (Gast, 2013; Spellman, 2007), especially those who are working more than 20 hours per week. Identification and support for mixed enrollment students appears to be especially important, and services directed at mixed enrollment students could reduce unnecessary transfer.

Open admission and community/technical colleges should pay particular attention to adult students, as attendance at these institutions predicts reverse and lateral transfer in this population. More research is needed to consider the reasons why adult students attend open admission colleges (e.g., geography, academic preparation). Such research would help open admission colleges better tailor their services to adult students. Regardless, open admission institutions should consider ways of retaining adult students. For community and technical

colleges, this finding is especially important, as lateral transfer is an especially unnecessary activity for students seeking baccalaureate degrees. Existing best practices include: design of services (e.g., tutoring and counseling) specifically for adult students (Gast, 2013; Wyatt, 2011), development of communication and marketing materials specifically for adults (Wyatt, 2011), and the establishment of programs that support peer and mentoring relationships for adult students (Lundberg, 2003).

Similarly, institutions should consider reviewing their advising offerings to ensure that they meet adult student needs and that they treat adult students equitably in order to ensure that retention goals are met (Deil-Amen & Rosenbaum, 2003; Spellman, 2007). While the findings around advising in this study raise more questions than answers, they do suggest that current advising practices may need review and revision in order to confirm that they meet the goal of retaining adult students.

Implications for Researchers

Much additional research on the adult student experience is warranted. Specifically, additional studies related to adult student transfer, especially from four-year institutions, is needed (Goldrick-Rab, 2006). Very few other studies exist that consider reverse and lateral transfer, and even fewer consider the adult experience. Studies that can consider these two phenomena separately are especially important, which also highlights the need for increased sampling and data collection related to adult students.

Sense of belonging is an area that is especially suitable for additional research, given the predictive but inconclusive findings of this study and the wealth of research on sense of belonging for traditional age students. Qualitative study would be especially valuable in this area. Research is needed that better explicates the relationship between belonging and the adult

student experience. Similarly, additional qualitative work related to adult student enrollment, retention, and success would improve the overall understanding in the field of education of the ways that colleges might better serve this growing segment of the student population.

More research is also needed to better understand the reasons that adult students co-enroll. Additionally, an improved understanding of the difference between mixed enrollment and part-time enrollment is crucial for understanding adult student transfer behavior. Mixed enrollment predicts reverse and lateral transfer for this population, and part-time enrollment predicts against it. Qualitative research on the factors that contribute to mixed vs. part-time enrollment would be useful to improving the literature in this area (Miller, 2014).

Finally, additional research and datasets that allow for better disaggregation between transfer types and institution types is critical, as the sample in this study was too small for such analysis. Multinomial regression was not possible due to sample size limitations. Disaggregated analysis of the differences in transfer between community/technical colleges and baccalaureate granting institutions is warranted. Also, the predictors of reverse and lateral transfer may actually be different; for this reason, additional research is needed to better understand how these behaviors compare. Stronger data collection and sampling of adult populations is also critical to future research on adult students.

Conclusions

As the number of adult students in colleges and universities continues to grow, an improved understanding of the factors that contribute to unnecessary transfer behaviors for those seeking baccalaureate degrees can help colleges, policymakers, and researchers improve outcomes for this critical population. This study looked at predictors these unnecessary transfer behaviors for adult students and found that certain demographic factors, early college

experiences, and institutional characteristics predicted reverse and lateral transfer, when compared to adult students who did not transfer. For example, age predicted transfer behaviors, as did mixed enrollment, co-enrollment, first-year GPA, and attendance at open admission and community/technical colleges. Conversely, working full-time predicted against transfer, as did part-time enrollment. Surprisingly, having a higher sense of belonging also predicted reverse and lateral transfer for adult students, when compared to students who did not transfer.

Numerous conclusions can be drawn from this study. These findings suggested a need for enhanced and specialized services catered toward adult populations, efforts to prevent and understand credit loss, and improved course offerings that cater to adult student needs. Additionally, this project underscored the importance of additional study on sense of belonging in adult student populations, further exploration of enrollment behaviors and intensity with specific attention to mixed enrollment, and increased research on adult students more generally as well as improved datasets on adult students.

Appendix A. Description of variables

Construct/Variable	Description and Coding
Socio-Demographic Characteristics	
Race/ethnicity	RACE = student's race/ethnicity with Latinx origin as a separate category (0 = white*, 1 = African American, 2 = Latinx, 3 = Asian American, 4 = American Indian, Hawaiian and Pacific Islander, 5 = biracial)
Socioeconomic status (SES)	INCGRP = income group in 2012 (0 = high*, 1 = high middle, 2 = low middle, 3 = low)
Gender	GENDER = student's gender; Binary variable coded 0 as male*, 1 as female
Age	AGE = student's age as of 12/31/2011 (range 18-23)
First generation status	FRSTCOL = indicates whether the respondent was first in immediate family to attend college (binary variable coded 0 for continuing-generation college students* and 1 when neither parent attended college)
Employment, Financial Aid, Social Capital	
Work commitments	HRSWK12 = average hours the respondent worked per week in all paid jobs; 2-category variable representing the average number of hours worked during the first year of college (0 = did not work*, 1 = 20 hours or less working, 2 = worked more than 20 hours per week)
Financial aid	TOTAID5 = total amount of all financial aid received except for work-study in 2011-12 (range 0 to 103,050, mean = 17,400)
Financial support	FAMHELP = student's family or friends helped pay for education and living expenses in 2011-12 (0 = yes*, 1 = no)
Social capital	FHSUPP = friends from home 2011-12 were supportive of postsecondary education (Likert scale item treated as a continuous variable 1 = strongly disagree, 2 = somewhat agree, 3 = neither disagree nor agree, 4 = somewhat agree, 5 = strongly agree) (range 1 to 5, mean 4.42)
Motivations	
Degree expectations	HIGHLVEX = highest level of education that the student ever expects to complete in 2011-12; categorical variable representing student's highest degree expectation in 2011-12 (0 = expected to earn a doctoral or professional degree*, 1 = expected to earn a post BA or master's degree, 2 = bachelor's degree)
Self-efficacy	CURCONF = respondent's confidence in academic success in 2012 (Likert scale item treated as a continuous variable 1 = strongly disagree, 2 = somewhat agree, 3 = neither disagree nor agree, 4 = somewhat agree, 5 = strongly agree) (range 1 to 5, mean 4.42)

Early College Experiences and Institutional Supports	
Support services	USEACAD = whether the respondent used academic advising in 2011-12 (0 = yes*, 1 = no) USEACSP = whether the respondent used academic services in 2011-12 (0 = yes*, 1 = no) USECPP = whether the respondent used career services in 2011-12 (0 = yes*, 1 = no)
Engagement	SOCSATIS = satisfaction with social experience at first institution in 2012 (Likert scale item treated as a continuous variable 1 = strongly disagree, 2 = somewhat agree, 3 = neither disagree nor agree, 4 = somewhat agree, 5 = strongly agree) (range 1 to 5, mean 4.00)
Sense of belonging	BELONG = degree to which student felt part of the institution in 2012 2012 (Likert scale item treated as a continuous variable 1 = strongly disagree, 2 = somewhat agree, 3 = neither disagree nor agree, 4 = somewhat agree, 5 = strongly agree) (range 1 to 5, mean 4.12)
Enrollment intensity	ENINPT3Y = pattern of enrollment intensity for all months enrolled between July 2011 and June 2014 (0 = always full-time*, 1 = mixed enrollment, 2 = always part-time)
In-state attendance	SAMESTAT = attend institution in state of legal residence in 2011-12 (0 = in-state student*, 1 = international or out of state student)
Developmental courses	REMETOOK = remedial courses: took in 2011-12; (0= did not enroll in remedial/developmental coursework in 2011-12* or 1 = enrolled in one or more developmental courses)
First-year GPA	GPA = student's cumulative grade point average in 2011-12 (range 0 to 4.00, mean = 2.93)
Co-enrollment	ENCOEN3Y = whether the respondent ever simultaneously enrolled at more than one institution for at least one month through June 2014 (0 = yes*, 1 = no)
Institutional Context and Characteristics	
Control	FCONTROL = indicates the control of first institution respondent attended in 2011-12 (1 = public*, 2 = private not-for-profit, 3 = private for-profit)
College cost	BUDGETAJ = price of attendance or total student budget (attendance adjusted) at the first institution in 2011-12 (range = 2,729 to 105,550, mean = 30,891)
Urbanicity	LOCALE = degree of urbanization in which the first institution is located (1 = city*, 2 = suburb, 3 = town, 4 = rural)
Exposure to diversity	Composite variable created from an average of PCTENRBK (percent of student body who identify as

	Black) and PCTENRHS (percent who identify as Latinx) in 2011-12
Institutional selectivity	SELECTV2 = indicates the level of selectivity of the first institution attended in 2011-12 (1 = very selective*, 2 = moderately selective, 3 = minimally selective, 4 = open admission
Outcome Variables	
Lateral or Reverse Transfer	TRANSFEROUTCOME = student laterally transferred to another community/technical college or baccalaureate granting institution OR reverse transferred from a baccalaureate granting institution to a community/technical college compared to students who did not transfer before the third year of college*

*Reference category

**Source: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14).

***References: Bean & Metzner, 1985; Bergman et al., 2014; Bowers & Bergman, 2016; Chen & Hossler, 2017; Crisp, 2017; Crisp & Delgado, 2014; Crisp, Potter, & Taggart, 2020; Goings, 2018; Goldrick-Rab, 2006; Goldrick-Rab & Pfeffer, 2009; Hillman et al., 2008; Hu, 2011; Hurtado & Carter, 1997; Kalogrides & Grodsky, 2011; Kuh et al., 2008; Markle, 2015; Miller, 2014; St. John, Cabrera, Nora & Asker, 2000; Shillingford & Karlin, 2013; Soares, 2013; Soares, Gagliardi, & Nellum, 2017; Stern, 2016; Sujitparapitaya, 2006; Titus, 2004; Warden & Myers, 2017)

Table 1. Salient characteristics of students aged 21 and older who intend to earn a baccalaureate degree and reverse or lateral transferred within three years.

Characteristic	Students who did not transfer (n = 3320) [1]	Students who reverse or laterally transferred (n = 360)
Socio-Demographic Characteristics		
Race/ethnicity		
White	52.3	51.5
African American	22.9	26.3
Latinx	17.1	15.2
Asian American	2.3	1.1
American Indian, Hawaiian, and Pacific Islander	2.0	2.2
Biracial	3.4	3.6
Socioeconomic status (SES)		
High	26.8	26.3
Middle high	26.4	25.8
Low middle	23.3	21.1
Low	23.5	26.9
Gender		
Male	50.4	45.7
Age	29.4 (*SD* = 8.47)	27.9 (SD = 7.32)
Employment, Financial Aid, Social Capital		
Work commitments		
Did not work	58.6	64.3
20 hours per week or less	5.6	4.7
More than 20 hours per week	35.9	31.0
Financial aid	$10,114.01 (*SD* = 7,635)	$11,393.81 (SD = 9,129.38)
Received financial support	8.7	7.2
Social capital	4.26 (*SD* = 1.09)	4.20 (SD = 1.18)
Motivations		
Degree expectations		
Doctoral or professional degree	10.2	8.6
Post bac or Master's degree	28.9	30.7
Bachelor's degree	60.9	60.7
Self-efficacy	4.42 (*SD* = 1.00)	4.16 (SD = 1.25)
Early College Experiences and Institutional Supports		
Accessed advising services	49.5	44.9
Accessed academic services	31.1	31.3
Accessed career services	18.4	17.5
Engagement	4.14 (*SD* = 1.10)	3.88 (SD = 1.25)
Sense of belonging	4.18 (*SD* = 1.10)	3.91 (SD = 1.27)
Enrollment intensity		
Always full time	60.3	54.8

Always part time or mixed	39.7	45.2
In-state attendance		
In state student	74.5	68.4
Out of state or international stude	25.5	31.6
Took developmental courses	24.8	23.0
First-year GPA	3.08 (*SD* = .88)	2.82 (*SD* = 1.06)
Co-enrolled	1.3	19.9
Institutional Context and Characteristics		
Control		
Public	33.5	21.6
Private not-for-profit	4.6	5.8
Private for-profit	62.0	72.6
College cost	$18,311.65 (*SD* = 9,656)	$19,969.15 (SD = 10,235)
Urbanicity		
City	57.6	56.2
Suburb	24.4	27.1
Town or Rural	18.1	16.6
Exposure to diversity	33.42 (*SD* = 20.48)	32.28 (SD = 20.37)
Institutional selectivity		
Very selective	0.4	0.0
Moderately or minimally selectiv	28.6	50.9
Open admission or community/technical college	71.0	49.1
Beginning Institution		
Technical or community college	61.4	23.3
Bachelor's granting	38.6	76.7

* p < .05, ** p < .01, *** p < .001

Source: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14).

[1]Data are rounded to the nearest 10th per IES guidelines.

‡Reporting standards not met.

Table 2. Predictors of reverse and lateral transfer among adult students who intend to earn a baccalaureate degree.

	Coef. (S.E.)	Odds Ratio
Socio-Demographic Characteristics		
African American	.05	
Latinx	-.31	
Asian American	-1.18	
Native Indian, Hawaiian, or Pacific Islander	.09	
Biracial	.05	
High middle income	-.04	
Low middle income	-.31	
Low income	-.14	
Female	-.19	
Age	.03**	1.03**
First generation	.32*	1.37*
Employment, Financial Aid, Social Capital		
Worked 20 hours or less	-.19	
Worked more than 20 hours	-.38*	.67*
Financial aid	-9.64e-06	
Family financial support	.16	
Social capital	.02	
Motivations		
Expects graduate degree	.42	
Expects bachelor's degree	.43	
Self-efficacy	.04	
Early College Experiences and Institutional Supports		
Advising services	.35*	1.41*
Academic services	-.22	
Career services	.13	
Engagement	.00	
Sense of belonging	.17*	1.19*
Mixed enrollment	.62***	1.86***
Part-time enrollment	-1.47**	.23**
Instate enrollment	.03	
Developmental courses	.03	
First-year GPA	.00***	1.00***
Co-enrolled	2.44***	11.43***
Institutional Context and Characteristics		
Private not-for-profit	.20	
Private for-profit	.16	
College cost	-.00	
Suburb	.16	
Town	.51	
Rural	-.32	
Exposure to diversity	.00	
Moderately selective	.35	

Minimally selective	.45	
Open admission	.50*	1.65*

* p < .05, ** p < .01, *** p < .001

Source: U.S. Department of Education, National Center for Education Statistics, 2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up (BPS:12/14).

References

Adelman, C. (1999). Answers in the toolbox: Academic intensity, attendance patterns, and bachelor's degree attainment. Retrieved from: http://www2.ed.gov/pubs/Toolbox/toolbox.html

Alpay, N., Ratvasky, P., Koehler, N., LeVally, C., & Washington, T. (2017). Redesigning a statistical concepts course to improve retention, satisfaction, and success rates of non-traditional undergraduate students. *Journal of Educational Multimedia and Hypermedia*, *26*(1), 5–27.

Andrews, R., Li, J., & Lovenheim, M. F. (2014). *Heterogeneous paths through college: Detailed patterns and relationships with graduation and earnings*. Retrieved from http://www.nber.org/papers/w19935

Aulck, L., & West, J. (2017, April). Attrition and performance of community and/or technical college transfers. *PLOS One, 12*(4), 1-23.

Austin, S. A. (2006). A successful university-foundation partnership to assist non-traditional transfer women. *Journal of College Student Retention: Research, Theory & Practice*, *8*(3), 275–295.

Bahr, P. R. (2008). Does mathematics remediation work? A comparative analysis of academic attainment among community and/or technical college students. *Research in Higher Education, 49*(5), 420–450.

Bahr, P. R. (2012). Student flow between community and/or technical colleges: Investigating lateral transfer. *Research in Higher Education, 53*(1), 94–121.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, *55*(4), 485-540.

Bergman, M., Gross, J. P., Berry, M., & Shuck, B. (2014). If life happened but a degree didn't: Examining factors that impact adult student persistence. *The Journal of Continuing Higher Education*, *62*(2), 90-101.

Bowers, A., & Bergman, M. (2016). Affordability and the return on investment of college completion: Unique challenges and opportunities for adult learners. *The Journal of Continuing Higher Education*, *64*(3), 144-151.

Buckmiller, T. M. (2010). Contradictions and conflicts: Understanding the lived experiences of Native American adult learners in a predominantly white American university. *Widening Participation and Lifelong Learning, 12*(3), 6-8

Cabrera, A. F., Burkum, K. R., & La Nasa, S. M. (2005). Pathways to a four-year degree: Determinants of transfer and degree completion. In A. Seidman (Ed.), *College student retention: A formula for student success* (pp. 155–209). Westport, CT: ACE/Praeger Series on Higher Education.

Centers for Disease Control. (2017). Natality Dashboard. Retrieved from https://www.cdc.gov/nchs/nvss/vsrr/natality-dashboard.htm

Chen, J., & Hossler, D. (2017). The effects of financial aid on college success of two-year beginning nontraditional students. *Research in Higher Education*, *58*(1), 40-76.

Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2014). *The American community and/or technical college* (6th ed.). San Francisco, CA: Jossey-Bass.

Crisp, G. (2013). The influence of co-enrollment on the success of traditional age community and/or technical college students. *Teachers College Record, 115*(10), 1-25.

Crisp, G. (2017). Student flow and success at 2- and 4-year broadly accessible institutions. *New Directions for Institutional Research, 2016*(170), 103-113.

Crisp, G., & Delgado, C. (2014). The impact of developmental education on community and/or technical college persistence and vertical transfer. *Community College Review, 42*(2), 99–117.

Crisp, G., & Nuñez, A. (2014). Understanding the racial transfer gap: Modeling underrepresented minority and nonminority students' pathways from two- to four-year institutions. *The Review of Higher Education, 37*(3), 291-320.

Crisp, G., Potter, C., Taggart, A. (2020). Characteristics and predictors of reverse and lateral transfer from four-year institutions. Manuscript under review.

Cruce, T. M., & Hillman, N. W. (2012). Preparing for the silver tsunami: The demand for higher education among older adults. *Research in Higher Education*, *53*(6), 593-613.

Deil-Amen, R. (2014). The 'traditional' college student: A smaller and smaller minority and its implications for diversity and access institutions. In M. Stevens (Ed.), *Remaking college* (pp. 134-165). Stanford: Stanford University Press.

Deil-Amen, R., & Rosenbaum, J. E. (2003). The social prerequisites of success: can college structure reduce the need for social know-how? *The Annals of the American Academy of Political and Social Science, 586*(1), 120-143.

Dougherty, B. (2009). Measuring effectiveness in transfer practices for adult learners. *The Journal of Continuing Higher Education, 57*(1), 54-58.

Dougherty, K. J., & Kienzl, G. S. (2006). It's not enough to get through the open door: Inequalities by social background in transfer from community and/or technical colleges to four-year colleges. *Teachers College Record, 108*(3), 452-487.

Dowd, A. (2012). Improving transfer access for low-income community and/or technical college students. In A. Kezar (Ed.), *Recognizing and serving low-income students in higher*

education: An examination of institutional policies, practices, and culture (pp. 217–231). New York: Routledge

Eagan, M. K., & Jaeger, A. J. (2009). Effects of exposure to part-time faculty on community and/or technical college transfer. *Research in Higher Education, 50*, 168–188.

Elkins, S. A., Braxton, J. M., & James, G. W. (2000). Tinto's separation stage and its influence on first-semester college student persistence. *Research in Higher Education*, *41*(2), 251-268.

Gast, A. (2013). Current trends in adult degree programs: How public universities respond to the needs of adult learners. *New Directions for Adult and Continuing Education, 140*, 17-25.

Gilardi, S., & Guglielmetti, C. (2011). University life of non-traditional students: Engagement styles and impact on attrition. *Journal of Higher Education, 82*(1), 33–53.

Glastris, P. (2016) America's best colleges for adult learners. *Washington Monthly*. Retrieved from https://washingtonmonthly.com/magazine/septemberoctober-2016/americas-best-colleges-for-adult-learners/

Goings, R. B. (2018). "Making up for lost time": The transition experiences of nontraditional black male undergraduates. *Adult Learning, 29*(4), 158–169.

Goldrick-Rab, S. (2006). Following their every move: An investigation of social-class differences in college pathways. *Sociology of Education, 79*, 61–79.

Goldrick-Rab, S. & Pfeffer, F. T. (2009). Beyond access: Explaining socioeconomic differences in college transfer. *Sociology of Education, 82*(2), 101-125.

Grawe, N. D. (2018). *Demographics and the demand for higher education*. Baltimore: JHU Press.

Guy, T.C. (1999). Culture as context for adult education: The need for culturally relevant adult education. *New Directions for Adult Continuing Education, 82*, 5-18

Hill, J., Smith, N., Wilson, D. & Wine, J. (2016). *2012/14 Beginning postsecondary students longitudinal study (BPS: 12/14): Data file documentation (NCES 2016-062)*. Retrieved from https://nces.ed.gov/pubs2016/2016062.pdf

Hillman, N., Lum, T., & Hossler, D. (2008). Understanding Indiana's reverse transfer students: A case study in institutional research. *Community College Journal of Research and Practice, 32*(2), 113-134.

Hossler, D., Shapiro, D., Dundar, A., Ziskin, M., Chen, J., Zerquera, D., & Torres, V. (2012). *Transfer & mobility: A national view of pre-degree student movement in postsecondary institutions*. Herndon, VA: National Student Clearinghouse Research Center.

Hu, S. (2011). Reconsidering the relationship between student engagement and persistence in college. *Innovative Higher Education, 36*, 97-106.

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging, *Sociology of Education, 70*(4), 324-345.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 77*(5), 861-885.

Ivins, T., Copenhaver, K., & Koclanes, A. (2017). Adult transitional theory and transfer shock in higher education: Practices from the literature. *Reference Services Review*, *45*(2), 244-257.

Jenkins, D., & Fink, J. (2016). *Tracking transfer: New measures of institutional and state effectiveness in helping community and/or technical college students attain bachelor's degrees*. Retrieved from Community College Research Center website: http://ccrc.tc.columbia.edu/publications/tracking-transfer-institutional-state-effectiveness.html

Johnson, I. Y., & Muse, W. B. (2012). Student swirl at a single institution: The role of timing and student characteristics. *Research in Higher Education, 53*, 152-181

Kasworm, C. E. (2002). African American adult undergraduates: Differing cultural realities. *The Journal of Continuing Higher Education, 50*(1), 10-20.

Kasworm, C. E. (2010). Adult learners in a research university: Negotiating undergraduate student identity. *Adult Education Quarterly*, *60*(2), 143–160.

Kalogrides, D., & Grodsky, E. (2011). Something to fall back on: Community and/or technical colleges as a safety net. *Social Forces, 89*(3)*,* 853-877.

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education, 79*(5), 540-563.

LaSota, R., & Zumeta, W. (2015). What matters in increasing community and/or technical college students' upward transfer to the baccalaureate degree: Findings from the Beginning Post-Secondary Study 2003–2009. *Research in Higher Education, 57*(3), 152–189.

Laanan, F., and Jain, D. (2016). Advancing a new critical framework for transfer student research: Implications for institutional research. *New Directions for Institutional Research 170*, 9-21

Li, D. (2010). They need help: Transfer students from four-year to four-year institutions. *The Review of Higher Education, 33*(2), 207-238.

List, A., & Nadasen, D. (2017). Motivation and self-regulation in community and/or technical college transfer students at a four-year online university. *Community College Journal of Research and Practice, 41*(12), 842–866.

Lundberg, C. A. (2003). The influence of time-limitations, faculty, and peer relationships on adult student learning: A causal model. *The Journal of Higher Education*, *74*(6), 665-688.

Ma, J., Pender, M., & Welch, M. (2016). *Education pays 2016: The benefits of higher education for individuals and society*. College Board. Retrieved from https://trends.collegeboard.org/sites/default/files/education-pays-2016-full-report.pdf

Manly, C. A., & Wells, R. S. (2015). Reporting the use of multiple imputation for missing data in higher education research. *Research in Higher Education, 56*(4), 397–409. https://doi.org/10.1007/s11162-014-9344-9

Markle, G. (2015). Factors influencing persistence among nontraditional university students. *Adult Education Quarterly, 65*(3), 267–285.

Metz, G. W. (2004). Challenge and changes to Tinto's persistence theory: A historical review. *Journal of College Student Retention: Research, Theory & Practice*, *6*(2), 191-207.

McCormick, A. C. (2003). Swirling and double-dipping: New patterns of student attendance and their implications for higher education. *New Directions for Higher Education, 121,* 13–24.

Millard, M. (2014). *Students on the move: How states are responding to increasing mobility among postsecondary students.* Retrieved from http://www.ecs.org/clearinghouse/01/12/29/11229.pdf

Miller, N. B. (2014). Nontraditional student graduation rate benchmarks. *Journal of Continuing Higher Education, 62*(3), 141–151.

Milsom, A., & Sackett, C. (2018). Experiences of students with disabilities transitioning from 2-year to 4-year institutions. *Community College Journal of Research and Practice, 42*(1), 20–31.

Monaghan, D., & Attewell, P. (2015). The community and/or technical college route to the bachelor's degree. *Educational Evaluation and Policy Analysis*, *37*(1), 70-90.

Monroe, A. (2006). Non-traditional transfer student attrition. *Community College Enterprise, 12*(2), 33-54.

National Adult Learner Coalition. (2017). *Strengthening America's Economy by expanding educational opportunities for working adults: Policy opportunities to connect the working adult to today's economy through education and credentials.* (White paper). Retrieved from https://onlinelearningconsortium.org/wp-content/uploads/2017/02/Strengthening-Americas-Economy-National-Adult-Learning-Coalition-White-Paper-Final.pdf

National Center for Education Statistics (NCES). (2015). *Demographic and enrollment characteristics of nontraditional undergraduates: 2011-12.* Retrieved from https://nces.ed.gov/pubs2015/2015025.pdf

Noble, J. (2000). *Effects of differential prediction in college admissions for traditional- and nontraditional-aged students (ACT research report series; 2000-9)*. Iowa City, Iowa: ACT.

Nora, A. (2004). The role of habitus and cultural capital in choosing a college, transitioning from high school to higher education, and persisting in college among minority and nonminority students. *Journal of Hispanic Higher Education*, 3(2), 180–208.

Osam, E., Bergman, M., & Cumberland, D. (2017). An integrative literature review on the barriers impacting adult learners' return to college. *Adult Learning, 28*(2), 54-60.

Paulson, A. (2012). *Transition to college: Nonacademic factors that influence persistence for underprepared community and/or technical college students*. (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No.3546033)

Peterson, E.A. (1999). Creating a culturally relevant dialogue for African American adult educators. *New Directions for Adult and Continuing Education, 82,* 79–91.

Porchea, S. F., Allen, J., Robbins, S., & Phelps, R. P. (2010). Predictors of long-term enrollment and degree outcomes for community and/or technical college students: Integrating academic, psychosocial, socio-demographic and situational factors. *Journal of Higher Education, 81*(6), 750–778.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. New York: Sage.

Ray, S. L. (2012). *Perceptions of institutional policies and practices from the perspectives of underrepresented adult learners.* (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database.

Reyes, M. (2011). Unique challenges for women of color in stem transferring from community and/or technical colleges to universities. *Harvard Educational Review, 81*(2), 241–263.

Ross-Gordon, J. M. (1998). Investigating the needs, concerns and utilization of services reported by minority adults at "Eastern University". *The Journal of Continuing Higher Education, 46*(3), 21-33.

Samuels, W., Beach, A. L., & Palmer, L. B. (2011). Persistence of adult undergraduates on a traditionally-oriented university campus: Does Donaldson and Graham's model of college outcomes for adult students still apply? *Journal of College Student Retention: Research, Theory & Practice*, *13*(3), 351-371.

Schatzel, K.,Callahan, T., Scott, C., Davis, T. (2011). Reaching the non-traditional stopout population: A segmentation approach. *Journal of Marketing for Higher Education*, *21*(1), 47-60.

Serowick, J. A. (2017). *A phenomenological description of bachelor's degree completion for returning adult students.* (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database.

Shapiro, D., Dundar, A., Wakhungu, P.K, Yuan, X., & Harrell, A. (2015). *Transfer and mobility: A national view of student movement in postsecondary institutions, Fall 2008 cohort*. Retrieved from https://nscresearchcenter.org/signaturereport9/

Shillingford, S., & Karlin, N. J. (2013). The role of intrinsic motivation in the academic pursuits of nontraditional students. *New Horizons in Adult Education and Human Resource Development*, *25*(3), 91-102.

Soares, L. (2013). *Post-traditional learners and the transformation of postsecondary education: A manifesto for college leaders.* Washington, DC: American Council on Education.

Soares, L., Gagliardi, J. S., & Nellum, C. (2017). The post-traditional learners manifesto revisited: Aligning postsecondary education with real life for adult student success. *Washington, DC: American Council on Education*.

Spellman, N. (2007). Enrollment and retention barriers adult students encounter. *Community College Enterprise, 13*(1), 63–79.

St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2000). Economic influences on persistence reconsidered: How can finance research inform the reconceptualization of persistence models? In J. M. Braxton (Ed.), *Reworking the student departure puzzle.* Nashville: Vanderbilt University Press.

Stern, J. (2016). The effect of articulation agreements on community and/or technical college transfers and bachelor's degree attainment. *Community College Journal of Research and Practice, 40*(5), 355–369.

Stoessel, K., Ihme, T., Barbarino, M., Fisseler, B., & Stürmer, S. (2015). Sociodemographic diversity and distance education: Who drops out from academic programs and why? *Research in Higher Education, 56*(3), 228–246.

Sujitparapitaya, S. (2006). Considering student mobility in retention outcomes. *New Directions for Institutional Research*, *2006*(131), 35-51.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.

Titus, M.A. (2004). An examination of the influence of institutional context on student persistence at 4-year colleges and universities: A multilevel approach. *Research in Higher Education*, 45(7), 673-699.

Urias, M., Falcon, V., Harris, F., & Wood, J. (2016). Narratives of success: A retrospective trajectory analysis of men of color who successfully transferred from the community and/or technical college. *New Directions for Institutional Research, 170*, 23–33.

Wang, X. (2009). Baccalaureate attainment and college persistence of community and/or technical college transfer students at 4-year institutions. *Research in Higher Education, 50*(6), 570–588.

Wang, X. (2012). Factors contributing to the upward transfer of baccalaureate aspirants beginning at community and/or technical colleges. *The Journal of Higher Education, 83*(6), 851–875.

Wang, X. (2013). Baccalaureate expectations of community and/or technical college students: Socio-demographic, motivational, and contextual influences. *Teachers College Record, 115*(4), 1–39.

Wang, X. (2016). Transfer and selectivity: A multilevel analysis of community and/or technical college students' transfer to four-year institutions of varying selectivity. *Teachers College Record, 118*(12), 1–23.

Wang, X., & McCready, B. (2013). The effect of postsecondary co-enrollment on college success: Initial evidence and implications for policy and future research. *Educational Researcher, 42*(7), 392–402.

Wang, X., & Wickersham, K. (2014). Postsecondary co-enrollment and baccalaureate completion: A look at both beginning 4-year college students and baccalaureate aspirants beginning at community and/or technical colleges. *Research in Higher Education, 55*(2), 166–195.

Wang, X., Wickersham, K., & Sun, N. (2016). The evolving landscape of transfer research: Reconciling what we know in preparation for a new era of heightened promise and complexity. *New Directions for Institutional Research, 170,* 115–121.

Warden, D. N., & Myers, C. A. (2017). Nonintellective variables and nontraditional college students: A domain-based investigation of academic achievement. *College Student Journal*, *51*(3), 380-390.

Warner, R. M. (2013). *Applied statistics: from bivariate through multivariate techniques: from bivariate through multivariate techniques*. New York: Sage.

Winter, P., Harris, M., & Ziegler, C. (2001). Community and/or technical college reverse transfer students: A Multivariate analysis. *Community College Journal of Research and Practice, 25*(4), 271–282.

Wood, J. L., & Palmer, R. T. (2013). The likelihood of transfer for Black males in community and/or technical colleges: Examining the effects of engagement using multilevel, multinomial modeling. *The Journal of Negro Education, 82*(3), 272-287.

Wyatt, L. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59*(1), 10-20.

Xuereb, S. (2014). Why students consider terminating their studies and what convinces them to stay. *Active Learning in Higher Education, 15*(2), 145-156.

Zamani-Gallaher, E., & Choudhuri, D. D. (2016). Tracing LGBTQ community and/or technical college student experiences. *New Directions for Community College, 174*, 47–63.

Chapter 4: General Conclusions

As Regina Deil-Amen (2014) noted, "Our conceptions of the typical college student are based on traditional notions and an imagined norm of someone who begins college immediately after high school, enrolls full time, lives on campus, and is ready to begin college-level classes" (p. 134). The studies included in the previous chapters serve to further underscore Deil-Amen's observations: the "assumed norms" of the typical college student potentially disenfranchise critical populations of students who seek baccalaureate degrees. Specifically, as the studies contained within this dissertation demonstrate, adult students obviously do not begin college directly after high school graduation, homogenously enroll full-time, live on campus, or take only college-level classes. The picture of who adult students are and what adult students do is grossly understudied in comparison to the "traditional" student (Scobey, 2016). In this way, it is hardly surprising that adult students face challenges completing college: how can policymakers, practitioners, and researchers help a population that is not well understood?

Adult students matter, and so do their transfer behaviors (Soares, Gagliardi, & Nellum, 2017). Transfer in particular is worthy of additional understanding and study, given the large numbers of students who complete some kind of transfer activity. Chapters 2 and 3 make several contributions to research in the field of higher education and represent new approaches to understanding both adult students and transfer behaviors. Additionally, the chapters provide the opportunity to make comparisons between traditional age and adult learners who seek baccalaureate degrees. In order to tie together the findings of the studies included in Chapters 2 and 3 of this dissertation, this chapter serves three purposes. First, it outlines the contributions to the field of higher education research made by the studies in Chapters 2 and 3. Next, it offers key ideas about how the findings of the two studies can be used to improve policies and practices

related to adult students. Third, it provides recommendations for future research on adult student populations in the form of a proposed research agenda.

Key Contributions to the Research

This dissertation makes several contributions to research on adult students and transfer behaviors. First, the studies in Chapters 2 and 3 rely upon a broader definition of "adult student" than is used is most previous studies. Additionally, these studies are some of the only research that considers adult transfer patterns and predictors specifically. The research of this dissertation is particularly unique in that it considers reverse and lateral transfer, in addition to vertical transfer. Chapters 2 and 3 also raise questions about previous findings related to sense of belonging and student supports.

Defining "Adult Students"

One of the most significant contributions of the studies is the inclusion of students aged 21-23 in the definition of adult learners. The decision to stop "traditional" research at age 23 and define adult learners as 24 and older has ambiguous origins. No research could be found that explains the logic of this decision. At the same time, a body of research on "delayed entry" is emerging in higher education. Many studies note the challenges to completion and college success faced by these previously-understudied students (e.g., Andrews, 2018; Bozick & DeLuca, 2005; Goldrick-Rab & Han, 2011; Roksa, & Velez, 2012). Students who delay entry, for example, are more likely to be married, working, and/or parenting than those who enter directly from high school (Goldrick-Rab & Han, 2011). They are also more likely to co-enroll, enroll part-time, and attend multiple institutions (Goldrick-Rab & Han, 2011).

The findings in Chapter 2 raise important questions about studying students who do not enter college directly from high school. Why are some students classified as "delayed entry" and others as "non-traditional"? What is the research-based justification for considering a cut-off of

age 23 (or any other age)? At what age do different and significant patterns emerge in the study of post-traditional students? Chapter 2 suggests that students who do not enter college directly from high school may be different from those that do. However, the chapter finds little justification for breaking down students who "delay entry" (i.e., ages 21-23) and those who have been previously labeled as "non-traditional" (i.e., 24 and older).

Also, what is the appropriate label for these students? After all, students over 18 are technically adults, so the vast majority of college students are "adult learners." Soares, Gagliardi, & Nellum (2017) suggest post-traditional as a categorization. However, this label does not get beyond the notion of traditionality. What matters when we study students who do not enter college directly from high school? Age is predictably a factor in this conversation by definition, but previous research on age has been inconclusive, with studies concluding that age both is and is not a factor in transfer and student success (e.g., Hillman, Lum & Hossler, 2008; Winter, Harris, & Ziegler, 2001; Ishitani, 2006; Paulson, 2012; Schatzel et al., 2011).

However, the research in Chapters 2 and 3 suggests that age has a significant relationship to transfer outcomes but that no key differences exist between those ages 21-23 and those over age 24. In this way, these studies contribute to previous arguments regarding the redefinition of "traditional" and "non-traditional" populations (Soares, Gagliardi, & Nellum, 2017). Moreover, these studies raise important questions about *when* age begins to matter. In other words, age is a significant factor in transfer decisions, but these studies suggest that the field might not yet know why.

Understanding Adult Transfer Behaviors

In addition, both chapters are some of the only studies that consider adult transfer patterns and predictors specifically. Only a handful of other studies (e.g., List & Nadasen, 2017; McCormick, 2003; Reyes, 2011; Stern, 2016; Winter, Harris, & Ziegler, 2001) have looked at

this issue, and they have largely not utilized large national datasets or considered adult students specifically (i.e., adults were included but not analyzed expressly). More specifically, the focus on reverse and lateral transfer in Chapter 3 is especially unique, as few studies consider these patterns even for traditional age students.

Reverse and lateral transfer are especially important to understand because they have potential negative effects for colleges, students, and communities. If baccalaureate degree seeking students engage in these behaviors, they are more likely to experience credit loss, increased time-to-degree, and/or attrition (Goldrick-Rab, 2009). When students at baccalauareate-granting colleges lose students to reverse and lateral transfer, they are losing students they should have been able to retain; this represents both a break from the missions of most colleges but also a financial loss in terms of enrollment. For colleges in states with performance-based funding, enrollment losses can also have negative effects for students (Mclendon & Hearn, 2013). These effects are likely to be felt in communities, which need an educated adult populace in order to sustain local economies (Lumina, 2019).

One way of understanding the importance of studying adult students specifically is by comparing the results of Chapters 2 and 3 with previous studies on traditional age populations. Such a comparison reveals that the transfer behaviors of these students are not the same, which further underscores the importance of studying adult student transfer. For example, when compared with a similar study on reverse and lateral transfer for traditional age baccalaureate seeking students (Crisp, Potter, & Taggart, 2020), several interesting comparisons and contrasts emerge. For example, African American traditional age reverse transfer students comprise 12% less of the overall reverse transfer population than do African American students over 21. As noted in Chapter 2, adult reverse transfer students were more likely not to work (74%) than traditional age transfer students (70%). However, lateral transfer adult students were much more

likely to work more than 20 hours a week (36%) than traditional age lateral transfer students (16%). Adult students in both categories were less likely to aspire to earn a doctoral degree but were similarly likely to expect to earn a Master's degree. Adults who laterally transferred were much more likely to take developmental education courses than their traditional age counterparts and were more likely to co-enroll.

Important conclusions can also be drawn from a comparison of traditional age and adult student transfer predictors. Although Crisp, Potter, & Taggart (2020) considered predictions for reverse and lateral transfer separately, some of their results can be compared with those in Chapter 3. For example, working 20 hours or less significantly predicted both reverse and lateral transfer in the traditional student analysis, but this variable was not significant in the study of adults. However, working more than 20 hours significantly predicted against reverse and lateral transfer for adult students. Part-time enrollment was significant in the study of adults, but not in the study of traditional age students. Engagement was significant for both reverse and lateral transfer for traditional age students but was not significant for adult students. Conversely, sense of belonging predicted against transfer for traditional age students but made transfer slightly more probable for adult students.

These differences further suggest that these populations have different needs and behaviors. One solution is unlikely to meet the needs of all students, and colleges would be wise to consider these differences as they plan for enrollment and retention efforts (Gast, 2013). In this way, the studies of this dissertation make a contribution to the overall conversation regarding students at-risk for reverse and lateral transfer as well as to the literature on adult student behaviors.

Sense of Belonging and Student Supports

As they relate to previous research, the studies included in this dissertation sometimes raised more questions than answers about the behaviors of adult students. While some of the directional hypotheses in the study were confirmed (e.g., higher college costs, financial aid packages, and co-enrollment were associated with reverse and lateral transfer, part-time enrollment was not associated with reverse or lateral transfer), some puzzling results also emerged. For example, as noted in Chapter 3, both advising and sense of belonging appeared to be slightly predictive of reverse and lateral transfer.

Previous studies (e.g., Bergman, Gross, Berry, & Shuck, 2014; Ray, 2012; Ross-Gordon, 1998) suggested that both factors are important for retention for both adults and traditional age students. However, as noted in Chapter 3, perhaps advising is actually having a counter-effect for adult students, who are potentially being advised to take alternative routes to their degrees and/or somehow otherwise negatively influenced by their interactions with advisors. Advisors may not be appropriately trained to deal with adult students and their multi-dimensional needs (Deil-Amen, 2014).

Similarly, sense of belonging may be less important to adults than other factors. It is possible that adults bring more stable socio-emotional supports into college than do traditional age students and are therefore experience less of a connection between sense of belonging and a decision not to transfer. Such a conclusion is supported by Kasworm's (2010) identification of learner roles, life roles, life experience, and knowledge mastery as a framework for understanding adult students. Kasworm (2010) noted that experiences outside of college are more important to the adult population, as is autonomy. For these reasons, adults may be less reliant on the college environment for belonging, as their roles and experiences outside of the classroom may fulfill these needs.

Improving Policies and Practice

Reverse and lateral transfer behaviors are common in adults, and vertical transfer is relatively less common. Both phenomena are causes for concern and action. As the findings in Chapter 3 demonstrated, adult students reverse and lateral transferred at the same rates as traditional students (10%). Moreover, findings from Chapter 2 showed that three percent of adult students ages 21-23 vertical transfer and two percent of adult students over age 24 vertical transferred; these findings aligned with those of previous studies (Shapiro et al., 2018) that noted ongoing concerns with low rates of vertical transfer in adult students. For these reasons, colleges and policymakers should consider making changes to better serve adult student populations who are at-risk for unsuccessful vertical transfer and/or unnecessary reverse or lateral transfer.

Chapters 2 and 3 identified several opportunities to improve service to adult students. Specifically, these recommendations fall into five areas:

- Targeted services: Previous studies (Gast, 2013; Osam, Bergman, & Cumberland, 2017; Wyatt, 2011) noted the importance of services designed specifically for adult students. Wyatt (2011) even recommended specialized tutoring and counseling services in spaces designation for adult students only. The findings of Chapters 3 suggested that advising, in particular, may be an area where adult students would benefit from specialized, targeted services.
- Mentoring programs: Previous research also suggested that adult students enjoy engaging with other adults (Lundberg, 2003) and that such engagement can improve retention. Peer mentoring and mentoring by administrators have been shown to be effective practices in enhancing adult student experiences (Lundberg, 2003).
- Financial aid: Finances are a critical concern for adult students, who often struggle more with financial matters than do their traditional age counterparts

(Taliaferro & Duke-Benfield, 2016). Free college policies for adult students should continue to be explored by policymakers (Pingel, Parker, & Sisneros, 2016), as should public benefits and refundable tax credits (Duke-Benfield, 2015; Titus & Pusser, 2011).

- Course scheduling: As noted in Chapter 2, students who did not co-enroll also did not commonly transfer. One potential contributor to co-enrollment is the absence of course options that meet adult student scheduling needs. For this reason, colleges who have large adult student populations (or wish to attract and retain adult students) should consider varying their course schedules beyond typical three- or five-day courses during the work day (Spellman, 2007). Instead, online options, condensed course options, and hybrid options should be integrated into the schedule (Gast, 2013).
- Access: Geography may be a factor in the choices adult students make. In-state attendance was shown to be a significant factor related to transfer in Chapter 2, and previous research (Chung, 2012; Erickson, 2012) has suggested that geographic factors and the lack of available local options may lead students to choose to attend for-profit institutions. Policymakers and higher education practitioners should work to ensure that adult students, who may be less mobile than their traditional age counterparts, have access to a broad array of quality higher education options, regardless of their geographic location.

These five suggestions provide a starting point for policymakers and institutions to make higher education a more welcoming, hospitable, and supportive environment for their growing populations of adult students.

Ideas for Further Research

The findings of the studies included in this dissertation offer many ideas for a future research agenda. Four specific ideas are outlined in this section. Focused attention is given to the first potential project, the development of part-time student momentum metrics, as the work of this dissertation emphasizes ways the development of part-time and/or adult student momentum metrics would allow researchers to better understand the signs of part-time student success and/or distress. Additionally, further study is needed on the relationship between age and student characteristics. Research is also warranted that considers outcomes after reverse and lateral transfer for adult students. Finally, qualitative studies on adult student enrollment behaviors could help researchers understand the relationship between full-time and part-time enrollment, co-enrollment, and socio-emotional experiences (e.g., engagement, sense of belonging).

Momentum Metrics for Adult Students

Although several areas in need of additional study are noted in this chapter, the most compelling recommendation for future research to be made as a result of this dissertation is that colleges, researchers, and policymakers need better research on the metrics that signal success or struggle for part-time students. While this dissertation does not focus specifically on part-time students, adult students are more likely to be part-time or mixed enrollment students when compared to their traditional age peers. Transfer itself may be an indicator of success or struggle, as noted in previous chapters. However, improving knowledge about the progress and success of adult students more broadly should involve deeper and more focused study on part-time students, as so many of the existing success metrics have been developed in service of understanding the success of full-time students.

For example, the Community College Research Center (CCRC) has developed a set of early momentum metrics for community and/or technical college improvement (Belfield, Jenkins, & Fink, 2019). While these momentum metrics are well-researched and helpful for

understanding indicators that students are progressing, they neglect the reality that part-time students (who are often adults) comprise large segments of the community and/or technical college population (and even larger segments of the potential student population). As the literature reviews for Chapters 2 and 3 note, identifying variables appropriate for the study of adult students is difficult, in large part to the lack of available research. Due to the complexities of adult life noted by Deil-Amen (2014) and others, the variables that signal success for traditional age students might not always be the same for adult learners.

Adult learners are often part-time, and understanding what "momentum" means for a part-time student is far more complex than for a full-time student. For this reason, one of the most important implications of this dissertation is that such metrics are needed for adult and/or part-time students in order for colleges to better understand what success looks like and what successful timelines look like. Understanding transfer is just one part of the picture. If an early momentum metric for a full-time student is, for example, completion of college-level math and English in the first year, what is the expectation for a part-time student? At what point, for a part-time student, does unsuccessful completion of college-level math and English become an impediment to success? Moreover, metrics for successful accumulation of credits for part-time students are needed. While all part-time students may be progressing at different rates, little research has attempted to understand the signals that such students are in danger of attrition, unnecessary transfer, or failure to progress. Metrics specific to part-time students that are grounded in research are a critical missing piece in the efforts to attract, educate, retain, and complete students.

Design	Sample	Variables	Research Questions

Quantitative, HGLM	First-year part-time and mixed enrollment baccalaureate degree seeking students in the BPS:12/17 dataset, all ages	Same variables included in Chapters 2 and 3, with completion as outcome variable	Which demographic characteristics, institutional contexts, early college experiences, and student supports help to predict completion for part-time and mixed enrollment students with the intent of earning baccalaureate degrees?

Age and Student Characteristics, Motivations, and Contexts

As noted above, more research is needed to understand the relationship between age and transfer. While age is significant, it does not appear to be significant in the ways previously thought (i.e., over/under age 24 or 25). In order to achieve this, a study could consider small age groupings (e.g., 15-20, 21-25, 26-30) to determine what, if any, differences exist between groups.

Design	Sample	Variables	Research Questions
Quantitative, Descriptive	First-year baccalaureate degree seeking students in the BPS:12/17 dataset, all ages; Sample could be split in 4-5 year increments to create age groups	Same variables included in Chapters 2 and 3, with age as the sorting variable	What differences exist in socio-demographics, motivations, financial and employment factors, early college experiences, and institutional context between age groups?

Post-Transfer Outcomes

Only one study (Winter, Harris, & Ziegler, 2001) was found in the literature review for this dissertation that evaluated outcomes after reverse- and lateral-transfer. This study assessed only reverse transfer students in one state. A larger scale effort to understand student completion

post- reverse or lateral transfer could provide additional insight into whether these behaviors actually impede timely completion.

Design	Sample	Variables	Research Questions
Quantitative, HGLM	First-year baccalaureate degree seeking students in the BPS:12/17 dataset who reverse or laterally transferred within three years of first enrollment, all ages	Same variables included in Chapters 2 and 3, with completion as the outcome variable	Which demographic characteristics, institutional contexts, early college experiences, and student supports help to predict the completion of students who engage in lateral and reverse transfer behaviors before the third year of college for students with the intent of earning baccalaureate degrees (RQ1)? Does reverse transfer predict student completion of a baccalaureate degree within five years (RQ2)? Does lateral transfer predict student completion of a baccalaureate degree within five years (RQ3)?

Adult Transfer Behaviors and Perceptions

The research in this dissertation raises numerous questions about why adult students make transfer decisions. As the literature review in Chapter 2 indicates, only two qualitative studies related to adult student transfer were found (Austin, 2006; Monroe, 2006). Both studies focused on community colleges, and neither considered reverse or lateral transfer. Additional study related to adult student perceptions of their transfer experiences would provide insight into the findings in Chapters 2 and 3.

Design	Sample	Research Questions

Qualitative, Phenomenological	Adult students who transferred vertically, in reverse, or laterally	What are the experiences of being an adult student who transferred (vertical, reverse, or lateral)? What contexts or situations influenced the experiences of adult learners who transferred (Creswell, 2013)?

Conclusions

This dissertation argues that adult students are critical to solving some of economic challenges faced by 21st century knowledge economies and communities (Lumina, 2019). As noted in the introductory chapter, adult students are also a population that could improve enrollment rates for colleges and universities as the population of traditional age students declines (Soares, 2013). In some ways, the education of adult learners is an example of where a market-driven imperative meets a social justice imperative. Access to jobs and income is a critical equity issue. Without access to education, many adults do not have access to jobs. In other words, access to education for adults is important to improving equity outcomes in colleges but also in communities more broadly. For colleges to be successful in these endeavors, however, they will need to be more responsive to the needs of adult learners. Moreover, researchers and policymakers will need to pay more focused and committed attention to these needs.

However, the equity issues associated with adult education do not stop with access to resources and opportunities within a capitalistic economy. Indeed, education is often a critical way for people to develop an understanding of the ways that such systems can be exploitative and counter to democratic ideals. The tension between these goals—capitalistic versus social—is real. Education often seeks to take apart the very systems its graduates eventually sustain as workers. Adult and post-traditional learners are not outside of this conversation. In many ways, they are more central to it than their traditional age counterparts, given the more demanding

realities of their lives. Unfortunately, this dissertation does not offer any solutions to this tension. However, as the previous chapters note, equity starts with understanding. When we can better understand the needs of adult learners, we can be more inclusive, more just, and more successful.

References

Andrews, B. D. (2018). Delayed enrollment and student involvement: Linkages to college degree attainment. *The Journal of Higher Education, 89*(3), 368–396.

Austin, S. A. (2006). A successful university-foundation partnership to assist non-traditional transfer women. *Journal of College Student Retention: Research, Theory & Practice*, *8*(3), 275–295.

Belfield, C. R., Jenkins, D., & Fink, J. (2019). Early momentum metrics: Leading indicators for community and/or technical college improvement. CCRC Research Brief. Community College Research Center.

Bergman, M., Gross, J. P. K., Berry, M., Shuck, B. (2014). If life happened but a degree didn't: Examining factors that impact adult student persistence. *Journal of Continuing Higher Education*, *62*, 90-101.

Bozick, R., & DeLuca, S. (2005). Better late than never? Delayed enrollment in the high school to college transition. *Social Forces, 84*(1), 531–554.

Chung, A. S. (2012). Choice of for-profit college. *Economics of Education Review, 31*(6), 1084–1101.

Creswell, J. W. (2013). *Qualitative Inquiry & Research Design: Choosing among Five Approaches* (3rd ed.). Thousand Oaks, CA: SAGE.

Crisp, G., Potter, C., & Taggart, A. (2020). Characteristics and predictors of reverse and lateral transfer from four-year institutions. Manuscript under review.

Crisp, G., Potter, C., Robertson, R., & Carales, V. (2020). Documenting early racial transfer gaps: Empirical and practical implications for transfer partnerships. In D. Bragg, T. Ling, E. Meza, & L. Wetzstein (Eds.), *New Directions for Community Colleges: Transfer Partnerships for Improved Equity and Outcomes, 2020*(192), xx-xx.

Deil-Amen, R. (2014). The "traditional" college student: A smaller and smaller minority and its implications for diversity and access institutions. In M. Stevens (Ed.), *Remaking college* (pp. 134-165). Stanford: Stanford University Press.

Duke-Benfield, A. E. (2015). Bolstering non-traditional student success: A comprehensive student aid system using financial aid, public benefits, and refundable tax credits. *Center for Law and Social Policy: Center for Postsecondary and Economic Success.* Retrieved from http://www.clasp.org/resources-andpublications/publication1/Bolstering-NonTraditional-Student-Success.pdf

Erickson, R. A. (2012). Geography and the changing landscape of higher education. *Journal of Geography in Higher Education, 36*(1), 9–24.

Gast, A. (2013). Current trends in adult degree programs: How public universities respond to the needs of adult learners. *New Directions for Adult and Continuing Education, 140*, 17-25.

Goldrick-Rab, S. & Pfeffer, F. T. (2009). Beyond access: Explaining socioeconomic differences in college transfer. *Sociology of Education, 82*(2), 101-125.

Goldrick-Rab, S., & Han, S. W. (2011). Accounting for socioeconomic differences in delaying the transition to college. *Review of Higher Education, 34*(3), 423–445.

Hillman, N., Lum, T., & Hossler, D. (2008). Understanding Indiana's reverse transfer students: A case study in institutional research. *Community College Journal of Research and Practice, 32*(2), 113-134.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 77*(5), 861-885.

Kasworm, C. E. (2010). Adult learners in a research university: Negotiating undergraduate student identity. *Adult Education Quarterly*, *60*(2), 143–160.

List, A., & Nadasen, D. (2017). Motivation and self-regulation in community and/or technical college transfer students at a four-year online university. *Community College Journal of Research and Practice, 41*(12), 842–866.

Lumina Foundation. (2019). *A stronger nation*. Retrieved from http://strongernation.luminafoundation.org/report/2019/#nation

McCormick, A. C. (2003). Swirling and double-dipping: New patterns of student attendance and their implications for higher education. *New Directions for Higher Education, 121,* 13–24.

Mclendon, M. K., & Hearn, J. C. (2013). The resurgent interest in performance-based funding for higher education. *Academe, 99*(6), 25–30.

Monroe, A. (2006). Non-traditional transfer student attrition. *Community College Enterprise, 12*(2), 33-54.

Osam, E., Bergman, M., Cumberland, D. (2017). An integrative literature review on the barriers impacting adult learners' return to college. *Adult Learning, 28*(2), 54-60.

Paulson, A. (2012). *Transition to college: Nonacademic factors that influence persistence for underprepared community and/or technical college students*. (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No.3546033)

Pingel, S., Parker, E., & Sisneros, L. (2016). Free community college: An approach to increase adult student success in postsecondary education. *Education Commission of the States*.

Ray, S. L. (2012). *Perceptions of institutional policies and practices from the perspectives of underrepresented adult learners.* (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database.

Reyes, M. (2011). Unique challenges for women of color in stem transferring from community and/or technical colleges to universities. *Harvard Educational Review, 81*(2), 241–263.

Roksa, J., & Velez, M. (2012). A late start: Delayed entry, life course transitions and Bachelor's degree completion. *Social Forces, 90*(3), 769–794.

Ross-Gordon, J. M. (1998). Investigating the needs, concerns and utilization of services reported by minority adults at "Eastern University". *The Journal of Continuing Higher Education, 46*(3), 21-33.

Schatzel, K., Callahan, T., Scott, C., Davis, T. (2011). Reaching the non-traditional stopout population: A segmentation approach. *Journal of Marketing for Higher Education*, *21*(1), 47-60.

Scobey, D. (2016). Marginalized majority: Non-traditional students and the equity imperative. *Diversity and Democracy*, *19*(1).

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P.K., Bhimdiwali, A., Nathan, A., & Youngsik, H. (2018). *Transfer and mobility: A national view of student movement in postsecondary institutions, Fall 2011 Cohort (Signature Report No. 15).* Herndon, VA: National Student Clearinghouse Research Center.

Soares, L. (2013). *Non-traditional learners and the transformation of postsecondary education: A manifesto for college leaders.* Washington, DC: American Council on Education.

Soares, L., Gagliardi, J. S., & Nellum, C. (2017). The non-traditional learners manifesto revisited: Aligning postsecondary education with real life for adult student success. Washington, DC: American Council on Education.

Spellman, N. (2007). Enrollment and retention barriers adult students encounter. *Community College Enterprise, 13*(1), 63–79.

Stern, J. (2016). The effect of articulation agreements on community and/or technical college transfers and bachelor's degree attainment. *Community College Journal of Research and Practice, 40*(5), 355–369.

Taliaferro, W., & Duke-Benfield, A. E. (2016). Redesigning state financial aid to better serve nontraditional adult students: Practical policy steps for decision makers. Retrieved from: https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/Redesigning-State-Financial-Aid-to-Better-Serve-Nontraditional-Adult-Students.pdf

Titus, M., & Pusser, A. (2011). States' potential enrollment of adult students: A stochastic frontier analysis. *Research in Higher Education, 52*(6), 555–571.

Winter, P., Harris, M., & Ziegler, C. (2001). Community and/or technical college reverse transfer students: A Multivariate analysis. *Community College Journal of Research and Practice, 25*(4), 271–282.

Oregon State University
Research Office

Human Research Protection Program
& Institutional Review Board
B308 Kerr Administration Bldg, Corvallis OR 97331
(541) 737-8008
IRB@oregonstate.edu
http://research.oregonstate.edu/irb

Date of Notification	12/09/2019		
Notification Type	Approval Notice		
Submission Type	Project Revision	Study Number	8536
Principal Investigator	Gloria Crisp		
Study Team Members	Charlie Potter		
Study Title	Characteristics and predictors of reverse and lateral transfer from four-year institutions		
Review Level	FLEX		
Waiver(s)	Informed Consent		
Risk Level for Adults	Minimal Risk		
Risk Level for Children	Study does not involve children		
Funding Source	None	Cayuse Number	N/A

APPROVAL DATE: 12/09/2019 **EXPIRATION DATE:** 07/09/2023
A new application will be required in order to extend the study beyond this expiration date.

Comments: Project revision to address change in study inclusion criteria.

The above referenced study was approved by the OSU Institutional Review Board (IRB). The IRB has determined that the protocol meets the minimum criteria for approval under the applicable regulations pertaining to human research protections. The Principal Investigator is responsible for ensuring compliance with any additional applicable laws, University or site-specific policies, and sponsor requirements.

Study design and scientific merit have been evaluated to the extent required to determine that the regulatory criteria for approval have been met [45CFR46.111(a)(1)(i), 45CFR46.111(a)(2)].

Adding any of the following elements will invalidate the FLEX determination and require the submission of a project revision:

- Increase in risk
- Federal funding or a plan for future federal sponsorship (e.g., proof of concept studies for federal RFPs, pilot studies intended to support a federal grant application, training and program project grants, no-cost extensions)
- Research funded or otherwise regulated by a federal agency that has signed on to the Common Rule, including all agencies within the Department of Health and Human Services
- FDA-regulated research
- NIH-issued or pending Certificate of Confidentiality
- Prisoners or parolees as subjects
- Contractual obligations or restrictions that require the application of the Common Rule or which require annual review by an IRB
- Classified research

- Clinical interventions

Principal Investigator responsibilities:

- Keep study team members informed of the status of the research.
- Obtain IRB approval for project revisions prior to implementing changes as required by section 8.6 of the Policy Manual.
- Report all unanticipated problems involving risks to participants or others within three calendar days.
- Use only approved consent document(s).