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The Ties that Support: An Egocentric Network Analysis of Underrepresented Transfer Students

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by

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Epigraph

The brick walls are there for a reason. The brick walls are not there to keep us out. The brick walls are there to give us a chance to show how badly we want something. Because the brick walls are there to stop the people who don't want it badly enough. They're there to stop the other people.

- Randy Pausch, *The Last Lecture*

Dedication

The only constant in life is change…

I would like to dedicate this dissertation to my late husband Michael who left us in January 2012. He was my friend, mentor, and inspiration. He provided support and encouragement through my entire higher education journey. His passion for education was infectious and impacted many others besides me. He is not here to see this come to fruition but would be so proud that I made it through with flying colors.

My daughter has been so patient with her Mom going to school most of her life. As she embarks on her higher education journey, I hope I have provided her inspiration and loving support. Thank you for being proud of me and being patient with the pursuit of my education.

So many things have changed in my life since this journey began. I would like to thank all of my family and friends for supporting me no matter what happened. There were some days where I really wondered if it could be done and you were always there to provide support and encouragement.

I would also like to thank Cohort 7 and our faculty. Specifically, Dr. Hofstetter for being patient with the pursuit of my egocentric network study and Dr. Daly for your assistance and expertise in social networks. The experience will be one that I will never forget. It has added so much richness to my perspective and will allow me to pursue many avenues in my career.

I would also like to thank all of the students that participated in my study, their willingness to share so much information made this study fascinating in many ways.

This accomplishment would not have been possible without all of my ties.

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Abstract of the Dissertation

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by

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Doctor of Education in Education Leadership

University of California, San Diego, 2014
California State University, San Marcos, 2014

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The lack of college graduates, who possess a four-year degree, will soon impact the United States in a lack of knowledge workers needed to compete in the global economy. If current trends continue, California alone will be short one million college graduates by 2025. Despite college efforts to increase graduation rates only about half of students will complete a degree or certificate within six years. These numbers decline for underrepresented students. Many of these students start their college experience at a community college. Thus assisting students in the enrollment at a community college,

the transfer process, and transition from a community college to a four-year university, are critical to increasing overall baccalaureate attainment rates.

Transfer students face many of the same academic and social adjustment issues as first-time freshman without many of the same support programs. Students do not go through the transfer experience by themselves, therefore an emphasis of this study was on students' interactions with those inside and outside institutions of higher education. A student's social network and access to social capital, both on and off-campus plays a role in his or her ability to achieve success in the college environment. Underserved students often lack the social capital to access the required networks or level of knowledge needed to properly adjust to university life.

This egocentric network analysis explored underrepresented transfer students' experiences with their on-campus and off-campus social networks while transferring from a community college and post-transfer adjustment at a four-year institution. The results of this study provided insight on who students rely upon for support and information at the community college and university level. Although study participants did not have highly closed networks, their were robust and allowed participants to utilize ties when needed. As students moved through their college careers their on-campus network shift from family to peers, with academic advisers being utilized through out their college career. Off-campus networks were consistent with parents and spouses providing the most personal support and encouragement no matter the age of the student.

Keywords: Underrepresented, community college, transfer, social capital, social network, egocentric, relationships, first-generation, low-income, underrepresented minority

Chapter 1 Introduction

The continuing economic challenges in the United States and the shifting global economy have led people to seek post-secondary education in greater numbers. Although more people are seeking a college education graduation rates have remained stagnant or fallen (Geiser & Atkinson, 2010; Tinto, 2006). Despite higher education institutions' investment of resources, it is still the case that only about half of all students will complete a degree or certificate within six years (Roberts & McNeese, 2010; Tinto, 2010). These numbers decline for minority[1], low-income[2], and first-generation[3] students (Engle & Tinto, 2008; Tinto, 2010). Due to changing demographics in the United States and the need to stay competitive in the global economy, colleges need to focus on increasing the number of students that earn degrees, particularly bachelor's degrees (Engle & Tinto, 2008).

A lack of college graduates will soon impact the United States in a lack of workers needed to fill knowledge–based positions that require higher levels of training and education. If current trends continue, California alone will be short over one million college graduates in the workforce by 2025 (Geiser & Atkinson, 2010; Moore, Shulock, & Jensen, 2009). To that end, President Obama has made education a top priority of his administration. He reinforced this message in 2009, when he addressed a Joint Session of Congress and announced his goal for the United States to once again become the nation

[1] Underrepresented minorities are African Americans, Latinos, and Native Americans (Engle & Lynch, 2009).
[2] Low-income is defined as family income below 200 percent of the federal poverty level (Engle & Lynch, 2009).
[3] First-generation college students are defined as those whose parents have not completed a college degree.

with the most college-educated citizens in the world (Miller, Erisman, Bermeo, & Taylor Smith, 2011). To meet this goal, traditional and nontraditional student degree attainment must be improved.

As numerous countries begin to surpass the United States in degree attainment, many believe the United States standing and competiveness is in peril (Miller et al., 2011). To increase competitiveness in the global economy, spur economic growth, and recover educational attainment rates of citizens need to increase. It is estimated that over the next ten years 80% of the fastest growing occupations will require an associate's degree and 50% will require a bachelor's degree (Engle & Tinto, 2008). With higher incomes, college graduates also pay increased taxes and federal, state, and local governments spend less on income support programs. These cost reductions are in programs related to health, crime, unemployment, and poverty (Baum, Ma, & Payea, 2010). College graduates are also less likely to be unemployed. While the unemployment rate in the United States is about 10%, only 4.5% of college graduates are unemployed. An emerging connection of the relationship between educational attainment and economic growth is emerging. Economic recovery will require workers with advanced skills and knowledge; higher education is the avenue for developing those skills (Lumina Foundation, 2010).

Not only does the nation benefit from college degree attainment but individuals do as well. Individuals with a four-year college degree can expect to earn 66% more than a person with a high school diploma over a 40-year working life. They also are more likely to receive pension and health insurance benefits from their employer (Baum, et al., 2010). For low-income individuals, earning a bachelor's degree is the only way they can

increase their earning potential and overcome their current economic situation. Increasing the number of Americans that have college degrees provides significant benefits to individuals and society.

Although the benefits of a college degree are well supported including higher income over time, health benefits, and retirement benefits, the overall educational attainment rates in the United States are expected to decline in the coming years due to changing demographics (Engle & Tinto, 2008). To increase attainment rates, higher education needs to focus on the growing number of underrepresented students entering universities. Latino and African Americans already make up the majority of the K-12 population and will soon become the majority of graduates from California high schools. At the same time these students have become the majority, they are still underrepresented in higher education, especially at the four-year university level (Geiser & Atkinson, 2010). Many low-income and first-generation students begin their studies at two-year or for-profit institutions but never go on to receive a degree or certificate. These populations are also underrepresented in public four-year universities (Engle & Tinto, 2008). These students represent a full range of ethnicities, have diverse economic and social backgrounds, and are all ages (Lumina Foundation, 2010).

Community colleges play a vital role in meeting these degree demands. Nearly one half of all undergraduates who attend public institutions, attend community colleges. In addition, minority and first-generation students are more likely to attend a community college than a four-year university (Long & Kurlaender, 2009). As the necessity of a college degree becomes more critical, due to job market demands and other factors, the

student population will continue to increase and community colleges will play a key role in the education of students.

With tuition costs increasing, more competition for admission at four-year institutions, and a weakened economy many students are entering community colleges. Approximately seven million students are enrolled in community colleges, this accounts for approximately 44% of all undergraduate students in the United States (Handel, 2011). This is particularly true in California. California Community Colleges serve over 2.9 million students, which makes up approximately 63% of higher education students in the state (Lorenzo, 2011). Nearly one-quarter of the nation's community college students are enrolled in California (Moore & Shulock, 2010). While a community college is the entry point, data suggests that between 50% and 80% of all entering community college students have a goal to transfer to a four-year college and earn a bachelor's degree (Handel, 2011). Unfortunately, only a small amount of those students actually reach the goal of transferring to a four-year university (Moore et al., 2009).

Transfer students face a number of personal and process related barriers when attempting to transfer and adjust to the four-year environment. These barriers include financial concerns, lack of information, and poor coordination between community colleges and four-year universities (Long & Kurlaender, 2009). Many of the barriers that transfer students face are social in nature. By definition, first generation students are the first in their families to attend college. Thus, underrepresented students often do not possess the social relationships or social capital that allow them to overcome these barriers. Lin (1999) defines social capital as resources embedded in social networks. To improve access to these resources students must create and sustain relationships with

many different individuals to reach their educational goals (Rios-Aguilar, & Deil-Amen, 2012).

Since these relationships play such a key role in the transfer and adjustment[4] process, it is important to study the nuances of students' social networks and how they operate during this critical time. Institutional leaders need to better understand underrepresented transfer students' experiences to improve access and success of a population that has been previously underrepresented in higher education (Engle & Tinto, 2008). As the changes in education continue, an increase of transfer students may be attending California State University (CSU) campuses. Focusing on the needs and relationships of this population will support their success, educational attainment, and the overwhelming need for an educated society.

Statement of the Problem

Retention of college students continues to be a major issue for colleges, students, and the nation. Students who leave college without completing a degree are financially impacted by less income and could leave school with a large amount of debt. In many cases these students become disenfranchised with higher education and also discourage others from starting college (Roberts & McNeese, 2010). Many students start the path to a four-year degree via a community college. This population is often low income, first generation, minority, or women. Retaining students through the education pipeline is critical to their success and the future of the United States.

[4] Adjustment can be defined as a change that makes it possible for a person to do better or work better in a new situation (Merriam-Webster, n.d.).

Starting at a community college is a critical step on the pathway to obtaining a baccalaureate degree for millions of students. This is more so the case for minorities and women. Many students never move beyond the community college because they leave school or complete classes for a vocational trade (Long & Kurlaender, 2009). A student, who has successfully navigated all of the general education and required transfer classes at a community college, has recorded a victory that has taken two or more years. When they reach the critical stage of applying for transfer and beginning attendance at a university it is a pivotal time in their educational journey. When transfer students do not feel supported and have issues adjusting to the university environment they have the propensity to leave the university without completing a degree.

As Alexander, Ellis, and Mendoza-Denton (2009) point out, a body of research that focuses on the social experiences of transfer students does not exist. Rios-Aguilar and Deil-Amen (2012) also note that virtually no formal research exists on the social networks of minority college students. The transfer process[5] is multifaceted and transfer students are complex, therefore additional research is required to provide greater clarity to the multi-layered transfer process (Laanan, Starobin, & Eggleston, 2010).

Purpose of the Study

This study aims to explore the social support that underrepresented transfer students encounter during their transition from a community college and once they arrive at the four-year university using an egocentric network approach. More specifically, it

[5] The transfer process is defined as determining the four-year-university to transfer, applying and submitting the application for admission, sending transcripts, learning what credits will be accepted, and how credits fit towards meeting degree requirements (Townsend & Wilson, 2006).

examines what impact these supports have on the students' success in continuing their studies in higher education. The specific focus of the study will be on students who transferred from a California Community College to a California State University. When transfer students are unable to socially adjust to the university environment they have a higher risk of leaving the university without a degree. In addition, students must create and maintain social ties with a variety of people in their personal and academic lives. Findings should assist university leaders by providing a more holistic picture of on-campus and off-campus relationships that first-generation, minority, transfer students need to successfully transfer and adjust to the four-year university environment. A better understanding of the personal and institutional relationships that support students through the transfer process and transitioning to a four-year university will provide a better understanding of where resources and communication efforts should be focused at community colleges and four-year universities

Research Questions

This study explored the social networks and experiences of underrepresented transfer student using an egocentric network analysis design. The following research questions and sub-questions were addressed:

1. What on-campus and off-campus social ties support transfer students' at the community college level and assist in the transition to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?

2. What on-campus and off-campus social ties support transfer students' adjustment from a California Community College to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?
3. What is the nature (e.g. size of the network, content of the exchanges) of the overall social networks among underrepresented transfer students?

Theoretical Framework

This study explored underrepresented transfer students' perceptions of their social ties while attending and transferring from a California Community College and post-transfer adjustment at a California State University. Students do not go through the transfer experience by themselves, therefore an emphasis will be placed on students' interactions with those inside and outside institutions of higher education.

Based on the above factors this study was predicated on social network theory with a lens on student persistence. A student's social network both on and off-campus will play a role in his or her ability to achieve success in the college environment. Daly (2010) explains, "a network is a group of actors who are connected to one another through a set of different relations or ties" (p.4). Transfer students must learn to negotiate a new environment and interact with a whole new set of actors, while maintaining or changing their current network. At the university level, a successful transfer student needs to build and have relationships that support their college activities.

One of the foundations of social networks is the concept of social capital. Social capital is defined as "the resources embedded in social relations and social structure which can be mobilized when an actor wishes to increase the likelihood of success in purposive action" (Lin, 1999, p.35). Underrepresented students often lack the social capital to access the required networks or level of knowledge needed to properly adjust to university life. Providing the resources and staff necessary for transfer students to build social capital and ties to others would provide transfer students the ability to have a social safety net that can be utilized in times of need (Miller et al., 2011).

In addition, to the relationships that underrepresented transfer students create, while on college campuses, they must also create and maintain personal social networks with family, friends, and other personal ties. These relationships play a significant role in shaping the decisions students make regarding college planning and continued enrollment (Rios-Aguilar & Deil-Amen, 2012). Predicating this study on Social Networks further explains and creates a richer context for understanding the perceptions, involvement, and experiences of students during and after the transfer process. The following section discusses the research methodology.

Research Methodology

The research study used an egocentric network research design (Borgatti, Everett, & Johnson, 2013) to explore underrepresented transfer students' on-campus and off-campus social ties through the transfer process and their adjustment to a four-year university. "The study of ego networks represents the intersection of the social network perspective and its emphasis on the importance of relations..." (Carolan, 2014, p. 140). A

person's (ego) network is considered a source of important resources such as information, support, and social norms (Carolan, 2014).

The study used an on-line survey of approximately 2041 transfer students at a medium size public university, in the western United States, regarding their demographic information and personal and academic social ties. Survey data was analyzed utilizing social network analysis (SNA) theories. SNA provides a robust picture and fuller descriptions of the social world and allows the use of quantitative, qualitative and graphical data (Borgatti & Ofem, 2010). This study sought to provide a greater understanding of the lived experiences of underrepresented students' transfer process, their personal and academic social networks, and their social adjustment to a four-year university.

Significance of the Study

Community colleges have long been a pathway to a four-year degree, but as demographics change, the numbers of transfer students that complete their degree are troubling. A little over one third of community college students will earn any type of degree or certificate. For low-income, first-generations students this number drops to only a quarter (Tinto, 2010). The study aims to fill a gap in the research literature on the transfer and post-adjustment process of students that transfer from a community college to a four-year university. This study will greater clarify how students' social networks support them through the transfer process, their social adjustment to the four-year university and ultimately their graduation.

In addition, most studies on transfer students have been quantitative in nature and focus on "transfer shock"[6] (Laanan, 2007). This study aimed to move beyond the discussion of "transfer shock" and utilize an egocentric network analysis design to further explain who supports students on their educational journey.

By focusing on the on-campus and off-campus relationships that support underrepresented students, through the transfer process and the transition to the four-year university, much needed insight on the relationships that support this population through this transition, retention at the four-year university, and ultimately graduation were provided. Many of the current retention research focuses on the first-year student population. Transfer students are also likely to stop attending a university without finishing a degree. Further study of the relationships that support this population is warranted to assist community colleges and universities in planning their communication, support, and intervention services.

Organization of the Study

Chapter 1 has provided an overview of the challenges of Community College Transfer students, and the rationale for the proposed study. Chapter 2 provides a deeper review of the literature on community college transfer process, social networks and social capital, and retention theories to explain the state of the related research to date, and why this study is needed. Chapter 3 describes the study design and methodology used to carry out the research. Chapter 4 discusses the data collected, analysis and findings. Chapter 5 contains the summary, conclusions, and implications of the study.

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[6] Transfer shock is defined as transfer students obtaining a lower grade point average (GPA) after they initially transfer than their GPA they earned at the community college (Hill, 1965).

Chapter 2 Literature Review

Overview

This literature review provides a summarization of research on community college students, the transfer process, social capital and networks, and a focus on the social aspects of retention models. Reviewing these topics provide a foundation as to why underrepresented transfer students are a population that is at risk of not completing a bachelor's degree and how the transfer process is a series of hurdles that students must get through to successfully transfer. The retention of students is shaped by social forces that are on and off-campus (Tinto, 1993), therefore taking a closer look a the social capital and social network frameworks provide further context for the study of the relationships that support underrepresented transfer students' success.

The first section discusses community college transfer students and the transfer process. Specific emphasis is provided on the California Community College (CCC) to California University transfer process. Furthermore, some of the barriers and support mechanisms that exist for underrepresented transfer students are discussed.

The second section of this chapter examines social networks and social capital and the importance of relationships in navigating the education pathway of transferring to a four-year university.

The third, and final, section of this literature review discusses theories of student retention and how social capital fits within these models. Tinto's theory of student integration will be discussed. Recent research and portions of Tinto's model emphasize the need for relationship building and social support for students to be retained.

Community Colleges Transfer Students and the Transfer Process

Several studies examine different aspects of the transfer student population. This section of the literature review discusses the diversity of the community college transfer population, the current issues with starting a four-year education at a community college, and the transfer process with a specific emphasis on the process in California.

Demographics. Community college students come from diverse backgrounds and traditionally underserved populations. They are often the first in their family to go to college, come from low-income families, and are historically underrepresented in higher education (Jain, Herrera, Bernal, & Solorzano, 2011). Many transfer students are in their mid-twenties and work at least part-time (Eggleston & Laanan, 2001). With little experience in higher education, they have many concerns about the college process. These concerns range from the application process, financial aid, and advising services, to what skills they will need to be successful academically.

Many potential transfer students have concerns about their ability to complete upper division classes and their ability to perform academically. This concern usually comes from the fact that many students initially attended community college because they did not do well in high school (Handel, 2007).

The transfer student population comes from diverse backgrounds and adds further diversity on four-year college campuses (Jain, et al., 2011). Universities need to recognize the unique experiences that transfer students bring to their campuses. Due to the changing demographics, in the United States, higher education institutions need to improve access and success of underrepresented students (Engle & Tinto, 2008).

Underrepresented students include, low-income, first-generation, and minority students. One way to improve underrepresented student success is focusing on the transfer process.

The Leaky Pipeline. Studies over the past several decades have examined the transfer process and found that the portion of two-year college students that actually transfer is deficient and there are differentiations between racial, ethnic, and socioeconomic groups (Tinto, 2010; Zamani, 2001). While many researchers agree only a small percentage of students end up transferring to a four-year university the actual numbers vary by researcher, largely because the researchers use varying definitions of transfer students and different methodologies for calculating transfer rates. Some estimates are as high as 80% and on the low end 50% of all community college students have a goal to transfer to a four-year university (Handel, 2011). These discrepancies exist due to the unclear understanding of whether students' goal is to transfer and how community colleges use different definitions of transfer and transfer coursework patterns. This is also the case in California where estimates of students seeking to transfer are estimated between 40% and 50% (Geiser & Atkinson, 2010). The numbers of students who actually transfer are also difficult to derive. Data shows that only a small percentage of community college students successfully transfer (Moore, Shulock, & Jensen, 2009). In a national longitudinal study, Adelman found only 37% of students who graduated from high school in 1992, and began at a community college eventually transferred to a four-year university (2006). The California Community College Chancellor's Office (CCCO) reported that their transfer rate is approximately 41%. This was defined as first-time students who earned at least 12 units and attempted transfer level math or English classes (2012). The 41% would exclude students that started at a CCC that needed

remedial coursework and had not attempted a transfer level math or English class. Using a different definition, Moore and Shulock found that only about 23 percent of CCC students transferred. In addition, there were significant disparities between white and Latino students, 14% of Latino students transferred versus 29 percent of white students (2010). Completion rates are also just as varied on the transfer student population.

Reported baccalaureate completion rates are also varied for community college transfer students. Tinto stated that only approximately 33 percent of community college students earn a degree or certificate and this decreased to only 25 percent for low-income, first generation students (2010). The rate at California State Universities (CSU) is approximately 66 percent of transfer students earn a four-year degree within six years of enrollment at a CSU (Moore, Shulock, & Jensen, 2009). This population only accounts for those that successfully transferred to a CSU. Moore and Shulock, found that only about 30 percent of CCC students completed a degree, certificate, or transferred to a university. This percentage dropped to 26 percent and 22 percent for black and Latino students respectively.

While the numbers of students who enroll at a community college with the intention to transfer, those who successfully transfer, and ultimately complete a degree or certificate vary widely there are some clear findings. The data shows that there are disparities at every step in the process based on race/ethnicity. Moore and Shulock (2010) found many of these disparities in studying the 2003-2004 first-time CCC entering cohort over a six year period. The success of students transferring from CCC to a university is only 23 percent. Latino students fared even worse compared to their white counterparts. Latino students only transferred 14 percent compared to 29 percent of white students. In

addition to the low transfer rates overall community college completion rates are low as well. After six years from initially enrolling in a CCC, only 30 percent actually transferred or completed a certificate or degree. The majority of the 70 percent had left the community college with only 15 percent still enrolled. Completion of a degree or certificate by Latino and black students lagged behind with 22 percent of Latinos and 26 percent of black students completing a degree or certificate or transferring after six years (Moore & Shulock, 2010).

It is also clear that community college students are less likely to earn a bachelor's degree than their peers who start at a four-year university (Handel, 2011; Hartman, Bjerregaard, & Lord, 2009; Long & Kurlaender, 2009). Since minority and low-income students disproportionately depend on community colleges for entry into higher education this has significant consequences on their success (Long & Kurlaender, 2009). In addition, the low numbers of transfer students show that the transfer mechanism needs improvement (Moore & Shulock, 2010). Improvements are needed at every step to support entering community college students to ensure they stay on the appropriate path to transfer. Once a student has transferred, colleges need to provide support services to ensure students become integrated and are supported in their new environment. Community colleges have been hailed for the ability to provide under-represented student an opportunity to obtain a degree, but the transfer pathway is not a clear road (Mickelson & Laugerman, 2011).

The Transfer Process. Many of the origins of the complexity of transferring to a California university are rooted in the features of the 1960 Master Plan for Higher Education. The Master Plan was developed with the college needs of the "baby boomers"

in mind. The demographics of the state have changed significantly with Latino and African American students making up the majority of K-12 students in California and they will soon be the majority of graduates. Even with the changing demographics minorities are underrepresented in higher education. Currently, just one in five underrepresented minorities attend a four-year institution and the state of California currently ranks last in this category nationally (Geiser & Atkinson, 2010). Since the inception of the Mater Plan the demographics, educational needs, and transfer process have changed significantly.

The California Master Plan was developed with the baby boomers7 born after World War II who came of college age in the 1960s. The current wave of students diverges from the prior generation in one significant way. The incoming students are far more diverse. African American and Latino students already make up the majority of K-12 students and will soon become the majority of high school graduates. These groups are currently underrepresented in higher education and especially at the four-year level. Questions remain as to whether the three distinct segments of the California Higher Education system are ready to support these students (Geiser & Atkinson, 2010).

Although the plan created three distinct segments of higher education, with different missions, it has also created the inability for comprehensive planning on cross-segmental issues such as transferring. Coordination is further complicated by the fact there are 112 community colleges (CCC) in 72 districts, 23 California State University (CSU) schools, and 10 University of California (UC) campuses. The CCCs each have

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[7] A baby boomer is defined as a person born in the United States between 1946 and 1965 (Baby Boomer, 2011).

their own governing board, faculty unions, and course curriculum. With this highly decentralized system, articulation agreements across these colleges become complex and hard for students to understand (Moore et al., 2009).

The transfer process is complex and requirements vary by university. Transfer requirements can be a moving target for students who are trying to transfer to a California university. Since CSU and UC accept very few freshman or sophomore transfer students most in-state transfers have completed a transfer curriculum8. For students to transfer with all of their first two years of college completed, they must understand what courses to take to fulfill general education requirements and major requirements. Determining what courses will satisfy the transfer requirements can be confusing and challenging, especially if a student is thinking about transferring to a UC or a CSU since the two systems have different requirements that can vary by institution.

The CSU and UC systems accept thousands of transfer students per year from California Community Colleges. These numbers have stayed fairly stagnant over the past two decades rising from 57,000 to 64,000 (Geiser & Atkinson, 2010). Even with substantial course work earned prior to transferring, only a little over two-thirds of CCC transfer students graduate from a CSU within six years (Moore et al., 2009).

Many transfer students have frustrating experiences when moving from a community college to a university. Mickelson and Laugerman explain that a successful transfer student must possess adaptability and tenacity to withstand the transfer process (2011). This can be hard to come by for underrepresented students whose families lack

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[8] Transfer curriculum is defined as 60 transferable units, including at least one college level math and English course (Moore & Shulock, 2010).

experience in higher education (McCarron & Inkelas, 2006). These student and their families often lack information on many transfer related processes, such as financial aid, admissions standards, and enrollment requirements. In addition, the need to learn new processes, procedures, and advising systems can cause difficulties (Hartman et al., 2009).

Barriers to Transfer

Transfer students encounter many personal and institutional constraints when transferring from a community college to a four-year university. With each culture being unique students are required to make many adjustments (Laanan, 2007). The barriers that students encounter are financial, personal, and institutional in nature. Given the fact that so few students end up transferring it is important to understand the barriers that students face (Taylor Smith et al., 2009).

Economic and Financial Barriers. Many community college students are minority, low-income, and first-generation. Although, tuition at a community college, is significantly lower then a four-year university many students are still struggling to pay for college related expenses. These expenses include child-care, books, housing, and transportation. Latino students and their families can be especially sensitive to the costs of a four-year education. Many Latino students come from poor families and students struggle to help their parents financially (Alexander, Garcia, Gonzalez, Grimes, & O'Brien, 2007).

Community college transfer students need to clearly understand all of the grant, loan, and scholarship options. Having access to financial aid personnel and receiving clear communications from the financial aid office can be critical to students' ability to transfer (Gard, Paton & Gosselin, 2012). Although students may have received financial

aid at the community college they have to relearn the financial aid system at the four-year university (Miller, et al., 2011). Financial aid availability is particularly important to first-generation students who usually have less family and peer support (Giancola, Munz, & Trares, 2008). This is also true for minority students who have been found to be more sensitive to pricing and less willing to use student loan programs. Students have reported not being aware of financial aid resources when they began school and some had delayed starting college because of financial reasons or paid for school and then discovered financial aid was available (Byrd & MacDonald, 2005).

Due to their financial situation, low-income and first generation students are more likely to work, more than 20 hours a week, and take classes part-time (Alexander et al., 2007; Engle & Tinto, 2008; Taylor Smith et al., 2009). Unfortunately, this can negatively impact a student's eligibility for financial aid (Engle & Tinto, 2008; Taylor Smith et al., 2009). Part-time attendance and working full-time can limit students' ability to receive financial assistance such as scholarships, assistantship positions, tuition waivers, and limits their student loan funding (Taniguchi & Kaufman, 2005). Low-income and first-generation students are often deterred from transferring when looking at the costs of a four-year institution (Taylor Smith et al., 2009).

Personal and Cultural. Along with financial concerns, community college students face a number of personal and cultural barriers to transfer. Students "often lack the social or cultural capital (i.e. networks, family ties, community or business connections, resources etc.) that would provide information about and access to the course work, programs, services, and resources that open the path to higher education" (Taylor Smith et al., 2009, p. 11). This lack of resources often makes it more difficult for

first-generation and low-income student to understand and make their way though the four-year university system.

In addition, to the lack of social capital, transfer students are often older than traditional students and have to balance many roles outside of their college obligations (Engle & Tinto, 2008; Taylor Smith et al., 2009). Some of the obligations include caring for dependents or family members, and working full-time. These responsibilities limit students' ability to attend college full-time and limit their college experience. In a 2003, report by the National Center for Educational Statistics (NCES), 56% of students over the age of twenty-four considered themselves employees first and students second, and 26% saw themselves as students who work. Only 18% of the students did not work while they were enrolled in school (Berker & Horn, 2003). The basic needs such as food and rent take priority over direct and indirect school expenses. The focus on providing basic necessities for students and their immediate families can take time and energy away from the student role (Fairchild, 2003). Along with the personal barriers that students have to overcome they also encounter cultural barriers while trying to transfer.

Many first-generation and minority students and their families lack prior experience with college or the transfer process (Engle & Tinto, 2008; Rios-Aguilar & Deil-Amen, 2012). Students are not prepared to navigate the bureaucratic aspects of transferring (Engle & Tinto, 2008; Owens, 2010). One student noted that it is definitely confusing, there are a lot of offices a transfer student has to go to and a lot of time is taken to go to those offices and fill-out paperwork (Owens, 2010). Students and their families lack an understanding of the campus environment, culture, and norms (Taylor

Smith et al., 2009). These cultural barriers can deter students from transferring or elongate the process.

Academic and Institutional. Transfer students face a number of academic and institutional barriers from remediation and coursework requirements, lack of coordination between the community college and four-year university, and working with community college support staff to understand transfer requirements.

Many transfer students start at a community college because they have not taken college preparatory classes in high school and are often not prepared to attend a four-year institution (Taylor Smith et al, 2009). Many low-income and first-generation college students attended high schools that did not offer a rigorous high school curriculum with well-prepared teachers (Engle & Tinto, 2008). This causes students to be placed in remedial level courses at the community college. These courses often take additional time to complete and can often become one of the barriers to transfer (Bailey, 2009). It is estimated that between 50% and 70% of first-time community college students need to take developmental course work (Bailey, 2009; Taylor Smith et al., 2009). These developmental courses lengthen the time to degree, costs additional tuition, and take up financial aid eligibility. Once students find out that they must delay their entry in to courses that will transfer many become discouraged and leave college (Bailey, 2009). Not only can developmental course work become discouraging navigating the classes needed for transfer can also be troublesome.

The lack of coordination between two-year and four-year institutions can be an institutional barrier (Taylor Smith et al., 2009). Institutions do not clearly explain what is

needed for articulation9. These complicated state policies cause additional problems for first-generation and minority students, who are often the first in their family to attend college (Alexander, et al., 2007). Without clear agreements, community college students end up taking non-transferable courses (Kazis, 2006), and end up transferring with out taking all of the needed coursework (Moore et al., 2009). In some cases, when the student does transfer, they end up re-taking courses. This costs students more time and money and contributes to lower transfer rates. The challenge of navigating the coursework needed is not limited to students, community college advising staff are stretched to understand all of the different university requirements.

Students have conveyed they have lacked proper guidance and support from college advisors to properly navigate the college system (Byrd & MacDonald, 2005; Gard, Paton, & Gosselin, 2012; Moore et al., 2009). Gard, et al., (2012) found that students were very critical of the advising they received at the community college. Students expressed that the advisors did not have accurate information when it came to transferring and what courses were needed to transfer. They also were guided to take certain courses that were not transferrable. This added more time at the community college for many students. This has been found to be the case within the CSU as well. One study showed that CSU transfer students graduated with an average of 141 units when most programs only require 120 units (Moore et al., 2009). Advising at the CCCs also shows signs of stress and not meeting the student needs.

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[9] Articulation is defined as ”the alignment between courses, programs, standards, and expectations of different education levels” (Kazis, 2006).

With California Community Colleges having the lowest per-student funding, in California, and the mission to serve some of the most needy students in the state, the services provided do not meet the current needs. Some estimates have the counselor to student ratio at CCCs as one counselor per 1,200 to 1,900 students (Moore et al., 2009). Advisors are key in working with students to reach their goals by assisting students in the selection of required coursework and in avoiding extraneous course taking (Malhotra, Shapero, Sizoo, & Munro, 2007). Advising can even be more important to first generation students due to their limited knowledge of the university system and course taking patterns (Byrd & MacDonald, 2005). While many of these barriers seem insurmountable, colleges have begun to make an effort to focus on transfer students and their success.

Support Mechanisms

Many community colleges have begun to improve transfer and articulation policies and created new programs on campuses to support transfer students. These programs include college success skills courses, learning communities, and specialized support programs.

States have begun to review the transfer policies and put in place statewide approaches to transfer (Lorenzo, 2011, Moore et al., 2009). Seven states, including California, have passed policies to designate associates degrees for transfer. California Senate Bill 1440 was passed on September 29, 2010. This bill enacted the Student Transfer Achievement Reform Act, requires the California State University (CSU) system to grant priority admission to a student's local CSU and declared major, when the student meets the published requirements and the student has received an associate

degree for transfer. The aim is to simplify the transfer process for the 50,000 plus students who transfer annually (Lorenzo, 2011). Other states have also standardized the general education (GE) curriculum across the state. Some states are also using both approaches to improve transfer. Community college students can take the standard GE curriculum and have a level of assurance that they will be accepted to a state university or complete an associates degree for transfer and have a higher level of guarantee of acceptance (Moore et al., 2009). In addition, to policy changes community colleges are implementing a number of campus programs to support transfer track students.

College success classes are being offered on many community college campuses. These classes orient students to different aspects of college (Byrd & MacDonald, 2005; Laanan et al., 2010; Taylor Smith et al., 2009). These classes include curriculum around career and major planning, study skills, writing improvement, time management skills, support services, and graduation requirements.

Colleges have found learning communities10 to be a good way to engage students and develop a sense of community on campus (Taylor Smith at al., 2009; Tinto, 1993, Tinto, 2010). Learning communities have shown to be an effective way to ease the transition to college by simultaneously helping students to become integrated into the social and academic community (Engle & Tinto, 2008). Learning communities can be formed in many different ways, some are just grouped classes, others are a set of classes based on a major, or some are specifically geared to students who are not prepared academically (Tinto, 2010). Learning communities usually have lower enrollment than

[10] Learning communities are defined as the linking of a cohort of students together, in a set of courses, so they feel more integrated both academically and socially (Taylor Smith et al., 2009).

large lecture classes and allow students to get to know each other and faculty members. Positive interactions with faculty have been shown to greatly support retention efforts (Townsend & Wilson, 2006). In addition, to these academic related improvements, community colleges have placed more of an emphasis on student support programs.

Community college have begun to improve their advising approach and created transfer centers. Transfer centers are staffed with advisors who have specific training in the transfer process (Alexander, et al., 2007; Geiser & Atkinson, 2010; Taylor Smith et al., 2009). These centers offer a wide range of activities and services from specialized counseling, scheduling of representatives from universities, and communicating with partnering universities on transfer requirements (Taylor Smith et al., 2009).

Early warning systems are also becoming more prevalent on community college campuses. These systems provide for the ability of faculty and advisors to identify student who need additional support. The support may be academic in nature and be based on grades or attendance (Taylor Smith et al., 2009) or allow for the identification of students who may have personal issues that could impact their studies. Students identified are referred to additional services such as tutoring, counseling, or faculty or student mentors for additional support. These programs provide for early intervention before it is too late and help students succeed (Engle & Tinto, 2008, Tinto, 2010). These type of early warning systems provide for the ability to shift the focus from the entire academic career to one course at a time. This is of particular importance when dealing with low-income and first-generation students who attend college part-time due to work and other obligations (Engle & Tinto, 2008).

These support mechanisms are particularly important to low-income and first-generation students since they tend to enter college less prepared than their peers (Engle & Tinto, 2008). These support mechanisms, and other resources help community colleges and universities in supporting individual students and stopping them from getting lost in the system (Taylor Smith et al., 2009). A student's relationships both on and off-campus may help increase the social capital of these students.

Social Networks & Social Capital

A student's social network, both on and off-campus, play a role in his or her ability to achieve success in the college environment. Daly (2010) explains, "a network is a group of actors who are connected to one another through a set of different relations or ties" (p.4). Transfer students must learn to negotiate a new environment and interact with a whole new set of actors, while maintaining or changing their current network. At the university level, a successful transfer student needs to build and have relationships that support their college activities.

One of the foundations of social networks is the concept of social capital. Bourdieu defines social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network … which provides each of its members with the backing of the collectivity-owned capital (1986, p. 51). Lin defined social capital as "the resources embedded in social relations and social structure which can be mobilized when an actor wishes to increase the likelihood of success in purposive action" (1999, p.35). Coleman emphasized that social capital is defined by its function and is inherent in the structure of the relations between actors and among actors. Social capital makes possible the achievement of certain ends that would not be possible without

it (1988). Coleman expands that social capital is rooted in interpersonal relationships and is created through mutual trust among those in the relationships. Maintaining and reproducing social capital among those in social networks is dependent on close ties, or what Coleman terms, closure (1988). Both of Lin and Coleman's definitions emphasize the importance of social networks and how social capital provides the ability for individuals to achieve goals with the resources provided in the relationships.

Educational research has been using the concept of social capital to further understand many aspects of the education environment. One of the areas that has been a focus is to better understand why students dropout of school. This research has been focused on social capital since many resources can be found in peer networks. These networks are accumulated and exchanged in a manner that can impact educational outcomes. Who is in a student's network and their interests may have a positive or negative impact. If a student associates with someone who is focused on their education this may have a major influence on others in the network. Some research has also suggested that this may vary based on specific categories such as ethnic group.

Social networks that lead to social capital are an important concept in educational research. It allows researchers to examine the quality and quantity of relationships available in one's network and how resources get utilized and ultimately shape the outcomes of an individual (Carolan, 2014).

Relationships

In addition, to the relationships that underrepresented transfer students create, while on college campuses, they must also create and maintain personal social networks with family, friends, and other personal ties. These relationships play a significant role in

shaping the decisions students make regarding college planning and continued enrollment (Rios-Aguilar & Deil-Amen, 2012).

Transfer students are entering a new institution with which they are unfamiliar. Consequently, they must acclimate to this new environment with little to no assistance. They need to become familiar with the instructors and staff, attempt to make new friends, and learn the culture of the university (Roberts & McNeese, 2010). To improve their chances of success, underrepresented transfer students must learn to create new, change, and maintain relationships with those who can provide support and to the resources those can access through their own network ties (Adler & Kwon, 2002). Both on-campus and off-campus relationships are integral to the success of underrepresented transfer students. "Though student retention is ultimately an academic matter, it is also shaped by social forces internal and external to the campus" (Tinto, 1993, p. 63).

On-Campus Relationships. While it is true that students must experience academic success to stay in college, they must also become involved in other areas of campus life (Roberts & McNeese, 2010). Social adjustment to the new college environment can be just as critical as embracing the new academic environment. A student's perception of their social skills and their ability to fit in the new college environment will determine their ability to successfully adjust (Laanan, 2007). Due to the new environment students will need to make multiple adjustments both socially and academically. University staff and peers can provide support to first-generation, minority, transfer students in adjusting to their environments and in obtaining support and resources.

Institutional agents[11] that connect and support racial minority students can be a critical factor in their success. This has been shown to be the case in colleges and K-12 schools. Museus and Neville (2012) found that institutional agents connect minority undergraduate students to social capital, in the forms of information and support, link them to the wider social networks of the college, and facilitate their success. These agents provided students with access to social capital through cultivating trust and closure within their relationships with students, providing them with resources, and providing access to larger information and support networks across a university.

Stanton-Salazar has also found that institutional agents and social capital play an important role in the success of K-12 racial minority students. In the context of K-12 schools, social capital is primarily represented in terms of resources or forms of school support accessible by the student through their direct or indirect social ties to institutional agents (Stanton-Salazar, 2011). Institutional agents assist racial minority students with funds of knowledge such as social norms and cultural nuances. But more importantly they assist these students in learning how to negotiate, and go back and forth between their own culture and other cultures. This allows students to overcome institutional barriers more successfully (Arriaza, 2003; Stanton-Salazar, 2011). Institutional agents also provide access to engage in educational activities, special programs, and other opportunities across the school. They also provide emotional support, advocate for the student, role model behavior, and provide guidance and feedback to racial minority students (Museus & Neville, 2012). Although the work of Stanton-Salazar was

[11] Institutional agents can be defined as college faculty, administrators, and staff (Museus & Neville, 2012).

conducted in K-12 schools it still provides insight into how institutional agents provide social capital and support the success of minority students.

Providing the resources and staff necessary for transfer students to build social capital and ties to others would provide transfer students the ability to have a social safety net that can be utilized in times of need. This could include having an advisor to reach out to when a transfer student is dealing with unfamiliar processes such as registration, financial aid, or other support services. Assisting with the building of institutional knowledge and support provides transfer students the confidence to help them succeed (Miller et al., 2011). Not only do institutional agents play a key role in the integration of underrepresented transfer students but peer relationships also play a noteworthy role.

First-generation, minority students rely on peers for advice and support in the navigation of the pathway to college and once they enter the college environment (Perez & McDonough, 2008). In some instances it is more difficult for transfer students to create a peer network due to the fact that native and freshman students have already established networks (Ishitani, 2008). These students perceive that peers can provide the support needed to do well in college better than their family since they have already navigated the college pathway (Dennis, Phinney, & Chuateco, 2005). Peers also provide encouragement and drive to be academically successful (Palmer & Gasman, 2008; Tinto, 2010).

Peer relationships are an integral part of the development and persistence of students (McCormick, Sarraf, BrckaLorenz, & Haywood, 2009). Interactions with peers support academic learning and go beyond into other areas of the college experience (Roberts & McNeese, 2010). Peers provide support and influence on academic success.

Students use peers to establish study groups and share assignments (Dennis et al., 2005). They also use peers to enhance and sustain their desire to be successful in the academic arena. A social network of peers provides students with access to support, inspiration, and encouragement (Palmar & Gasman, 2008).

Some colleges have tuned into the fact that peers are a valuable source of information and support for transfer students by creating peer-mentoring programs (Eggleston & Laanan, 2001; Handel, 2011; Tinto, 2010). Formal mentoring programs could help students adjust to the four-year environment due to the fact that most students in these categories have a difficult time gaining knowledge through informal peer networks (Tinto, 2010). Many colleges have established peer mentor programs specifically for transfer students. These mentors provide access to an informal learning resources as well as assisting with introductions to other peers (Flaga, 2006). At University of California Los Angeles (UCLA), mentors provide specific information about the obstacles that might occur along the transfer pathway and provide uncensored information about the challenges and opportunities that will face them once they start attending UCLA. The mentors also serve as an example of success (Handel, 2011). Just as on-campus relationships play a vital role in the success of first-generation, minority, transfer students so do off-campus relationships with family and community members.

Off-Campus Relationships. Many students depend on their family and community members for support and information when selecting a college, attending college, and transitioning from a community college to a four-year university. Research has shown that regardless of parents' level of education their support for school attendance is critical to students staying in the education pipeline. Siblings can also have

a great influence on students especially if they have attended or are attending college. Community members that provide access to information and support can also influence students' success in the education arena.

First-generation and minority students seek social capital from their family during their education journey. Social capital within the family can be defined as "the norms, the social networks, and the relationships between adults and children that are of value for the child's growing up" (Coleman, 1990, p. 334). McCarron et al., (2006) found that first-generation college students show a positive relationship between parental involvement and educational aspirations. Aspirations have been found to be directly linked to actual education attained. These aspirations are intensified by parent reinforcement and involvement.

Specific research on Latina/o students details the influence of strong family ties that underlie their college choices and pathway (Rios-Aguilar & Deil-Amen, 2012). Family and friends that have been successful at a specific college or university will weigh heavily in the college choice decision (Perez & McDonough, 2008; Person & Rosenbaum, 2006). In some instances college choice was made based on proximity to the family home (Perez & McDonough, 2008). Valenzuela and Dornbusch (1994), also found that family support and parental education combined supported higher academic achievement for Latina/o students. The support of parents that obtained at least a high school education allowed parents to acquire social capital through experience in schools in the United States.

Family members, such as siblings and other close relatives, current or prior success at a college can heavily influence the college choice of Latina/o students. Family

members are used as the primary sources of information on the college itself, application process, and support once a student has arrived on-campus (Perez & McDonough, 2008). Person and Rosenbaum found that Latinas/os students were much more likely than non-Latinas to indicate family and friends for the main reason for attending a college. Although this may be seen as a benefit these same students were found to have limited information about college options and were much more likely to select a community college as an entry point than a four-year university (2006). Although the accuracy of some information provided by their social network is questionable, the information provided is encouraging Latina/o students to enroll in post-secondary education (Perez & McDonough, 2008). Families and communities have to engage in supporting the development of their knowledge and skills so they can strive in their educational and career goals (Israel, Beaulieu, & Hartless, 2001).

Social capital within the community exists when a one adult takes interest or even intrudes on the activities of someone else's child (Coleman, 1988). For first-generation college students the influence of others may be critical in promoting success in college and post-college, since many of these students' families lack direct experience with college or professional careers (Rios-Aguilar & Deil-Amen, 2012). When students are integrated into the community through sports teams, churches, and other groups they feel a sense of belonging and build relationships with non-family youths and adult community members. These community connections provide students with valuable resources and support beyond the family that students can access when necessary (Israel et al., 2001).

The transition, for low-income and first-generation students, from a community college to a four–year university can cause feelings of disorientation and confusion as

with the beginning of their enrollment in higher education. The support of families, schools, and communities are integral to the academic success of students. Thus the social capital framework is applicable to community college transfer students throughout their entire college career (Miller et al., 2011).

Student Retention and Social Capital

While it is true that students must experience academic success to stay in college, they must also become involved in other areas of campus life (Roberts & McNeese, 2010). Recent research on retention and persistence has shifted to more closely analyze aspects of social integration and how the presence of supportive relationships results in student retention and ultimately degree attainment. To gain a more nuanced understanding of student retention and persistence[12] recent research has begun to use social capital as a theoretical framework (Jensen, 2011).

Peers as well as other factors can impact students' retention behavior. In a study, at a liberal arts college, that included a cohort of 1,673 students, Eckles and Stradley (2011) found that the decision of peers to return to school their sophomore year had a significant impact on the retention of students. For every friend, who left the university, the student was 5 more times likely to leave. When students have dense social networks this allows them to be exposed to more students who persist. In addition to peers, other studies have found that meaningful relationships on campus impact student retention.

Consistent with research on social capital, a study that looked at the experiences of women, community college transfer students who were pursuing science, technology,

[12] Persistence occurs when a student successfully integrates in the institution academically and socially (Tinto, 1975).

engineering, and math (STEM) majors found that key relationships played a vital role in student persistence. Relationships with faculty, advisors, and peers provided critical information and resources that helped the women feel a sense of belonging and support on campus (Packard, Gagnon, LaBelle, Jeffers, & Lynn, 2011).

Faculty has a bigger impact on student retention then they may comprehend. Since many transfer students are older and have other responsibilities, the classroom may be the primary avenue they use to develop relationships with peers and faculty (Fairchild, 2003; Gilardi & Gugleilmetti, 2011). Teaching methods that facilitate a peer-learning environment and provide the ability for students to apply theory to their life and work experiences will assist in retention and the integration of learning (Giancola, Munz, & Trares, 2008). The degree to which faculty can make the classroom relevant to real life is a key to persistence for some students, especially since the classroom is often the sole connection students have with their peers, the university, and their education (Samuels, et al., 2011).

Faculty that provide support through availability, mentoring, showing empathy, and showing interest in individual student needs make students feel valued and wanted in the campus setting (Ross-Gordon & Brown-Haywood, 2000; Samuels, Beach, & Palmer, 2011). In addition, faculty sensitivity to individual student differences is also critical. This point was highlighted in a study of African American students. Students emphasized the desire for faculty to understand the special concerns of adults and the cultural and educational backgrounds that exist for underrepresented populations (Ross-Gordon & Brown-Haywood, 2000).

Institutional agents can also positively influence the persistence of minority college students. Museus and Quaye (2009) found that minority students who are connected to agents that emphasize academic success, value education, and acknowledge student's cultural backgrounds positively influence their persistence. These institutional agents provide support and access to social capital.

Several theories have been put forth to better understand college student retention. Tinto's Student Integration Model (1975) has received considerable attention (Cabrera & Castaneda, 1992; Thomas, 2000). The model acknowledges the importance of relationships and their impact on a student's decision to persist to degree. Tinto's model emphasizes social integration as a core component; therefore social capital and social network theory can be used to measure student integration on campus (Eckles & Stradley, 2011).

Summary

Eggleston and Laanan indicate that a limited amount of research has been conducted to capture the experiences of transfer students' adjustment process once they have reached a four-year college (2001). Studying the many complexities of the transfer adjustment process is critical so college officials can implement programs and services to support this population.

To increase attainment rates, higher education needs to focus on the growing number of minority, first generation, and low-income students entering universities. These students represent a full range of ethnicities, have diverse economic and social backgrounds, and are all ages (Lumina Foundation, 2010). Many transfer students meet

multiple categories and need assistance from the destination institution to adjust to their new environment.

Underrepresented transfer students are entering a new institution with which they are unfamiliar. Consequently, they must acclimate to this new environment with little to no assistance. They need to become familiar with the instructors and staff, attempt to make new friends, and learn the culture of the university (Roberts & McNeese, 2010).

"Beyond the university, the balance of social capital research suggests that the presence of supportive connections between and among students, families, and with larger institutional structures will result in higher degree attainment" (Avery & Daly, 2010, p. 52). The amount and types of social capital a student possesses significantly impacts their persistence and graduation rates (Astin, 2006). Students may have relationships with many people, that amount to high values of social capital, but these relationships may not by the right type to assist with their educational experience and needs. Understanding the on-campus and off-campus relationships that underrepresented transfer students' call upon during their enrollment at community college, transition from community college, and their social integration at the university level are critical to increasing degree completion rates for students.

Chapter 3 Methods

The research presented in chapter 2 provides a framework regarding the need for academic and social support for the underrepresented transfer student population. Many transfer students are low-income, first-generation, and minority. Literature suggests that support needs to be provided in the areas of academic and social adjustment. Chapter 3 describes how the study captured the on-campus and off-campus relationships of underrepresented students who transfer to a California State University from a California Community College.

Purpose of Study and Research Questions

The study explored the relationships that support the transfer and the post-adjustment process of California Community College students that transfer to a California State University. Specifically, how social capital supports students during their transition from a community college and their adjustment to the four-year university. When transfer students are unable to adjust to the university environment they have a higher risk of leaving the university without a degree. This study identified the relationships that support underrepresented students and their experiences in this critical time of transfer and post transfer. Findings will assist community college and university leaders in planning interventions and support services for this increasing population.

The aim of this research is to explore the social support experiences of underrepresented transfer students through the transfer process from a California Community College (CCC) to a California State University (CSU) and their post transfer transition.

This study investigated the on-campus and off-campus social ties that supported underrepresented transfer students at the community college and university level. The following research questions and sub-questions were explored using an egocentric network research design to better understand the following:

1. What on-campus and off-campus social ties support transfer students' at the community college level and assist in the transition to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?
2. What on-campus and off-campus social ties support transfer students' adjustment from a California Community College to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?
3. What is the nature (e.g. size of the network, content of the exchanges) of social networks among underrepresented transfer students?

Design of the Study

To answer the research questions, the researcher used an egocentric network research design (Borgatti, Everett, & Johnson, 2013) to explore underrepresented transfer students' social ties and experiences through enrollment at a community college, the transfer process and their adjustment to the four-year university. This study sought to

understand the lived experiences of students' transfer process, their personal and academic social networks, and their social adjustment to a four-year university. The researcher was drawn to this design because the emphasis is on the individual and his or her connections with others and solely based on the perceptions of the individual. The study consisted of an on-line survey of 2041 transfer students at a medium size public university, in the western United States, regarding their demographic information and personal and academic social ties. The results were used to determine students that met one of the underrepresented categories. Survey data were analyzed utilizing social network analysis (SNA) software specifically designed for egocentric network data called E-Network Software for Ego-Network Analysis (E-Net) (Borgatti, 2006). SNA provides a robust picture and fuller descriptions of the social world and allows the use of quantitative, qualitative and graphical data (Borgatti & Ofem, 2010). This method provided useful and robust information on the research topic and expanded the breadth of the results.

Research Site. This study was conducted at a medium size public university. The pseudonym of "State University" or SU will be used to ensure privacy. SU is one of the twenty-three campuses in the California State University system. The campus offers bachelors, masters and a doctorate in education in partnership with a University of California. The university is also designated as a Hispanic Serving Institution (HSI). According to the Institutional Research department at SU the current student body is 10,610 of which 61 percent are female and 39 percent are male. The majority of students at SU consider themselves to be White (39%), Latino (31.5%), and Asian/Pacific Islander (9.3%).

SU currently has four colleges, the College of Education, Health and Human Services, College of Humanities, Arts, Behavioral and Social Sciences, the College of Science and Mathematics, and the College of Business Administration. Given that the researcher was employed at SU, the site was chosen based on convenience and access to information.

Quantitative Methods. Given the researcher's role as an employee and student, at the time the research commenced, with access to student data, the researcher was required to obtain permission to access data for research purposes. This was to ensure adherence with The Family Educational Rights and Privacy Act (FERPA) (1974) regulations. Once approval was received the researcher provided the criteria of student data needed to the Office of The Registrar. The Registrar provided a list of student names and e-mail addresses that met the criteria.

Participants. The researcher used purposeful sampling (Creswell, 2008) to ensure the selection of active transfer students who were in good academic standing at SU. Participants were currently enrolled at SU. To properly address the research questions transfer students who went through the CCC to CSU transfer experience within the last 12 to 36 months were surveyed. Students were solicited to participate in the survey via e-mails and reminders sent to their school e-mail address.

Student participants were limited to currently enrolled students that were currently seeking their first bachelor's degree and in good academic standing with SU. No age limitation was used to ensure a wide range of nontraditional and underserved students could participate in the study. Underserved students can be defined as those who "are financially disadvantaged, racial/minorities, and first generation individuals who are not

represented in colleges and universities in proportion to their representation in the K-12 education system or in society at large" (Bragg, Kim, & Rubin, 2005, p.6).

Data Collection. The researcher utilized an original survey design drawing upon other published ego-network survey designs. This approach provides a view of the social network as a particular set of connections from a focal point. The focal point being the ego (first-generation, minority, transfer student). This egocentric analysis (Borgatti & Ofem, 2010) asked participants to provide names of individuals and then provide information about the relationship such as relationship, closeness, and frequency of communication. The survey also collected demographic information. In addition, participants were asked who has provided the most encouragement throughout their college career and who they have relationships with that have attended college. The survey would be considered a names generator. Name generator surveys use questions to develop a list of distinct names that respondents can be asked to provide further details (Borgatti, Everett, & Johnson, 2013). The survey items and scales were developed based on the analysis of related literature on social capital and social network theoretical framework.

The survey was administered online and accessed by students through a unique web address. E-mail addresses of potential participants were obtained from the Office of the Registrar. E-mails were sent to the targeted population asking for their voluntary participation in the study. Informed consent was incorporated into the survey. The e-mail included a link to the Survey Gizmo questionnaire.

Data Analysis. The results were explored to determine correlations between student demographics, network density, and the quality of the relationships. The

researcher used SPSS Statistics (IBM Corp., 2013) to conduct frequency and descriptive statistics on the study participants' data. In addition, E-Network Software for Ego-Network Analysis (E-Net) (Borgatti, 2006) software was used for the analysis of social network data.

SPSS was used to analyze the self-reported demographic data to determine what study respondents met the criteria to be included in the study. Parents' education level was used to determine if participants met the criteria for being categorized as a first-generation college student. Income and household size was used to determine whether a student met the criteria for low income. Lastly, ethnicity/race information was used to determine if the participant met the category of underrepresented minority. All data were analyzed in SPSS and a new variable for underrepresented was created to determine the study population for inclusion in subsequent analysis.

E-Net (Borgatti, 2006) was used to perform several egocentric network measures. These measures included network density, effective size, and constraint. In addition, E-Net (Borgatti, 2006) was used to map the egocentric networks, of survey respondents, into sociograms[13]. For each student, a unique sociogram was created to identify social relationships the student has built to support their transition from the community college and transition to the four-year university. The sociograms were analyzed to determine if any specific patterns emerged.

[13] A sociogram is a sociometric diagram representing the pattern of relationships between individuals in a group, usually expressed in terms of which persons they prefer to associate with (Sociogram, 2013).

Chapter 4 Results

As explained in chapter one, the purpose of this study was to explore the on-campus and off-campus relationships that support underrepresented transfer students to provide empirical and theoretical insight that community college and university practitioners can utilize when establishing programs and services to support transfer students as a means to support student retention.

Previous chapters have introduced the study, highlighted the applicable literature and provided the methods for answering the core research questions.

The results of the study were analyzed using egocentric network analysis concepts, descriptive statistics, means, and frequencies. The specific research questions are:

1. What on-campus and off-campus social ties support transfer students' at the community college level and assist in the transition to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?
2. What on-campus and off-campus social ties support transfer students' adjustment from a California Community College to a California State University?
    a. Do the networks vary by specific characteristics of the students (e.g., low-income, first-generation, minority, or some combination of these characteristics?

3. What is the nature (e.g. size of the network, content of the exchanges) of social networks among underrepresented transfer students?

Instrument Overview

The researcher employed an original survey design drawing upon other published ego-network survey design. This approach provides a view of the social network as a particular set of connections from a focal point. The focal point being the ego (underrepresented transfer student). This egocentric analysis (Borgatti & Ofem, 2010) asked the participants to provide names of individuals and then provide information about the relationship such as relationship, closeness, frequency of communication and an open-ended question to provide an opportunity to share any additional information. Participants were asked to quantitatively assess their relationships on a 5-point scale for level of closeness and frequency of communication. Demographic information was also collected. The survey items and scales where developed based on the analysis of related literature on social capital and egocentric network, and social network theoretical framework. The survey included questions such as:

1. Please share the people that you turned to for assistance with information about attending community college and who you turned to for help while you were attending.
2. Please share the people that you turned to for assistance with information about attending SU and who you turned to for help while you have been attending.
3. Do you have a relationship with someone that has attended college?

4. Who has provided you the most encouragement throughout your college career?
5. Please share the people that you turn to for support and advice about personal issues.

This survey collected data from a sample of students who have successfully persisted in their college education, determined by those in good academic standing with the university.

Response Rate

The survey was sent to 2,041 California Community College transfer students who were in good academic standing with the university, transferred between Fall 2010 and Fall 2012 and were enrolled for the Fall 2013 semester. Of these, 198 (9.7%) participated in the survey. Prior to analyzing results of the survey, reported demographic data was used to determine which students fell into the underrepresented categories, the categories used were underrepresented minority, first generation college student, and low income. Once this analysis was complete this resulted in 147 students being included in the final analysis. Although, the survey results are low, the survey results are representative of the overall population of the University.

Demographics

The survey solicited a variety of demographic information from participants including gender, ethnicity, age, and major. Table 4.1 illustrates a detailed representation of the demographic frequencies and compares the study sample with the SU student population. Sixty-seven percent of the participants identified as female, reflecting the

populations of the institution as a whole (61%) (SU Institutional Planning and Analysis, 2013).

Most of the participants identified as White (49.7%) or Latino/a (31.3%). Although the number of White respondents was slightly higher then the amount expected, the survey sample approximates the overall population of the institution.

The mean participant age was 29 years with the minimum age reported at 20 and the maximum age at 62 years. The average age of SU students is 21 years. The age of the sample population tended to be older given that the targeted population was transfer students. Transfer students tend to be older due to the fact they started their education at a community college and usually attend college on a part-time basis.

Study participants held a variety of majors, however, most had majors in the College of Humanities, Arts, Behavioral and Social Sciences (48%), followed by the students with majors in the College of Education, Health and Human Services (32%), College of Business Administration (18%), and the College of Science and Mathematics (12%). As displayed in table 4.1, the participants largely mirrored the academic majors declared by the overall SU student population.

Table 4.1: Demographics of Study Sample Compared with Demographics of State University Student Population

Factor	Study Sample	SU Students
Gender		
N	147	10,610
% Female	67	61
% Male	33	39
Race		
N	147	10,560
% African American/Black	2.7	2.7
% Asian Pacific Islander	12.2	9.4
% Latino/a	31.3	31.7
% Native American	0	0
% White	49.7	39.8
% Other/Unknown	4.1	11.7
% Multiple Ethnicities	N/C	4.6
Age		
N	147	9928
% 22 or younger	15	65
% 23-25	33	19
% 26-35	36	13
% 36 or older	16	3
Majors Distributed by College		
N	147	10177
% College of Business Administration	18	19
% College of Education, Health, & Human Services	32	24
% College of Humanities, Arts, Behavioral & Social Sciences	48	42
% College of Science & Mathematics	12	15

(SU Institutional Planning and Analysis, 2013)

Underrepresented Data

The survey solicited an array of data to determine if the student was in the target population. Participants were asked for their parent's highest level of education, household size, income, and ethnicity. Based on this data, analysis in SPSS was completed to determine if the student met the criteria for the target population. Low-income status was calculated based on the Office of Postsecondary Education Federal

Trio Programs Low-Income Levels (Office of Postsecondary Education, 2013). Underrepresented minorities were determined based on a reported ethnicity of African American, Latino, or Native American. First generation college students were calculated based on neither parent completing a college degree. Table 4.2 illustrates a detailed representation of the breakdown of underrepresented student. Forty-seven percent of the participants identified as meeting multiple underrepresented categories and 53% met only one category.

Table 4.2: Underrepresented Detail Data of Participants

Factor	%	Count
Underrepresented Student Data		
N		147
% Low Income, Underrepresented Minority, and First Generation	13.6	20
% Low Income and Underrepresented Minority	4.1	6
% Low Income and First Generation	15.7	23
% Minority and First Generation	13.6	20
% Low Income	27.2	40
% First Generation	20.4	30
% Underrepresented Minority	5.4	8

Off Campus Roles

In the majority of cases, underrepresented students need to balance multiple roles besides their college education. These include working while going to school and taking care of others in their family. To gain a better understanding of these roles a few questions were asked as it pertains to other roles the participants may play in their life outside of school. Participants were asked for information about their current working status and household size. The information below provides additional detail of the data provided by participants.

Work Hours and Locations. In addition to collecting demographic data from participants, work information was also collected. The data provides additional insight into the various responsibilities that underrepresented students must juggle. Table 4.3 illustrates the details of the breakdown of work data provided by participants. Approximately 30% of participants indicated that they were not currently working on or off campus. The majority of participants indicated they were working off campus only (42.9%) and worked between 20 and 39 hours per week (32%).

Table 4.3: Work Hours and Locations of Participants

Factor	%	Count
Work Locations		
N		147
% Not Currently Working	30.6	45
% On Campus Only	4.8	7
% Off Campus Only	42.9	63
% On and Off Campus	21.8	32
Work Hours per Week		
N		147
% Zero Hours	30.6	45
% 1 – 19 Hours	10.2	15
% 20 – 39 Hours	32.0	47
% 40+	27.2	40

Household Size. Another data element collected from study participants was their household size. Table 4.4 provides a breakdown of the participants' household size. The large majority of participants have others in their household. Over sixty-eight percent of participants reported that their household size was three or more.

Table 4.4: Study Participants Household

Factor	%	Count
Household Size		
N		147
% One Person in Household	8.2	12
% Two People in Household	23.1	34
% Three People in Household	21.8	32
% Four People in Household	25.2	37
% Five or More in Household	21.8	32

Data Analysis

The researcher conducted a series of measures using E-Net software (Borgatti, 2006) to better understand the connections that transfer students have with other for information and resources. An ego's (student's) network is considered an important resource for support, information, social norms, and influence (Carolan, 2014). Given the current literature on the importance of resources, including support, information, and influence several measures were evaluated including type of relation, strength of relationship, frequency of interaction, density, and homogeneity.

Research Question #1

To gain a better understanding of who assisted participants with information on attending community college and support during attendance, specific survey questions were posed. To generate names for their responses additional items were asked about how the person assisted the participant. The items were, assist with information on attending community college, provide assistance and information with administrative difficulties, communicate with to determine what community college classes needed to

transfer, and other. Participants had the ability to add as many alters (people) as they needed.

Response data were filtered within E-Net (Borgatti, 2006) to analyze alters that assisted with community college support. Of the 742 alters reported, 192 alters assisted with support at the community college level. Table 4.5 illustrates the breakdown of the alters that assisted with community college support and table 4.6 provides a breakdown by category of study participants. Participants reported the highest individual support, at the Community college level, from Academic Counselors/Advisors (22.9%) and Mothers (15.1%). Although Academic Counselors/Advisors provided the most support, the average frequency of communication was 1.89. This frequency of communication falls between yearly (1) and every six months (2). The frequency of communication indicates that study participants are seeing or communicating, through some other means, with academic advisors/counselors less than twice per year. Indicating that study participants may not be utilizing academic staff to the fullest extant possible. Students would want to utilize academic staff to determine course sequence, discuss any academic challenges, and as a resource for other services of campuses.

Participants had a much higher frequency of communications with their Mothers (4.69) falling between weekly (4) and daily (5). Study participants are communicating with their mothers at a high rate and discussing school on a frequent basis with their mothers. This frequency of communication reinforces the assumption that off-campus network support is critical to student success. The average level of closeness for participants ranged from 2.57 to 4.94 with Academic Counselors/Advisors being the

lowest and Spouses/Significant Others being the highest. The scale for closeness was a five-point scale ranging from very distant (1) to very close (5).

Although, the overall, highest reported alters were Academic Advisors/ Counselors and Mothers this does not hold true when broken down by underrepresented student category, as shown in table 4.6. Many of the underrepresented categories had smaller numbers of participants and therefore reported smaller numbers of alters. Some of the other alters that were reported, as providing high levels of support, were professors and staff members at the community college and spouses/significant others.

Table 4.5: Community College Alters

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
N	192					
Mother	***29***	***15.1***	***4.66***	***.857***	***4.69***	***.541***
Father	9	4.7	4.44	.726	4.56	.527
Brother	1	.5	5	.000	5	.000
Sister	10	5.2	4.7	.483	4.6	.516
Other Family Member	5	2.6	4.6	.894	3.8	1.304
Spouse/Significant Other	16	8.3	4.94	.250	4.94	.250
Friend at CC	12	6.3	4	.953	3.3	1.073
Friend at SU	2	1	4	.000	4	.000
Classmate	3	1.6	2.67	.577	2.67	1.528
Friend Outside of School	16	8.3	4.5	.730	3.75	1.000
Academic Counselor/Advisor	***44***	***22.9***	***2.57***	***.925***	***1.89***	***.841***
Professor at CC	20	10.4	3.05	.887	2.4	1.392
Staff Member at CC	16	8.3	2.94	1.124	2.5	1.155
Co-worker	7	3.6	3.29	.756	3	1.265
Boss	2	1	3.5	.707	2	1.414

Table 4.6: Community College Alters Breakdown by Underrepresented Group

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Low Income, Underrepresented Minority, and First Generation						
N	29					
Mother	2	6.9	4.50	.707	4.00	.000
Other Family Member	1	3.4	5.00	.000	5.00	.000
Friend at Community College	3	10.3	5.00	.000	4.33	.577
Classmate	1	3.4	3.00	.000	1.00	.000
Friend Outside of School	2	6.9	3.50	.707	3.00	1.414
Spouse/Significant Other	3	10.3	5.00	.000	5.00	.000
Academic Counselor/Advisor	***10***	***34.5***	***2.70***	***.949***	***2.00***	***.943***
Professor at CC	***4***	***13.8***	***3.00***	***.816***	***1.75***	***.957***
Staff Member at CC	2	6.9	3.00	2.828	2.50	.707
Co-worker	1	3.4	5.00	.000	5.00	.000
Low Income & Underrepresented Minority	44	22.9	2.57	.925	1.89	.841
N	7					
Mother	***2***	***28.6***	***3.00***	***2.828***	***4.00***	***1.414***
Spouse/Significant Other	1	14.3	5.00	.000	5.00	.000
Academic Counselor/Advisor	1	14.3	3.00	.000	2.00	.000
Staff Member at CC	***2***	***28.6***	***3.50***	***.707***	***2.50***	***.707***
Boss	1	14.3	3.00	.000	1.00	.000
Low Income and First Generation						
N	29					
Mother	2	6.9	5.00	.000	4.50	.707
Sister	3	10.3	4.67	.577	4.33	.577
Friend Outside of School	3	10.3	5.00	.000	4.33	1.155
Spouse/Significant Other	2	6.9	5.00	.000	5.00	.000
Academic Counselor/Advisor	***9***	***31.0***	***2.67***	***.707***	***2.33***	***1.00***
Professor at CC	***6***	***20.7***	***3.33***	***1.211***	***2.33***	***1.506***

Table 4.6: Community College Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Staff Member at CC	4	13.8	3.25	.500	3.00	1.414
Minority and First Generation						
N	24					
Mother	***4***	***16.7***	***4.50***	***1.00***	***4.75***	***.500***
Father	2	8.3	4.50	.707	4.50	.707
Brother	1	4.2	5.00	.000	5.00	.000
Sister	3	12.5	5.00	.000	5.00	.000
Friend at CC	1	4.2	5.00	.000	3.00	.000
Friend Outside of School	3	12.5	5.00	.000	4.00	1.000
Academic Counselor/Advisor	***4***	***16.7***	***2.50***	***1.00***	***2.00***	***.816***
Professor at CC	3	12.5	2.33	.577	2.00	1.732
Staff Member at CC	3	12.5	1.67	1.155	2.00	1.732
Low Income						
N	51					
Mother	***13***	***25.5***	***4.85***	***.376***	***4.77***	***.439***
Father	4	7.8	4.50	1.00	4.50	.577
Sister	1	2.0	5.00	.000	5.00	.000
Other Family Member	1	2.0	5.00	.000	5.00	.000
Friend at CC	4	7.8	3.25	.957	3.25	.957
Friend Outside of School	3	5.9	4.33	.577	4.00	1.00
Spouse/Significant Other	4	7.8	4.75	.500	5.00	.000
Academic Counselor/Advisor	***13***	***25.5***	***2.31***	***.947***	***1.46***	***.776***
Professor at CC	4	7.8	3.00	.816	3.00	1.826
Staff Member at CC	2	3.9	3.00	.000	3.00	.000
Co-worker	1	2.0	3.00	.000	4.00	.000
Boss	1	2.0	4.00	.000	3.00	.000
First Generation						
N	45					
Mother	5	11.1	4.80	.447	5.00	.000
Father	3	6.7	4.33	.577	4.67	.577
Sister	3	6.7	4.33	.577	4.33	.577
Other Family Member	3	6.7	4.33	1.155	3.67	1.528
Friend at CC	3	6.7	3.67	.577	2.67	1.528
Friend at SU	2	4.4	4.00	.000	4.00	.000

Table 4.6: Community College Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Classmate	2	4.4	2.50	.707	3.50	.707
Friend Outside of School	3	6.7	4.33	1.155	3.33	1.155
Spouse/Significant Other	***6***	***13.3***	***5.00***	***.000***	***4.83***	***.408***
Academic Counselor/Advisor	***6***	***13.3***	***2.67***	***1.366***	***1.83***	***.408***
Professor at CC	3	6.7	3.33	.577	3.00	1.00
Staff Member at CC	1	2.2	3.00	.000	1.00	.000
Co-worker	5	11.1	3.00	.000	2.25	.500
Underrepresented Minority						
N	7					
Mother	1	14.3	5.00	.000	5.00	.000
Friend at CC	1	14.3	4.00	.000	3.00	.000
Friend Outside of School	***2***	***28.6***	***4.50***	***.707***	***3.50***	***.707***
Academic Counselor/Advisor	1	14.3	3.00	.000	2.00	.000
Staff Member at CC	***2***	***28.6***	***3.50***	***.707***	***2.50***	***.707***

Participants were asked to provide their ethnicity as well as the ethnicity of their alters. The researcher used E-Net (Borgatti, 2006) to calculate Blau's (1977) Index to compute diversity. Its computational formula is $1 - \sum \rho\kappa^2$, where p is the proportion of unit members in kth category. Values of Blau's index can range from zero to (K-1)/K. Egos whose alters are the same with regards to ethnicity, will have small heterogeneity scores, while those with diverse networks will have a score closer to 1 (Halgin & Borgatti, 2012). The mean Blau's index for alters that assisted with community college support was .066 (SD = .170).

Research Question #2

To transfer from a community college to a university requires support and information. Progressing towards graduation at the university level also takes support from others. To gain a better understanding of who supported participants through this process, they were asked for alter information on those that provided support. To assist participants, in providing alters, several assistance categories were provided on the survey such as helping to understand the process to apply to the university, administrative processes assistance and information, support on graduation requirements, and advice or information on academic issues. Of the 742 total alters 182 provided assistance and support at the university level. Table 4.7 and 4.8 illustrates the information on alters that assisted at the university level. As with the community college alters, Academic Counselors/Advisors (24.2%) provided the most information and support, but friends at the university (17.6%) were reported, at the next highest level. The average frequency of communication with Academic Counselors rose slightly to 2.00 from 1.89 with the community college alters but the level of closeness dropped slightly to 2.50 from 2.57 in the community college alter data. The frequency of communication at 2.00 indicates study participants are communicating in-person or through some other methods on average about every six months with academic advisors/counselors. Interaction with academic counselors/advisors every six months still seems to indicate a low frequency of communication. Similar to the community college alters, it would seem study participants are not working with academic counselors to thoroughly plan their course taking road map, discuss any academic issues, or learn about other campus services. It

seems study participants have found other alters that can provide them accurate information and support at the university level.

Since friends at the university were the next, highest reported overall, it would seem the relationships formed with peers are being utilized by study participants for information and support. Many of the students, study participants would meet in class could be native students. Native students, have attended the university since their freshman year and would have more information about the academic and administrative processes, at the university, that they could share with the study participants.

The breakdown of the university alter data, by underrepresented categories, shown in table 4.8, provides some interesting nuances. Although academic counselors/ advisors were highly reported in most categories, they were not always the highest. In some categories professors and staff members, at the university, were also reached out to for information and support. Professors and staff members are resources that will understand the administrative and academic processes at the university and should also be able to help study participants find other resources and information on campus. One other interesting note is that underrepresented minorities did not report any academic advisors/counselors. The number at the community college was low as well. This ego sub-group is rather small but the lack of on-campus support from staff or faculty is concerning.

Table 4.7: University Alters

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
N	182					
Mother	7	3.8	4.86	.378	5.00	.000
Father	3	1.6	4.33	1.155	5.00	.000
Brother	2	1.1	5.00	.000	5.00	.000
Sister	2	1.1	4.50	.707	4.00	.000
Other Family Member	4	2.2	3.50	1.732	3.50	1.732
Spouse/Significant Other	13	7.1	5.00	.000	4.92	.277
Friend at CC	3	1.6	3.67	1.155	3.00	1.000
Friend at SU	***32***	***17.6***	***3.84***	***.808***	***3.63***	***.833***
Classmate	3	1.6	4.33	1.155	4.33	.577
Friend Outside of School	12	6.6	4.08	.900	4.08	.669
Academic Counselor/Advisor	***44***	***24.2***	***2.50***	***.876***	***2.00***	***.807***
Professor at CC	3	1.6	2.33	1.528	2.00	1.732
Professor at SU	24	13.2	3.29	.751	2.88	.947
Staff Member at CC	3	1.6	2.67	1.528	2.33	1.155
Staff Member at SU	18	9.9	2.94	1.349	2.56	1.199
Co-worker	6	3.3	3.50	.548	3.33	.816
Boss	3	1.6	3.33	.577	4.00	1.000

Table 4.8: University Alters Breakdown by Underrepresented Group

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Low Income, Underrepresented Minority, and First Generation						
N	27					
Friend at CC	2	7.4	4.00	1.414	3.50	.707
Friend at SU	2	7.4	4.00	.000	4.00	.000
Friend Outside of School	1	3.7	3.00	.000	4.00	.000
Spouse/Significant Other	1	3.7	5.00	.000	5.00	.000

Table 4.8: University Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Academic Counselor/Advisor	***12***	***44.4***	***2.33***	***.888***	***1.83***	***.718***
Professor at CC	1	3.7	4.00	.000	4.00	.000
Professor at SU	***5***	***18.5***	***3.60***	***.548***	***2.80***	***.837***
Staff Member at CC	1	3.7	1.00	.000	1.00	.000
Staff Member at SU	2	7.4	5.00	.000	4.00	1.414
Low Income & Underrepresented Minority	44	22.9	2.57	.925	1.89	.841
N	7					
Mother	1	14.3	5.00	.000	5.00	.000
Brother	1	14.3	5.00	.000	5.00	.000
Academic Counselor/Advisor	***2***	***28.6***	***3.00***	***.000***	***2.00***	***.000***
Staff Member at SU	***2***	***28.6***	***4.50***	***.707***	***4.00***	***1.414***
Co-worker	1	14.3	4.00	.000	2.00	.000
Low Income and First Generation						
N	30					
Mother	1	3.3	5.00	.000	5.00	.000
Other Family Member	1	3.3	5.00	.000	5.00	.000
Friend at SU	***10***	***33.3***	***3.50***	***.527***	***3.50***	***.972***
Classmate	1	3.3	5.00	.000	5.00	.000
Academic Counselor/Advisor	***6***	***20.0***	***3.00***	***.632***	***2.50***	***.837***
Professor at CC	1	3.3	1.00	.000	1.00	.000
Professor at SU	4	13.3	3.00	1.414	2.75	1.258
Staff Member at CC	1	3.3	4.00	.000	3.00	.000
Staff Member at SU	3	10.0	2.00	1.000	2.00	1.00
Co-worker	1	3.3	3.00	.000	3.00	.000
Boss	1	3.3	3.00	.000	4.00	.000
Minority and First Generation						
N	23					
Father	1	4.3	5.00	.000	5.00	.000
Other Family Member	1	4.3	4.00	.000	4.00	.000
Friend at SU	2	8.7	4.00	1.414	4.00	.000
Friend Outside of School	2	8.7	4.00	.000	3.500	.707
Spouse/Significant Other	2	8.7	5.00	.000	5.00	.000

Table 4.8: University Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Academic Counselor/Advisor	***8***	***34.8***	***2.25***	***.886***	***2.00***	***.535***
Professor at SU	***4***	***17.4***	***3.50***	***.577***	***3.25***	***.957***
Staff Member at SU	2	8.7	3.00	.000	2.00	.000
Co-worker	1	4.3	3.00	.000	4.00	.000
Low Income						
N	52					
Mother	2	3.8	5.00	.000	5.00	.000
Father	1	1.9	3.00	.000	5.00	.000
Sister	1	1.9	5.00	.000	4.00	.000
Other Family Member	1	1.9	4.00	.000	4.00	.000
Friend at CC	1	1.9	3.00	.000	2.00	.000
Friend at SU	***11***	***21.2***	***3.73***	***1.009***	***3.45***	***1.036***
Classmate	1	1.9	5.00	.000	4.00	.000
Friend Outside of School	3	5.8	4.67	.577	4.00	.000
Spouse/Significant Other	3	5.8	5.00	.000	5.00	.000
Academic Counselor/Advisor	***10***	***19.2***	***2.60***	***.843***	***1.80***	***.919***
Professor at CC	1	1.9	2.00	.000	1.00	.000
Professor at SU	8	15.4	3.25	.707	2.88	.991
Staff Member at CC	1	1.9	3.00	.000	3.00	.000
Staff Member at SU	6	11.5	2.00	1.095	2.00	1.095
Co-worker	1	1.9	4.00	.000	4.00	.000
Boss	1	1.9	3.00	.000	5.00	.000
First Generation						
N	35					
Mother	3	8.6	4.67	.577	5.00	.000
Father	1	2.9	5.00	.000	5.00	.000
Sister	1	2.9	4.00	.000	4.00	.000
Other Family Member	1	2.9	1.00	.000	1.00	.000
Friend at SU	3	8.6	4.00	.000	3.67	.577
Classmate	1	2.9	3.00	.000	4.00	.000
Friend Outside of School	5	14.3	4.20	1.095	4.40	.894
Spouse/Significant Other	***6***	***17.1***	***5.00***	***.000***	***4.83***	***.408***
Academic Counselor/Advisor	***6***	***17.1***	***2.33***	***1.211***	***2.17***	***1.169***

Table 4.8: University Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Professor at SU	3	8.6	3.33	.577	2.67	.577
Staff Member at SU	3	8.6	3.00	.000	2.67	1.155
Co-worker	1	2.9	4.00	.000	4.00	.000
Boss	1	2.9	4.00	.000	4.00	.000
Underrepresented Minority						
N	8					
Brother	1	12.5	5.00	.000	5.00	.000
Friend at SU	***4***	***50.0***	***4.75***	***.500***	***4.00***	***.000***
Friend Outside of School	1	12.5	3.00	.000	4.00	.000
Spouse/Significant Other	1	12.5	5.00	.000	5.00	.000
Co-worker	1	12.5	3.00	.000	3.00	.000

In addition, to relationship information about university alters participants were also asked to provide the ethnicity of the alters. Blau's (1977) index was also calculated on the university altars. The average Blau's index for this group of alters was .069 (*SD* = .175).

Research Question #3

To acquire an improved understanding of the participants' complete networks and their support systems, in regards to attending and persisting in their college careers, additional information was solicited from the participants. This information included whom they turned to for personal issues, whom they know that has attended college, and who has provided them with the most encouragement throughout their college career. In addition, analysis was performed on the participants' entire networks.

Personal Support Network. Relationships outside of the academic environment can be key to student persistence. These relationships provide the off–campus support network that students lean on for emotional support and encouragement. Participants were asked to provide alter data on whom they turn to about personal issues and advice. Of the 742 total alters 214 provided support and advice on personal issues. Tables 4.9 and 4.10 illustrates the alter data provided by study participants. Participants reported that they turned to their spouse/significant other (24.8%), mothers (18.2%), and friends outside of schools (14.5%) for support and advice on personal issues. As would be expected with personal relationships, the average level or closeness fell between close (4) and very close (5). Frequency of communication was also on the high side of the 5-point scale falling between weekly (4) and daily (5).

The personal relationship data broken down by sub-group are fairly consistent with the overall alter data reported. The support of mothers, spouses, and friends outside of school were all highly reported by study participants regardless of their underrepresented category. These personal relationships are critical irrespective of a student's status with a college or university.

Although, these alters may not provide specific information on academic and administrative issues and processes, that may present challenges, to the study participants they do provide a sounding board and support through the process. Off-campus supportive relationships are critical to student success.

Table 4.9: Personal Alters

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
N	214					
Mother	***39***	***18.2***	***4.92***	***.270***	***4.76***	***.490***
Father	14	6.5	4.79	.579	4.38	.650
Brother	8	3.7	4.88	.354	4.38	.518
Sister	11	5.1	4.91	.302	4.45	.688
Other Family Member	13	6.1	4.85	.376	4.33	.877
Spouse/Significant Other	***53***	***24.8***	***5.00***	***.000***	***5.00***	***.000***
Friend at Community College	9	4.2	4.25	1.165	4.33	.707
Friend at University	14	6.5	4.36	1.165	4.33	.663
Classmate	4	1.9	4.25	.500	4.50	.577
Friend Outside of School	***31***	***14.5***	***4.63***	***.556***	***4.00***	***.802***
Academic Counselor/Advisor	1	.5	3.00	.000	5.00	.000
Professor at CC	4	1.9	3.75	.957	2.50	1.291
Professor at University	1	.5	4.00	.000	3.00	.000
Staff Member at CC	1	.5	3.00	.000	2.00	.000
Staff Member at University	1	.5	3.00	.000	4.00	.000
Co-worker	3	1.4	3.00	.000	3.00	1.000
Boss	4	1.9	4.50	.577	4.75	.500

Table 4.10: Personal Alters Breakdown by Underrepresented Group

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Low Income, Underrepresented Minority & First Generation						
N	23					
Mother	***6***	***26.1***	***4.67***	***.516***	***4.50***	***.837***
Father	2	8.7	5.00	.000	4.50	.707
Sister	2	8.7	5.00	.000	4.5	.707
Friend at CC	2	8.7	5.00	.000	4.50	.707
Friend Outside of School	2	8.7	4.50	.707	3.00	1.414

Table 4.10: Personal Alters Breakdown by Underrepresented Group, Cont

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Spouse/Significant Other	***7***	***30.4***	***5.00***	***.000***	***5.00***	***.000***
Mental Health Professional	1	4.3	1.00	.000	4.00	.000
Low Income and Underrepresented Minority	1	4.3	5.00	.000	3.00	.000
N	7					
Mother	1	14.3	5.00	.000	5.00	.000
Brother	1	14.3	5.00	.000	5.00	.000
Sister	1	14.3	5.00	.000	5.00	.000
Classmate	1	14.3	4.00	.000	5.00	.000
Friend Outside of School	1	14.3	5.00	.000	5.00	.000
Spouse/Significant Other	***2***	***28.6***	***5.00***	***.000***	***5.00***	***.000***
Low Income and First Generation						
N	32					
Mother	7	21.9	4.86	.378	4.71	.488
Sister	1	3.1	5.00	.000	5.00	.000
Other Family Member	3	9.4	5.00	.000	4.75	.500
Friend at CC	2	6.3	4.50	.707	4.00	.000
Classmate	1	3.1	5.00	.000	5.00	.000
Friend Outside of School	***5***	***15.6***	***4.60***	***.548***	***3.80***	***.837***
Spouse/Significant Other	***9***	***28.1***	***5.00***	***.000***	***5.00***	***.000***
Professor at CC	1	3.1	4.00	.000	4.00	.000
Co-worker	1	3.1	3.00	.000	3.00	.000
Boss	2	6.3	4.50	.707	4.50	.707
Minority and First Generation						
N	29					
Mother	***5***	***17.2***	***5.00***	***.000***	***4.80***	***.447***
Father	2	6.9	5.00	.000	4.00	.000
Brother	1	3.4	5.00	.000	5.00	.000
Sister	1	3.4	5.00	.000	5.00	.000
Other Family Member	2	6.9	4.50	.707	4.50	.707
Friend at CC	2	6.9	4.50	.707	5.00	.000
Friend at SU	***4***	***13.8***	***4.50***	***.577***	***4.50***	***.577***
Classmate	2	6.9	4.00	.000	4.00	.000

Table 4.10: Personal Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Friend Outside of School	***4***	***13.8***	***5.00***	***.000***	***4.50***	***.577***
Spouse/Significant Other	3	10.3	5.00	.000	5.00	.000
Mental Health Professional	2	6.9	3.50	.707	4.00	.000
Co-worker	1	3.4	3.00	.000	2.00	.000
Low Income						
N	65					
Mother	***12***	***18.5***	***5.00***	***.000***	***4.82***	***.405***
Father	8	12.3	4.75	.707	4.25	.707
Brother	4	6.2	4.75	.500	4.50	.577
Sister	2	3.1	4.50	.707	4.00	1.414
Other Family Member	2	3.1	4.50	.707	4.00	1.414
Friend at CC	2	3.1	2.50	.707	3.50	.707
Friend at SU	4	6.2	4.25	.957	3.75	.500
Friend Outside of School	***12***	***18.5***	***4.42***	***.669***	***3.91***	***.701***
Spouse/Significant Other	***16***	***24.6***	***5.00***	***.000***	***5.00***	***.000***
Staff Member at CC	1	1.5	3.00	.000	2.00	.000
Staff Member at SU	1	1.5	3.00	.000	4.00	.000
Boss	1	1.5	5.00	.000	5.00	.000
First Generation						
N	40					
Mother	***5***	***12.5***	***5.00***	***.000***	***4.80***	***.447***
Father	1	2.5	4.00	.000	5.00	.000
Brother	2	5.0	5.00	.000	4.00	.000
Sister	1	2.5	5.00	.000	4.00	.000
Other Family Member	3	7.5	5.00	.000	5.00	.000
Friend at SU	4	10.0	4.25	.957	4.25	.957
Friend Outside of School	***5***	***12.5***	***4.75***	***.500***	***4.25***	***.957***
Spouse/Significant Other	***13***	***32.5***	***5.00***	***.000***	***5.00***	***.000***
Academic Advisor/Counselor	1	2.5	3.00	.000	3.00	.000
Professor at CC	2	5.0	3.00	.000	1.50	.707
Professor at SU	1	2.5	4.00	.000	3.00	.000
Co-worker	1	2.5	3.00	.000	4.00	.000

Table 4.10: Personal Alters Breakdown by Underrepresented Group, Cont.

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
Boss	1	2.5	4.00	.000	5.00	.000
Underrepresented Minority						
N	18					
Mother	***3***	***16.7***	***5.00***	***.000***	***5.00***	***.000***
Father	1	5.6	5.00	.000	5.00	.000
Sister	***3***	***16.7***	***5.00***	***.000***	***4.67***	***.577***
Other Family Member	***3***	***16.7***	***5.00***	***.000***	***3.67***	***1.155***
Friend at CC	1	5.6	5.00	.000	5.00	.000
Friend at SU	2	11.1	4.50	.707	4.00	.000
Friend Outside of School	2	11.1	5.00	.000	4.00	.000
Spouse/Significant Other	***3***	***16.7***	***5.00***	***.000***	***5.00***	***.000***

Relationships with Alters that have Attended College. To glean a better understanding of where participants may gain information about college experiences they were asked with whom they have relationships with people who have attended college. They were also asked for their relationship, level of closeness, and frequency of communication. Table 4.11 illustrates the alter data provided by study participants. Of the 742 total alters, 225 were reported to have attended college. Participants reported that the people that they had ties to that had attended college were friends outside of school (14.7%), other family members (13.8%) and Spouse/Significant Others (12.5%).

These alters provide critical information about college processes and experiences. In many cases students will attend a community college or university because they know someone that has already attended, is attending, or will attend with them. Some researchers have termed this chain enrollment (Person & Rosenbaum, 2006). This is especially the case with Latino/a students. These alters can provide information about the

programs and services provided, the admissions and enrollment processes, and support them at they come to college. The challenge with these relationships is that they may limit the students social contact with others, and limit their knowledge of other degrees and services offered by the school.

In the case of study participants, they have all made it through the community college processes, successfully transferred to a four-year university, have persisted in school, and are close to graduation. Based on this it could be surmised that these alters have provided accurate and informed information to the study participants and aided in their educational journey.

Table 4.11: Alters Who Attended College

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
N	225					
Mother	14	6.2	4.86	.363	4.92	.277
Father	11	4.9	4.64	.674	4.50	.707
Brother	6	2.7	4.67	.516	4.17	.753
Sister	24	10.7	4.46	.932	4.04	.955
Other Family Member	31	13.8	4.00	1.155	3.27	1.23
Spouse/Significant Other	***28***	***12.4***	***4.93***	***.262***	***4.96***	***.189***
Friend at CC	11	4.9	4.20	.919	3.73	.647
Friend at SU	25	11.1	3.92	.640	.392	.812
Classmate	11	4.9	3.91	.944	3.64	.924
Friend Outside of School	***34***	***15.1***	***4.26***	***.931***	***3.50***	***1.135***
Professor at CC	1	.4	5.00	.000	3.00	.000
Professor at SU	6	2.7	3.5	.548	3.5	.548
Staff Member at CC	1	.4	5.00	.000	3.00	.000
Staff Member at SU	1	.4	5.00	.000	5.00	.000
Co-worker	18	8.0	3.67	.767	3.78	.647
Boss	3	1.3	4.67	.577	4.67	.577

Most Encouragement Throughout College Career. Participants were asked on the survey to share who has provided the most encouragement throughout their college career and their relationship to the participant. Of the 742 total alters reported, 183 provided encouragement. Participants could add more than one alter if they wished. Table 4.12 illustrates the count and percentage of alters reported by participants. Mothers (29%), spouse/significant others (20.8%) and fathers (15.3%) provided the most encouragements to participants throughout their college career.

The alters that provide encouragement to study participants are a vital part of the off-campus, or in some cases, on-campus network. These alters are most important when

students become discouraged, have challenges at school, or when students are having troubles balancing their school and other responsibilities. The alters reported are close to the study participants and can be considered trusted advisors. The close relationship provides a level of trust when encouragement and advice are provided to study participants that they can get through the challenge and move forward in school.

Table 4.12: Alters that Provided Most Encouragement

Relation	Count	%
N	188	
Mother	***55***	***29.3***
Father	29	15.4
Brother	1	.5
Sister	13	6.9
Other Family Member	13	6.9
Spouse/Significant Other	***38***	***20.2***
Friend at Community College	4	2.1
Friend at University	4	2.1
Classmate	3	1.6
Friend Outside of School	11	5.9
Academic Counselor/Advisor	4	2.1
Professor at CC	4	2.1
Professor at University	1	.5
Staff Member at CC	3	1.3
Staff Member at University	1	.5
Co-worker	2	1.1
Boss	2	1.1

Entire Network/Alters. Egocentric network analysis is primarily focused on an individual actor (ego) and with his or her connections with others (alters) (Carolan, 2014). To acquire more information about the participants' total networks several

analyses were completed on the data. This included relation, level of closeness, frequency of communication, Blau's (1977) index of heterogeneity, and density.

The data presented, so far, are analyses of specific portions of the participants' networks. Table 4.13 illustrates data for the study participants' entire networks. The alters that were most prevalent were academic counselors/advisors (11.9%), mothers (11.5%), and spouse/significant others (10.4%). The average level of closeness and frequency of communication for these alters varied widely.

Table 4.13: Total Network Alter Data

			Level of Closeness		Frequency of Communication	
Relation	Count	%	Mean	SD	Mean	SD
N	742					
Mother	***85***	***11.5***	***4.75***	***.654***	***4.73***	***.520***
Father	41	5.5	4.65	.629	4.52	.586
Brother	15	2.0	4.79	.426	4.36	.633
Sister	46	6.2	4.59	.785	4.23	.872
Other Family Member	56	7.5	4.18	1.119	3.55	1.259
Spouse/Significant Other	***77***	***10.4***	***4.96***	***.203***	***4.97***	***.167***
Friend at Community College	33	4.4	3.97	.981	3.63	.999
Friend at University	55	7.4	3.87	.771	3.76	.860
Classmate	20	2.7	3.79	.976	3.63	1.012
Friend Outside of School	***85***	***11.5***	***4.33***	***.822***	***3.69***	***.988***
Academic Counselor/Advisor	***88***	***11.9***	***2.52***	***.908***	***1.96***	***.837***
Professor at CC	27	3.6	3.2	.913	2.48	1.358
Professor at University	30	4.0	3.33	.711	2.97	.890
Staff Member at CC	21	2.8	2.90	1.119	2.45	1.099
Staff Member at University	18	2.4	2.94	1.349	2.56	1.199
Mental Health Professional	3	.4	2.67	1.528	4.00	.000
Co-worker	32	4.3	3.55	.723	3.50	.900
Boss	10	1.3	3.89	.782	3.89	1.364

Participants were asked to provide their ethnicity as well as the ethnicity of their alters. The researcher used E-Net (Borgatti, 2006) to calculate Blau's (1977) Index to compute diversity. Egos whose alters are the same with regards to ethnicity, will have small heterogeneity scores, while those with diverse networks will have a score closer to 1 (Halgin & Borgatti, 2012). The mean of Blau's index for all alters was .395 (*SD* = .219). The overall network mean (.395) was much higher than the mean for the community college (.066) or the university alters (.069). In addition, to Blau's Index other measures were completed on the entire network.

Network closure is an analysis of how many connections alters have between them. Table 4.14 is a breakdown of the number of alter ties for study participants. For example, if a participant names 8 alters and only 3 alters have ties to each other this would result in a low amount of closure but a higher value in the calculation. The equation is number of alters/number of alter ties = *n.* In the example above, 8/3 = 2.67. A value of one would mean complete network closure. Only one study participant had a closure value of one. If a network has no closure where no alters have any ties the value would be zero. Networks where no alters have ties to each other are also referred to as star networks as shown in figure 4.1. The mean value of closure in the participant networks was 2.24 (*SD* = 2.066). Table 4.15 shows a breakdown of the network closure calculation for study participants. A large percentage of study participants (36.1%) reported no closure within their network. Figures 4.1, 4.2, and 4.3 provide visualization examples of a few study participants' network output from E-Net (Borgatti, 2009) also referred to as sociograms.

Table 4.14: Alter Ties Breakdown

Alter Ties Breakdown	Count	%
N	147	
0	53	36.1
1	52	35.4
2	20	13.6
3	10	6.8
4	2	1.4
5	9	6.1
6	1	0.7

Table 4.15: Network Closure Data

Network Closure Range Data	Count	%
N	147	
0.00	53	36.1
1.00 – 1.99	12	8.2
2.00 – 2.99	22	15.0
3.00 – 3.99	15	10.2
4.00 – 4.99	21	14.3
5.00 – 5.99	15	10.2
6.00 – 6.99	6	4.1
7.00 – 7.99	3	2.0

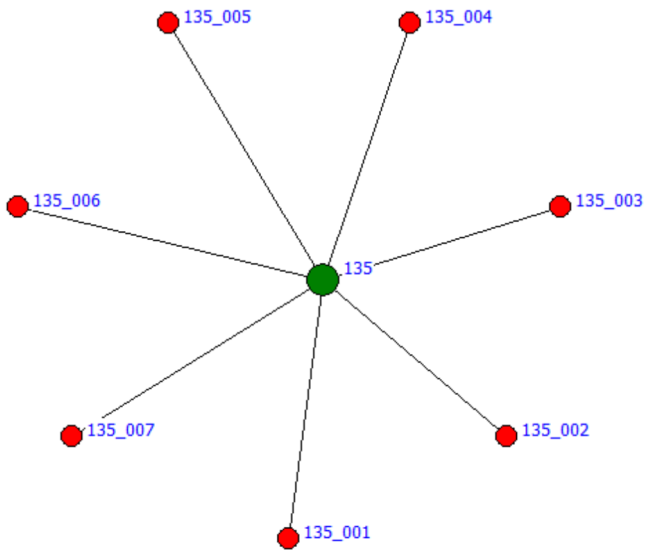

Figure 4.1: Example of a Star Network

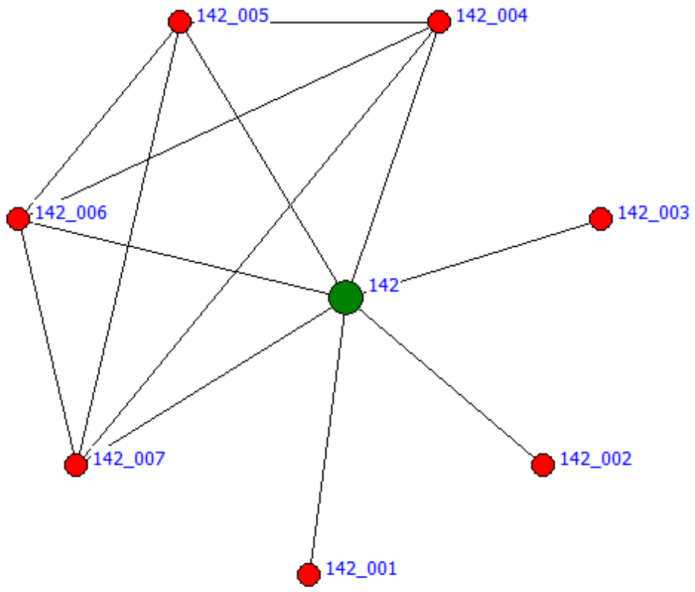

Figure 4.2: Example of a Partially Closed

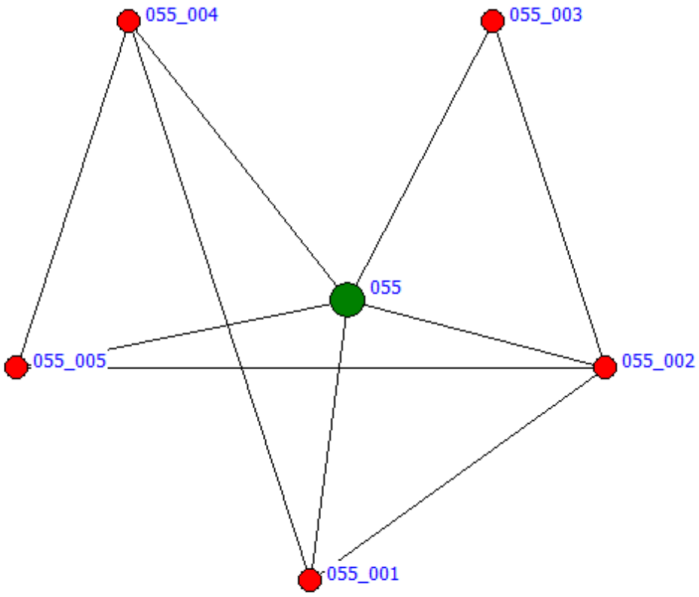

Figure 4.3: Example of a Completely Closed Network

In addition, to network closure a structural holes (Burt, 1992) analysis was completed in E-Net (Borgatti, 2006). Structural holes refers to measures that provide additional information on the patterns of ties among an ego's alters (Carolan, 2014).

These values were calculated for each study participant and then copied to SPSS to calculate the mean and standard deviation. Structural holes analyze the effective size, density, and constraint of an ego's network.

Effective size of an egocentric network is defined as ego's degree minus the average degree of one's alters within the ego network. This is considered to be a measure of redundancy. Effective size equals the number of an ego's alters minus the average degree of ego's alters. For example if an ego has six alters (degrees) and the average degree of ego's alters is 1.33 then the effective size of the network would be 4.67. If none of the alters had ties with each other the effective size would be six and if all alters had ties with each other the effective size would be one (Borgatti, Everett, & Johnson, 2013). The mean effective size of the study participants' networks was 4.43 (*SD* = 2.001).

Density is considered one of the important measures of an egocentric network The density of a network is the number of connections between alters divided by the number of total possible ties. This can be thought of on how tight knit a network is (Daly & Finnigan, 2009). The mathematical equation is $D = \frac{L}{C_N^2}$. Density is a ratio of the number of reported ties (L) among alters divided by the maximum possible number of ties (Knoke & Yang, 2008). The mean density for study participants was .070 (*SD* = .090). The closer the value is to 1.0 the denser an ego's network (Carolan, 2014). Density is usually considered an indicator of constraint on ego's behavior. The more dense a network the less a person (ego) can present different images of one (Borgatti et al., 2013).

Constraint extends the measurements of density to include additional information on the structural pattern of the relationship among an ego's alters. "Constraint can be considered the degree to which an ego's alters are connected to each other" (Carolan, 2014, p.163). The equation to calculate contraint is $C_{i=}(p_{ij} + \sum_{q} p_{iq}p_{qi})^2 , q \neq i,j$. The calculation adds the degree to which each of the alters is connected to others in the ego's network. The difference between this calculation and denisity is that the constraint calculation uses more information from the network data. The mean constraint score for study participants was .31 (*SD* = .119). Low constraint scores are closer to zero and this is interpreted to mean that the ego occupies a position where they can access different parts of their network more effectively. Low constraint is considered to be favorable for the ego, including high social capital and the ability to bridge network alters if needed (Borgatti et al., 2013; Carolan, 2014).

The measurements of effective size, density, and constraint for the study participants were all on the lower end of the spectrum. This information leads the researcher to believe that the majority of study participants have more open networks. Those where their alters do not have high ties. It seems more important that the study participants have a robust network, rather than having a network with high numbers of connections between their alters. Having open networks allows the egos to call upon resources when needed, have high social capital, and bridge between the alters if needed.

Discussion

Not many studies have focused on underrepresented transfer students, let alone taking a deeper look at their egocentric networks that they draw upon for support. Many studies have indicated that on-campus and off-campus relationships are important to

student success. This study goes beyond to find out whom exactly, underrepresented transfer students, are turning to for support and information. The study results provide a greater understanding of who the participants are, whom they turn to for information on the community college and transfer process, whom they gathered information from once they were able to transfer to a university, and who in their personal life provides them support and encouragement along the way.

As much of the literature suggests underrepresented students don't usually fall into just one category. Forty-seven percent of the responding participants met more than one underrepresented category of low-income, first generation, or underrepresented minority. Meeting multiple underrepresented categories can lead to the need for additional support from their community college and transfer institution on multiple levels (Engle & Tinto, 2008). Students may need additional assistance with transferring, financial aid, or other college resources. One study participant wrote, "For the most part, I felt like I was the one who had to find out on my own the steps that I needed to take to transfer.... I am an only child and the first in my family to go to college, so there was no one that knew the process." As this participant suggests many students feel that they have to figure things out for themselves due to a lack of college experience in their network. In addition, to overcoming a lack of knowledge of the higher education process, many have other roles that take a higher priority than college.

Transfer students are often older and have to balance many, outside college, obligations (Engle & Tinto, 2008, Taylor Smith et al., 2009). The case with study participants was no different. Many of them were older than the average student at SU. In addition, the majority of them had a household size larger than two and almost 60

percent of respondents worked at least 20 hours per week. One respondent shared, "I rely heavily on the support of my family. My husband and I have two children, so this does not leave much time for making a lot of friends at community college and [SU]. Friends that I do rely on are those that I have met previously." As this participant points out, some students have to focus more on providing for their immediate family. The focus on providing support for a family can take away time and energy from the student role (Fairchild, 2003). Along with some of the challenges of balancing multiple roles, they also have to overcome the barriers of successfully navigating coursework and the transfer pathway.

As discussed, the transfer process, especially in California, can be challenging and confusing. Some participants shared their experiences and perceptions of the transfer process. This participant points out who provided support and how many options students have to transfer, "I received most of the support I got from the counselors at [Community] College. My friends either didn't attend college, or they were accepted right into a four year. No one else in my family had attended college. There are countless times where I was lost, or I looked back and didn't know so many opportunities were available. There's a hundred different ways to go about the transfer process, and it's just by talking to people you piece together one single segment at a time. It's tough, no doubt." Another points out how they received support from their on campus network on the transfer process, "I never received any assistance when enrolling at the community college I attended. Once I was there I did receive plenty of help on transferring, mainly from counselors and other classmates." Similarly, a participant commented on their support and transfer process, "Although most of my support came from my family and friends, I

received most of my information for transferring through the counselors at both schools." On the other hand, a participant pointed out the challenges of being an older student, "Transferring was difficult for someone who is a non-traditional student. Hard to find support or connections to people in mid to late 20's." Other participants pointed out how important it was to have ties with people who have gone through the transfer process or someone that is going through at the same time.

Having peers to turn to for advice and support can make a major difference in accessing information and understanding the transfer process. The community college alters reported by study participants were friends at community college (6.3%), friends at SU (1%) and classmates (1.6%). These numbers increased dramatically at the university level, participants reported friends at community college (1.6%), friends at university (17.6%) and classmates (1.6%). One participant notes, "Transferring with my best friend helped me because we were experiencing the same things at the same time. My counselor at [Community College] made the process easy and stress free." Another participant adds, "Knowing someone at [SU] made the transferring process much easier." Peers that are going through the same experiences can provide support at a level others cannot. Another group that participants turned to in a significant are academic counselors and advisors.

Study participants turned to academic counselors and advisors for information and support with community college and state university processes and graduation requirements. Academic counselors/advisors were the highest reported values for both community college (22.9%) and university (24.2%) support. Although these were the highest reported, study participants shared vastly different experiences in their

experiences with counselors and advisors. Some reported positive experiences while others negative experiences. On the positive side a study participant explained, "My counselor at [Community College] made the process easy and stress free." Another shared, "The transfer center at [community] college was amazing in helping the whole way through. I [sic] can still go there and they welcome me every time. they are all great there." Others had experiences that were not supportive in nature. One participant remarked, "I wish it would have been made clear that we have to take mandatory UDGE. I might have taken different classes at my community college had I know that."

Another participant shared, "Most of the people I looked for help appeared irrated [sic]. Partly because I was very lost and did not know what questions to ask. Including the counselor for my major here at [SU], the counselor seems to be happy to cut the conversation and say good bye. I have to read flyers and emails to find out what is going on around campus and with my major." Moreover this participant felt the school she attended could not provide information, "…I was the main source of all help to transfer. My former school had incompetent counselors and administrative staff, thus every process involved with transferring I had to figure out myself." As these study participants' responses point out the interaction with academic counselors and advisors can be critical to students' success.

Furthermore, some study participants shared how their special program advisors had supported them and provided information when needed. Academic advisors and counselors that work with special populations, can be critical to students knowing where to turn for assistance at both the community college and university level. A couple of

participants shared how their Extended Opportunity Programs and Services[14] (EOPS) (CCCCO, 2014). One study participant wrote, "EOP was incredibly supportive when transitioning and [I] didn't know what to do next." Another commented, "My EOP&S counselor at my community college was very helpful and encouraging. She helped me make choices, helped me with difficulties, she showed interest in me as a person and guided me. She made transferring a smooth step-by-step experience." Further, another participant commented on how Veterans' services has assisted him, "When I was in the Marine Corps, the Education Center on Camp Pendleton offered me tremendous help. .... Now that I am a student at [SU], I have had no problems with the veterans' center. They have been very helpful."

In addition, study participants also turned to faculty for encouragement and support at both the community college (10.4%) and university (13.2%) levels. Faculty connections can impact underrepresented student retention due to the classroom being where students spend the majority of their time on-campus. With transfer students spending most of their on-campus time in class, the number of faculty alters seemed lower than expected. Based on study respondents comments, it seems the faculty that were reported had established a relationship with the student or went out of their way to provide information and support. Faculty at the community college level can provide the encouragement for a student to continue their education. One study participant shared, "Wouldn't have made it if a certain community college teacher hadn't have given me a

[14] EOPS is a program in California. The primary goal of the program is to encourage the enrollment, retention, and transfer of students that have language, social, economic, or educational disadvantages and support the successful completion of student's goals and objectives in college.

kick in the ass at the right time." Another student shared how her community college professors impacted her. "I have had excellent professors at [Community] College that have actually talked to me and encouraged me to keep going as far as I can. Because of these teachers I am planning on attending graduate school."

Faculty at the university level can also help students feel they are entering a positive environment. One participant shared, "So far i've [sic] loved learning from all of my professors at [SU]. They all seem dedicated, very knowledgeable, and caring of students. I am very happy with my decision to transfer there. Another student summed up her experiences with faculty by sharing, "Overall, I've had great experiences with attending community college and university. For the most part, the faculty at both have been quite helpful."

Interactions with institutional agents are critical for students to navigate the college process. Although this is the case, the researcher is very interested in one trend in the data reported by respondents. The majority of counselors and advisors have graduated from college and were reported as the number one resource for community college and university information but they were not reported in the alters of ego's as having attended college. In fact, professors and staff members were also low in the reported alters as well. It seems there is some type of failure to connect to study participants, in a manner that makes them see that academic advisors, professors, and staff have been through the college process. One might speculate that study participants do not see these alters in a personal context when reporting relationships with those that have attended college. The alters that seem to provide the most support on personal

issues and encouragement throughout the participants' college career are family members.

Study participants reported that their mothers and spouses provided the most support with personal issues and the most encouragement throughout their college career. The breakdowns was personal alters, spouses (24.8%) and mothers (18.2%) and most encouragement alters was mothers (29.3%) and spouses (20.2%). Although, family and spouses may not have gone through the college or transfer experience these ties are critical in providing support and encouragement to transfer students through the process. One study participant explained, "My husband has been the backbone of my college education. He has supported me financially and with our kids." Others shared how their personal networks have supported them. One participant remarked, "Mostly my family and my girlfriend were my biggest supporters and I try to do my best to make them proud and to do well for me." Another shared, "All of them are very supportive and encouraging (family, friend, co worker, bosses, mentors)." Participants also shared how their mothers have provided support. One wrote, "My mother has always been the most supportive in my college education and career goals. She believes that I should be a strong INDEPENDENT woman because she raised me and my siblings by herself. She has always instilled in me that I can not [sic] rely on anybody but myself and that is why I think she has been so supportive." Another participant commented, "My mother has always been my number one support system, she is the reason why I have taken my education seriously and as far as it has come." As these few comments indicate, study participants have personal networks that support them in their pursuit of their education.

The data provided by study participants just scratches the surface of what can be learned about successful transfer students. These data provided greater insight into whom participants turned to for support and advice with their college education and who in their network supports them on a personal level. Although, the participants' networks are not particularly large or close knit, they provide the right balance of advice and support for the participants to successfully navigate community college enrollment and attendance, go through the transfer process, and successfully adjust to the university environment.

Chapter 5 Discussion

As Tinto (1993) points out, the retention of students is shaped by social forces both on and off-campus. The purpose of this study was to explore how on-campus and off-campus networks support underrepresented transfer students at the community college, through the transfer process, and at university level. While much research has discussed the need for on-campus and off-campus support systems, this study goes a step further to find out who is supporting students both on and off campus. To better understand the students' perceptions of their networks, an egocentric network research design was used. This allowed study participants to provide information about the ties in their life and what type of support they provided. The findings of this study were presented relative to the research questions. The researcher focused on underrepresented transfer students due to the challenges that many of the students encounter throughout their college career. These students can face challenges at every level, enrolling in community college, balancing college attendance with other roles, getting through the transfer process and ultimately graduating with a bachelor's degree. Students, who overcome these challenges and succeed in their education, are an inspiration and led the researcher to want to gain a deeper understanding of their support systems and networks.

This chapter outlines the summary of findings, provides some additional discussion, and examines implications for leadership practice. Finally, the chapter concludes with limitations of the study and suggestions for future research.

Summary of Findings

Tinto's Student Integration Model (1975) recognizes the important of relationships and the impact they have on a student's decision to persist to graduation.

Social integration is a core component of the Tinto model and the results of this study support the need for on-campus and off-campus relationships and social integration. On-campus and off-campus networks are imperative to the success of underrepresented transfer students. Transfer students face a number of personal and process related barriers when they enroll at a community college, transfer, and adjust and attend a four-year university. Many underrepresented students lack information on the transfer process, have financial concerns, and do not possess the social relationships or social capital to overcome these barriers. The study participants show that these barriers are not insurmountable and provided insight into who supported them during their enrollment at the community college, during the transfer process, and adjusting to the four-year university. In all, the 147 study participants shared information about 742 ties that supported them through the process and provided support and encouragement along the way.

This study focused on underrepresented transfer students. The categories that were included were first-generation college students, low-income, and underrepresented minorities. Many of the participants (47%) met more than one underrepresented category. Meeting multiple categories can cause additional barriers when trying to attend college. For, example being a first-generation and low-income student could mean that you have few relationships or family members who have information about college and the costs of college may seem overwhelming. Although many of the study participants were in multiple categories they were still able to over come these challenges.

Transferring from a community college to a four-year university usually takes longer than going directly to a four-year university. In addition, many transfer students

go to school part-time to balance other demands such as work and family. The study participants were no different. The average age of study respondents was 29 years old. This is older than the average age of undergraduate students at SU. Their average undergraduate student age is 21 years old. Many study respondents balanced family and work as well as attending school. Study respondents indicated that they worked (69%) with 59.2 percent working 20 hours or more per week. In addition, to working the majority of participants also had families to focus. Over 68 percent of student had household sizes of three or more. Balancing multiple roles makes a student's network even more critical to their success at the community college and university levels.

At the community college and university level, study participants turned to institutional agents for information and support. The most reported agents were academic advisors and counselors. Although they were the most reported, many participants shared negative experiences about their encounters with advisors. As Gard et al., found in their 2012 study, the participants in this study were critical of the advising they received as well. Some students commented about how advisors did not provide clear information on the transfer process or just made them feel not welcome. Advisors are key to making underrepresented transfer students successful. They need advisors at the community college level to assist them in the selection of transferable coursework, avoiding taking extraneous classes, and navigating the transfer process. At the university level, advisors need to support students in the transition and helping students understand the coursework needed for graduation. At the university level students must adjust and re-learn all of the administrative and academic processes, from enrollment to financial aid, to paying their bill, to turning in assignments. Underrepresented students need

institutional agents to connect them to social capital, in the form of information and support and to facilitate their introduction to the wider college support system. These advisors are even more important to students whose families lack experience or knowledge of college processes. In addition to institutional agents, family and friends were also a source of support and information.

As some researchers have suggested relatives and family members were influences on the study participants at the community college level. Of the alters reported, at the community college level, over 36 percent of them were family or spouses. Family members prior success at a specific college can influence college choice. In addition, siblings and other close relatives can be used for information on the college process. Gaining knowledge of college processes, from family members, can sometimes be challenging due to the accuracy of information that they hold. This may point to the decrease in information from family members at the university level.

Study participants relied less on family members and spouse alters for information on university processes. The university level alters drop to 17 percent combined for family and spouse alters but friends at the university increases tremendously to 17.6 percent of those reported. Creating a network of peers provides students with access to support, information, and encouragement (Palmer & Gasman, 2008). The increase of friends at the university level reported, seems to indicate a shift in who the study participants turned to for information from the community college to university level. It may also suggest that the family members are not able to provide as much assistance or information at the university level due to a lack of experience with

university processes. Although family members may not have a lot of experience with college their support and encouragement are key to student success.

Many researchers have linked student aspirations and educational attainment for underrepresented students to parent and sibling support. Parental involvement and reinforcement can be critical to students staying in school. This seems to be the case with the study participants, mothers (29.3%) and fathers (15.4%) were reported by participants as providing the most encouragement throughout their college career. Since transfer students tend to be a bit older it was also not surprising to learn that spouses (20%) were also key in providing support and encouragement to students. In addition, to analyzing the alters that supported study participants' at the community college and university, the overall network was examined.

Several analyses were completed on the overall network using E-Net. The measures of closure, effective size, density, and constraint were all calculated using study participant data. Network closure is the analysis of how many alters have connections between them. A perfectly closed network, where all alters know each other, has a calculated value of one. If no alters have ties then the value is zero. This is often referred to as a star network. Over 36 percent of the study respondents indicated no closure in their network. The mean value of closure for study participants was 2.24 (SD = 2.066). Effective size, density, and constraint are all part of measures used to calculate structural holes in a network. These calculations provide additional information on patterns among ego's alters and the ties between them. All three of the measures were on the low end of the spectrum, meaning that there was not a high degree of relationships between the alters. In analyzing the data, it seems the majority of student's on-campus

and off-campus networks are separated. This does have certain benefits to the ego. Having a more open network allows the ego to bridge alters and resources if needed, allows the ego to access different parts of their network more effectively, and provides the ego the ability to present different sides of themselves to different alters, and leads to high social capital for the ego.

The data provided by study participants provides greater awareness of the support systems and social capital that underrepresented transfer student utilize for continued success in their journey from a community college to a university. The transfer process is complicated and students are multifaceted. This study provided greater insight into underrepresented transfer students and the networks they draw upon for information and support.

Discussion of Findings

This study sought to explore the social experiences and social networks underrepresented students utilize to successfully navigate community college enrollment, the transfer process, and the transition to a four-year university. Many underrepresented students do not make it to a four-year university even though that is their intention when they first enroll at a community college. In this study, the students are considered successful since they have effectively navigated the transfer process and were in good academic standing at their university. The information provided by the study participants provided greater understanding of their backgrounds and their on-campus and off-campus networks.

The study participants were diverse in their backgrounds and many of them met multiple criteria of first-generation, underrepresented minority, and low income. Meeting

multiple underrepresented categories, provides an even greater challenge to a student. Not only are they first generation, with limited knowledge of academic cultures, but they may also be low income and have concerns about how to pay for basic necessities let alone how to pay for college. Much research has been completed about how these challenges can negatively impact higher education participation and retention. Participants in this study showed that even with challenges and other responsibilities their education could still be accomplished.

Many of the students in this study were older than the average student body. They had other responsibilities besides that of being a student. The majority of them worked over 20 hours per week, and had families that depended on them for care and support. With that in mind, the majority of these students use the classroom as their main source of campus interaction. Another word that may be used to describe them is commuter students. They commute to campus, go to class, and then leave to go to work or take care of other obligations. These students, from diverse backgrounds, add value and richness to a campus. So targeting specific programs for the underrepresented transfer student population is important to community colleges and universities alike.

As noted, in chapter 2, some schools have created mentor programs for incoming transfer students and specific events targeted at this population. This allows students to build formal and informal networks. As the underrepresented transfer population increases these activities may need to be increased to reach more students. Having informal networks builds students' social capital and allows them to have other students to reach out to for assistance. Relationships with friends on-campus and off-campus were prevalent in the information provided by study participants. Finding ways to engage

underrepresented transfer students in the classroom and outside the classroom are key to ensuring their retention.

The study participants had overall supportive relationships with many in their networks. Their family and friends provided much needed support with their education and personal issues. Participants also provided an interesting perspective on who provided encouragement for their college career. One may assume that as you get older the encouragement of your parents would become less important. This was not the case with study participants. The majority of them shared that their main source of encouragement was their mothers and fathers. Spouses also provided encouragement as well. Having a supportive network allows students to focus on their education and have social capital to draw upon when needed.

In both, the community college and university alters, participants shared they looked to academic advisors and counselors for advice and information. The number of academic advising alters reported, points to the importance of academic advising and how critical this role is to student success and retention. But several participants pointed out the challenges they had with advising. Not being provided information on community college classes to take for transfer, and a feeling that people in this role wanted to cut conversations short or tell them to go to another office. Study participants also shared positive comments about their experience with transfer centers and individual advisors making the transfer process easy. The ability to provide consistent and positive experiences in the area of advising is challenging for all colleges and universities but it is a critical piece to ensuring students are able to progress in their education.

The information shared by study participants reinforces that the educational journey is social in nature and many of the barriers students face are social as well. The study participants had a robust balance in their networks. They had both on-campus and off-campus support to draw upon when needed. It did not seem to matter that their networks did not have a high amount of closure, alter to alter ties, but that they had a robust network to call upon when needed. The study participants have been successful in their education path, they enrolled at a community college, were able to take all of their transfer coursework, go through the transfer process, transition to the university, and successfully complete university level coursework, and are now close to graduation. All of these steps took drive on the part of the student but also a strong network to draw upon when social capital was needed.

Implications for Leadership Practice

As the necessity of a college degree becomes critical, due to job market demands and other factors, community colleges will be a starting place for many underrepresented students. Underrepresented students are more likely than their peers to attend a community college than a four-year university. With this enrollment pattern in mind, community colleges and universities will need to provide support to the underrepresented transfer student population to ensure they are retained, transfer, and graduate.

Studies over the past several decades have examined the transfer process and found that the portion of two-year college students that actually transfer is deficient and there are differentiations between racial, ethnic, and socioeconomic groups (Tinto, 2010; Zamani, 2001). As discussed, many barriers these students face are social in nature and

with families and friends that have little experience with college and university processes and attendance; students need to build a support network on-campus.

Community colleges and universities need to find ways to assist underrepresented students in building their formal and informal networks on-campus. Every staff, faculty, and administrator has a role in creating an environment where students are engaged and welcomed on campus. University decision makers need to analyze all aspects of student interactions to determine how this population can be welcomed and better supported.

Study respondents shared that academic advisors/counselors were the most highly utilized in their networks for information at the community college and university. But their average communication was once every six months. Many participants also shared their frustrations with advising at both levels. Dealing with the transfer populations is very different from dealing with first-time freshman. Academic advising staff and counselors need to be trained on how to deal with this population and how to make their interactions positive. If they have not already done so, Universities may also want to invest in software applications that will produce degree audits and graduation pathways. This provides many benefits such as allowing students to run them via self-service and providing a common document or output that students and advisors/counselors can use to discuss enrollment and transfer options. Since many transfer students work and have families making arrangements to see a counselor or advisor can be burdensome. These interactions can make students feel welcomed and provide meaningful interaction and information to their specific issues. Having a transfer center or specific staff that specialize in the transfer process can provide more accurate information and encourage transfer students to make connections with these students.

Schools must also look at the other relationships that students form across campus and ensure they are educated on how to work with students. Identifying and training staff and faculty who can participate in cross-campus advising networks create additional resources and relationships that will support students. Staff and faculty can be trained on some of the basic administrative processes that students need to master to attend college. They can also be trained on where to get information for students if they do not know the answer. This is especially important for adjunct faculty, who do not spend as much time on-campus. Knowing how to help students or what department or person to send the student to so they can get assistance, provides an environment where the student feels a sense of belonging and that they are important to the college.

In addition, colleges need to educate the campus community on ways to encourage student-to-student support. Many transfer students spend the most time in the classroom when on-campus. But it can be difficult to meet other students as they have already formed relationships with fellow native students. A cohort model could be an avenue to encourage relationship building. Faculty should be encouraged to review their student make-up and determine the best ways to make connections with students and among them as well. Faculty should be trained and encouraged to do ice breakers in their classrooms this will allow students to make connections to their peers. Group assignments and activities also provide another avenue for these connections to occur. Since many transfer students have jobs and other life experiences they bring richness to the classroom that benefits other students. Even though, study participants did not report high numbers of faculty in their alters the comments, students provided on faculty showed that faculty relationships are important in providing advice and information to

students. Many study participants commented on faculty members that helped them with motivation, encouraged graduate school, and were generally supportive.

Outside the classroom, colleges should be encouraged to create peer mentor programs, or commuter centers and events where transfer students can meet. Having peer mentors who have gone through the transfer process, and more importantly, the adjustment to the four-year university can be a wealth of information to an incoming transfer student. These mentors can provide information and insight on everything from enrolling in classes, using campus technology, to what professors expect at the university level. Having a peer network provides an avenue for students to ask questions they would not of university faculty or staff.

Creating a welcoming environment will encourage students to reach out and create a strong on-campus network that students can utilize when they have questions or need support. Strong on-campus and off-campus networks support students in their educational journey and facilitate college student retention.

Additionally, through literature and reinforced by study participants, parents and spouses are the backbone of encouragement and support, no matter what the level of education they possess. They provide the steady encouragement and support that underrepresented students need to reach their educational goal. Finding ways to bring this off-campus support network on-campus will further reinforce retention. Colleges should encourage parents and spouses to attend orientation sessions, allow spouses and parents to sign up for campus newsletters or event information, or offer discount tickets for sports and other campus events for spouses and children of students. Encouraging

students to bring their families into their educational journey will build a stronger network for the student.

At every turn, the literature on underrepresented transfer students discusses the disadvantages that these students face in getting through community college, transferring and then transitioning to the four-year university environment. When they start attending community college they must learn a whole new world, college level coursework, administrative processes, and balancing their personal life with school. Then they transfer and have to learn everything all over again since the processes between community colleges and four-year universities are vastly different. The transition process can cause some students to leave the university and never return or give up before they get there due to the challenges they face. Community colleges and universities need to find ways to assist underrepresented students in building their on-campus networks so they have social capital to call upon when needed. Many schools are already moving in this direction but we have a long way to go to close the gap of graduation and transfer rates between underrepresented students and their peers.

Limitations of the Study

This study provided insights about 147 underrepresented transfer students and who supported them through their education journey. Findings from this research will provide community college and university practitioners greater insight into who is supporting the underrepresented transfer population. This provides greater awareness of how to communicate with this population and their support system. In addition, it provides additional information on whom students turn to for information about

transferring and who students go to for support. However, this study does have certain limitations.

One of the limitations is generalizability to other institutions. The sample of students only came from one institution and a limited number of students completed the survey. Although, this study cannot be assumed to be generalizable to other colleges, the study can inform practitioners on the meaningful relationships underrepresented students call upon during the transition from a community college to a university.

The researcher's positionality also presented a limitation, as the researcher was employed at SU when the research commenced. Although, the previous position, the researcher held, provides unique experience and perspective on the research topic, it could have influenced the information students provided on their survey responses. This limitation was minimized, since the researcher had no direct or regular interaction with students at SU. Participants were assured that their data would be kept confidential and only the researcher and dissertation faculty would have access to the data. In addition, no names were used to ensure privacy of the survey respondents.

Areas for Future Research

Many questions will linger and the researcher has many questions and thoughts that could be explored further. As mentioned earlier, the data presented only scratches the surface on what can be learned about underrepresented transfer students and the relationships they draw upon for social capital and encouragement.

Many qualitative studies could be undertaken to further examine the networks student utilize. Interviewing students and obtaining more in-depth information about how students' alters support them would add additional insight on this population.

Looking at how specifically ties supported the students and how that impacted their education would be important data to collect. A qualitative study could also be honed to specific student case studies to determine what social networks they use to navigate the transfer process.

Another area to explore would be on-campus support networks at the community college and university level. This study shared some experiences of participants in this arena, specifically with academic advisors and faculty. Learning more about the people that provide on-campus support and how they create a welcoming and supportive environment could provide concrete information to practitioners in the support if this population.

In addition, an analysis of underrepresented students that did not successfully transfer would be beneficial. Learning more about the relationships that these students had with on-campus and off-campus networks could provide critical information about the lack of support these students encountered that led them to quit schools or stay at a community college. Researching students who were not successful would provide practitioners more information about the support and environment that fosters success or failure of underrepresented students who wish to transfer but never complete the process.

Lastly, a longitudinal study of underrepresented students starting at the community college level and following through the transfer process could produce more crisp data on the ties students relied on during this process. This research study required students to pull from memory some relationships so a longitudinal study could capture data at the point in time those ties and social capital are being accessed.

Conclusion

One of the greatest challenges that colleges face today is increasing student retention and ultimately graduation. To increase attainment rates, higher education needs to focus on the growing number of underrepresented students entering universities. These students represent a full range of ethnicities, have diverse economic and social backgrounds, and are all ages (Lumina Foundation, 2010). Many of these students start their education journey at a community college. Approximately seven million students are enrolled and community colleges and 2.9 million of those are enrolled in California Community Colleges. This makes up 63% of the college enrollment in California (Lorenzo, 2011). These numbers may soon increase as the current K-12 populations moves on to college. Latino and African Americans already make up the majority of the K-12 population and will soon become the majority of graduates from California high schools. All the while, these populations are still underrepresented at the university level. Many of the barriers students encounter are social in nature and require further study.

This research explored underrepresented transfer students' social networks to gain a better understanding of who supported these students at the community college level, through the transfer process, and adjusting to the university. This research was focused on the social aspects of support to better understand how these relationships impact retention. To gain better insight into these relationships an egocentric network analysis approach was utilized.

The results confirmed that students must have on-campus and off-campus networks that support them along their education journey. Many of the barriers student encounter are social in nature. Support and information are key social capital elements

that students need access. The participants in this study have been able to overcome the challenges and succeed at the community college and university level. As the research suggests, many others do not make it past community college. Community colleges and universities need to find ways to make underrepresented transfer students feel included and wanted in their college culture. Creating a transfer welcoming culture may be through special advisors trained on the barriers these students encounter and ways for students to overcome those barriers. Additionally, practitioners need to find ways to communicate and include students' off–campus support systems in the process, this will only strengthen the encouragement and support students receive. Providing greater on-campus network safety nets and including the students' off-campus network will positively affect student retention.

Appendix: Electronic Survey

Invitation to Participate in a UCSD/CSUSM Research Study

At SU, we are committed to increasing the graduation rate and offering supports that help students to achieve that goal. In particular, this survey seeks to learn more about the friends, relatives, teachers, mentors, and activities that supported California Community College (CCC) students in the process of transferring to SU. You have been identified as a student who transferred to SU.

We are particularly interested in who you communicated with to consider transferring from a community college to SU, how often you discussed the transfer and continuation of your education and the nature of these conversations. In addition, we are interested in who supported you once transferred and enrolled at SU. We hope that the findings of this survey will help us to better understand and facilitate the successful transition from a CCC to a Cal State University.

This survey is voluntary and anonymous. There are no negative consequences if you decide not to participate and you may exit the survey at any time.

By answering and submitting the survey, you are agreeing for your answers to be used in the research. Your answers are strictly ***confidential*** and will not be shared.

This study has been approved by the California State University San Marcos Institutional Review Board (IRB). If you have questions about the study, you may direct those to the researcher, April Grommo, agrommo@csusm.edu, (760) 750-4782, or the researcher's dissertation advisor, Dr. Patricia Stall, pstall@csusm.edu, (760) 750-4386. Any questions about your rights as a research participant should be directed to the IRB at (760) 750-4029. You will be given a copy of this form to keep for your records.

Thank you for your time and consideration.

Relationships:
We are interested in people you know. You know them and they know you by sight or by name. You have had some contact with them in the past five years, either in person, by phone, by mail or by e-mail, and you could contact them again if you had to.

Community College Relationships

1) Who did you look to for advise or information about attending community college?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

2) Who did you turn to discuss difficulties with administrative processes (i.e., registration, financial aid, Admissions, etc.) at your community college?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

3) Who did you communicate with to determine which Community College classes you needed to take to successfully transfer to Cal State San Marcos?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily

David	Academic Counselor	Neither distant nor close	Monthly

State University Relationships

4) Who helped you in understanding the process to apply to SU? This might include filling out the Mentor application, applying for financial aid, sending transcripts, etc.

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

5) Who do you turn to discuss difficulties with administrative processes (i.e., registration, financial aid, Admissions, etc.) at SU?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

6) Who have you communicated with to determine which classes you need to take to successfully graduate from SU?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

7) Who do you talk to or exchange messages, when you need assistance with class assignments?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

8) Who do you talk to or exchange messages with when you need advice or information on your academic issues?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

Personal Relationships

9) Do you have a relationship with someone that has attended college? This could be any person in your life (i.e., relatives, friends, co-workers, mentors, etc.) Please provide your relationship to the person and indicate your level of closeness. See example. Name up to five people and just include their first name or initials.

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily

David	Academic Counselor	Neither distant nor close	Monthly

10) Who have you turned to when you need advice about personal problems?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

11) Who has provided you the most encouragement to keep attending college?

First Name or Initials	Relationship
Antonio	Uncle

12) Who do you turn to when you need advice or information on your future professional and/or career plans?

First Name or Initials	Relationship	Closeness	Frequency of Communication
Antonio	Uncle	1) Very distant 2) Distant 3) Neither distant nor close 4) Close 5) Very close	1) Yearly 2) Every 6 months 3) Monthly 4) Weekly 5) Daily
David	Academic Counselor	Neither distant nor close	Monthly

13) What on-campus and off-campus groups, clubs, or organizations have you participated in over ***the last five years***?
Please provide the name and location of each group and how important it is to you. Select the box that best describes how important this is to you.

Please see example below:

Example: ***How Important?***

Name:	Location:	Type of Support:	Not Very Important 1	2	3	4	Extremely Important 5
Chess Club	On-Campus	Academic Social Leadership Career/Professional Other_____				X	

Name:	Location:	Type of Support:	Not Very Important 1	2	3	4	Extremely Important 5
		Academic Social Leadership Career/Professional Other_____					

Relationships with Others

14) ***Think of all of the people you listed in this survey***.
Do any of the people you listed above have a relationship with each other?

X Has a relationship with	***Y***
Example: Antonio	Sylvia

Potential Relationship Values:
Mother
Father
Brother
Sister
Other family members
Friend at CC
Friend at University
Classmate
Friend outside of school
Boyfriend/Girlfriend/Significant Other
Academic Counselor/Advisor
Mental Health Professional
Professor at Community College
Professor at University
Staff Member at University

Staff Member at Community College
Co-worker
Boss
Other _____

Demographics

15) What is your current age? _____

16) Gender: ___ Male ___Female ____ Prefer not to Answer

17) Marital Status: ___ Single ___ Married ___Divorced ___ Widow/Widower

18) What do you consider to be your race/ethnicity?

___ Hispanic/Latino
___ White
___ Black or African America
___ Asian
___ American Indian or Alaskan Native
___ Native Hawaiian or Other Pacific Islander
___ Other

19) What are your Parents' highest levels of formal education in the United States?

Mother's Education:	Father's Education:
1) No high school	1) No high school
2) Some high school	2) Some high school
3) High school graduate	3) High school graduate
4) Some college	4) Some college
5) 2-year college graduate	5) 2-year college graduate
6) 4-year college graduate	6) 4-year college graduate
7) Postgraduate	7) Postgraduate
8) Don't know	8) Don't know

20) Were your parents born in the United States?
Mother ___ Yes ____ No
Father ___ Yes ____ No

21) Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard? ___ Yes ___ No

22) How many hours per week do you currently work, on average?
On-campus hours per week _____
Off-campus hours per week _____

23) Put an X next to the box that best describes your current living situation.
___ On-campus housing
___ Off-campus room, apartment, or house
___ At home, with family
___ Other _____

Number of people in your household (including yourself): _____

What is your total taxable household income, estimated or actual, from most recently filed tax form is:

- Below $17,325
- $17,236 - $23,265
- $23,266 - $29,295
- $29,296 - $35,325
- $35,326 - $41,355
- $41,386 - $53,415

- $53,416 - $59,445
- $59,446 and above

24) What semester did you start attending SU?

___ Fall 2010 ___ Spring 2011 ___ Fall 2011 ___ Spring 2012 ___ Fall 2012

25) What is your current major? _____

26) What is your current cumulative GPA? _____

27) When do you plan to graduate with your bachelor's degree?

___ Fall ___ Spring Year: _____

28) What are your future career plans after you get your bachelor's degree from SU?

___ Get a job
___ Get a better job than the one I currently have
___ Advance my career at my current company
___ Other _____

29) What is the highest level of education you ever expect to complete?

___ Some college but less than a bachelor's degree
___ Bachelor's Degree (B.A., B.S., etc.)
___ Master's degree (M.A., M.S., M.B.A., etc.)
___ Doctoral or professional degree (Ph.D., J.D., M.D., Ed.D., etc.)

Participate in Interview

Would you be willing to participate in an interview about your success in college and to share more about your experiences and relationships?

____ Yes ___ No

Thank you for your interest in participating in an interview. Please provide the following information:

First Name: _____Last Name:_____

Phone # _____ Can I text you at this number? ___Yes ___ No

E-mail address _____

Thank you for completing this survey!

If you are interested in being entered in to the random drawing for a $50.00 Amazon Gift Card please provide the following information.

Name: _____

E-mail Address: _____

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