WHAT HAPPENS OUTSIDE OF THE COLLEGE CLASS(ED)ROOM? EXAMINING
COLLEGE STUDENTS’ SOCIAL CLASS AND SOCIAL INTEGRATION IN
HIGHER EDUCATION

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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May 2013
Acknowledgements

There are several people to whom I owe a debt of gratitude for helping to make my dream a reality. First and foremost, I want to acknowledge the encouragement and support of Marcos Soria over the last seven years. Marcos, you saw me through three masters degrees and this doctorate degree, proving you are patient beyond words. Thank you for always believing in me when I did not believe in myself and for making great sacrifices to make my dream a reality.

I would also like to acknowledge the dedication and support of my committee members, Dr. David Weerts, Dr. Jarrett Gupton, Dr. Rashne Jehangir, Dr. Michael Stebleton, and Dr. Geoffrey Maruyama, for sharing their expertise with me along the way. David—thank you for opening up several opportunities for me during my four years at the University of Minnesota and for always saying “yes” whenever I needed a letter of recommendation. Jarrett—thank you for kindly agreeing to serve on my committee and for being one of the first people to sincerely ask me if I wanted to become a faculty member. Rashne—thanks for your constant encouragement and sharing your own personal academic journey with me. Mike—thanks for introducing me to the world of academic writing and publishing. Geoff—thanks for reading my dissertation so closely, catching all of my errors, and providing an unsure student with guidance when she needed it most!

Where would I be without the constant support I received from Chris Lepkowski and Brad Weiner over our four years together in the doctorate program? Chris—you were such a great companion as we took our initial coursework over two years together, became adjusted to life as graduate research assistants, and traveled to academic
conferences. Brad—you were consistently encouraging me to think about ideas in new ways and challenging me to unravel preconceived notions. Thank you for also cajoling me into taking some time to relax and celebrate my accomplishments. I am indebted to you both for your encouragement and for keeping me on task in our degree completion group. I am proud to have published scholarly articles with you two and I consider it an honor to have witnessed so many wonderful events unfolding in both your lives!

Many thanks are also owed to Dr. Ronald Huesman, who allows me to express my creativity each day and pursue new projects with gusto. Thank you for always trusting and believing in me. I am also appreciative of your continued support in sharing research results with audiences across the nation—I could not ask for a better employer. I also want to thank several employees at the University of Minnesota who encouraged me throughout this entire process: Simone Gbolo, Robin Stubblefield, Dr. Beth Lingren Clark, Grant Anderson, Dr. June Nobbe, Alex Fink, Sara Newberg, and LeeAnn Melin, and many, many others. You are all amazing coworkers and friends!

Finally, I would like to thank friends and family who encouraged me across so many stages of my life. Mom—thanks for teaching me how to read and for inspiring me to become an avid reader. For both Mom and Curt—thanks for humoring such a nerd this whole time and for helping me in so many ways in all of my biggest journeys.
Dedication

I dedicate this dissertation to Marcos, Charley, Coltrane, Miles, and to all first-generation and working-class women pursuing higher education across the world.

But am I here?
It's kind of hard to tell
I do a good impression of myself
But what's normal now anyhow?

--Porcupine Tree, “Normal.”
Abstract

This study examined the relationships between undergraduate students’ social class background and variables theorized to affect students’ social integration in higher education, including students’ perception of campus climate, frequency of faculty interactions, frequency of involvement in campus activities, and sense of belonging. Data from the Student Experience in the Research University (SERU) survey, which was administered to all undergraduates enrolled at nine large, public research universities in 2011 \((n = 52,740)\), were used in this analysis and the hypotheses were tested using structural equation modeling. The results suggest that college students’ social class background has direct and positive associations with students’ perception of campus climate, frequency of faculty interactions, involvement in campus activities, and sense of belonging on campus—students from lower/working-class backgrounds were less likely to perceive a welcoming campus climate, interact with faculty, participate in campus activities, and feel a sense of belonging on campus. The results also suggest that college students’ social class background has indirect effects on students’ sense of belonging when moderated through campus involvement, campus climate, and faculty interactions.
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Chapter One: Introduction

Even as access to higher education has widened considerably over the last century, college students’ social class background still has an undeniable relationship with students’ access to higher education, choice of college or university, and success in graduating from higher education (Hossler, Schmit, & Vesper, 1999; Karabel & Astin, 1975; Lehmann, 2007; McDonough, 1997; Mortenson, 2007; Paulsen & St. John, 2002; Walpole, 2003). While obtaining a college degree is often viewed as a critical component of social mobility, first-generation students (those who are the first in their families to attend or graduate from college) and students from lower/working-class backgrounds are less likely to be eligible to attend college, enroll in college, choose a four-year college, and persist in college regardless of their academic ability than their peers from higher income families or those who are not the first in their families to attend or graduate from college (Astin, 1993; Astin & Oseguera, 2004; Cabrera, Burkham, & La Nasa, 2005; Engle & O’Brien, 2007; McDonough, 1997; Pascarella & Terenzini, 1991, 2005; Tinto, 2006; Walpole, 2007). For students from lower social class backgrounds, the effects of these disparities in educational attendance and attainment can yield many negative long-term outcomes and perpetuate cycles of systematic poverty and social oppression.

The disparities in degree attainment levels between social classes have accelerated over time: Mortenson (2010) noted that students born into the top quartile of family income were ten times more likely to earn a baccalaureate degree by the age of 24 compared to students in the bottom quartile of family income. In 2008, the difference was nine times, in 2007, the difference was eight times, and, going back to 1980, the difference in graduation rates between students in the upper and lower quartiles of family income...
income was five times (Mortenson, 2010). The disparities in degree attainment rates between students from lower and higher social class backgrounds continue to perpetuate class differences, causing greater “gaps between the ‘haves’ and ‘have nots’” (Dickbert-Conlin & Rubenstein, 2007, p. 1) and denying students from lower income families the “richness of opportunities provided the children of inherited privilege” (Mortenson, 2010, p. 1). Concerns that colleges and universities are “reproducing social advantage instead of serving as an engine of mobility” (Leonhardt, 2004, p. A1) are renewing calls for scholarship related to social class in higher education.

Scholars have previously investigated factors contributing to the disparate degree attainment rates among students from different social class backgrounds; for example, researchers have discovered that low-income college students are more likely to lack experience with advanced high school courses and are less academically prepared for college based on measures of reading, math, science, and some social science areas (King, 2005; Terenzini, Cabrera, & Bernal, 2001). Students from lower social class backgrounds are more likely to have earned a nontraditional high school credential (such as a GED), often do not enter college immediately following high school, and are less likely to attend college full-time (Government Accountability Office, 2007; King, 2005). Engle and O’Brien (2007) also corroborated previous findings by suggesting that low-income students were more likely to delay entry into postsecondary education; enter two-year institutions; work full-time; and stop in and out of college.

Berkner, He, and Cataldi (2002) described low-income students as more likely to attend less selective public institutions, which tend to have fewer economic resources, serve students with greater academic and financial needs, and have lower overall
graduation rates. College students from lower/working social classes are more likely to be underrepresented minorities, to have parents without college degrees, and to come from a single parent homes (Terenzini, Cabrera, & Bernal, 2001). Furthermore, students from lower social classes are less likely to live in residence halls on campus and are more likely to live with their parents (King, 2005), factors that can put students at risk of attrition and compromise their ability to earn a credential from their respective higher education institutions.

The disparities in college degree attainment between students from low- and high-income families can have long-standing impacts on students, institutions, and society. The cost of attrition is high for individual students, who may experience “lower self-esteem, lost opportunity, blocked access to certain careers, and limits to standards of living” as a result of dropping out of college (Congos & Shoeps, 1997, p. 2). Congos and Shoeps argued that “the inability to retain students remains a costly problem for institutions in higher education” (1997, p. 2). Indeed, university administrators, faculty, taxpayers, and legislators all consider student retention significant for measuring institutional effectiveness in the prevailing environment of accountability and performance-based budgeting.

Additionally, the low college degree completion rate has also attracted national attention among many policymakers, who often reference the United States’ slipping competitiveness in the global market. Global and economic pressures have led at least three important players to put forth national goals to expand the number of Americans with higher education academic credentials—President Barack Obama, the College Board, and the Lumina Foundation (Brandon, 2009; Lee, Jr. & Rawls, 2010; Lumina
The nation has much to gain with increases in college attainment among all students, as college-education citizens are “more likely to participate effectively in the governance of the nation, contribute their time and money to community service, consume fewer public services, and commit fewer crimes” (Tinto, 2004, p. 7). College-educated citizens also contribute more to economic growth and productivity by creating a larger economic pie for all to share in the nation (Institute for Higher Education Policy, 1998); yet, if current trends continue, a shortfall of 14 million college-educated working adults is predicted by 2020 (Carnevale & Desrochers, 2003). Some predict that as many as four-fifths of high school graduates need postsecondary education to be economically self-sufficient, deal effectively with the increasingly complex social, political, and cultural issues of the twenty-first century, and meet increasing workforce needs in critical areas (Kuh, 2007); therefore, institutions, individuals, and the nation at large have much to lose when students do not complete their college degrees.

Despite knowledge of this problem, inconsistencies exist in the various approaches that public institutions take to reverse low degree completion rates (ACT, 2010). Further compounding this problem is disagreement among the perceived factors that contribute to attrition, as college administrators are more likely to rank students’ individual characteristics higher than institutional factors as those that most affect attrition at their schools (ACT, 2010). Yet, paradigmatic retention research and theories consider factors related to both academic and social integration as important in promoting students’ retention (Tinto, 1993), carrying the perspective that retention is a two-way street—that institutions can positively influence retention and degree completion by
creating more academic/social opportunities for students’ integration into their respective colleges and universities (such as increasing opportunities for student-faculty interactions). The potential benefits of increased degree completion rates are too great to ignore any longer: research examining the relationship between college students’ social class background and students’ college experiences is recommended as a first step in understanding factors that may influence low-income, lower/working-class, and first-generation students’ degree attainment.

The Gap in Research

While much is known about the relationships between students’ social class background and their entrance and departure from higher education, little is known about the relationships between social class background and students’ actual experiences in higher education, including students’ involvement, integration, engagement, retention, and academic achievement (Walpole, 2003). Students’ experiences and involvement in college influence their aspirations and persistence (Astin, 1993; Pascarella & Terenzini, 1991, 2005; Tinto, 2003). Furthermore, social and extracurricular experiences offer students opportunities to gain valuable cultural and social capital to help them become successful in college and beyond. Subsequently, understanding more about the ways in which students’ social class background is associated with students’ college experiences can provide valuable insights to practitioners, administrators, and policymakers seeking to promote positive change in lower/working-class students’ retention and graduation outcomes.

Due to the relative “invisibility” of social class, it is widely acknowledged that lower/working-class students’ needs are unmet because their presence in colleges and
universities is largely ignored (Kezar, 2011; Tokarczyk, 2004). Several key authors have demonstrated the scarcity of scholarship related to the college experiences of lower/working-class students (Barratt, 2011; Hurst, 2010; Kezar, 2011; Stuber, 2011; Walpole, 2007). It is perhaps the case that the invisibility of social class in higher education scholarship also contributes to social reproduction that excludes lower/working-class students from full engagement, involvement, and integration—without scholarly, reflective examination of the institutional structures that limit or exclude students’ participation based on their social class background, these disparities in educational attainment will continue to persist.

The scholarship that has previously examined social class and students’ experiences in college has been qualitative in nature, limited by smaller sample sizes, and developed from single-institutional perspectives (Aries & Seider, 2005, 2007; Hurst, 2010; Longwell-Grice & Longwell-Grice, 2007; Lubrano, 2004; Muzzatti & Samaroo, 2006; Ostrove, 2003; Ostrove & Cole, 2003; Schwartz, Donovan, & Guido-DiBrito, 2009; Stuber, 2011). To date, large scale or multi-institutional databases have rarely been used to examine the complex interplay between college students’ social class background and their experiences in college, although quantitative studies have documented both the entrance and departure of students from lower social class backgrounds in higher education (Adelman, 2006; Bowen, Chingos, & McPherson, 2009; Carnevale & Rose, 2004; Haveman & Wilson, 2007; Hossler, Schmit, & Vesper, 1999; Karabel, 2005; Lehmann, 2007; Long, 2008; McDonough, 1997; Mortenson, 2007, 2010; Paulsen & St. John, 2002). A quantitative approach contributes to the literature by adding new insights not captured in previous qualitative work, enhances understanding of how social class
shapes college students’ experiences across a larger scale, and serves to triangulate evidence from prior qualitative research related to social class (Creswell, 2009).

**Purpose of the Study**

Future research on the relationship between college students’ social class background and students’ integration, involvement, and engagement is warranted given the persistent underrepresentation of lower/working-class students in higher education as well as their disproportionately lower degree attainment rates. Given the need to further investigate relationships between students’ social class background and their involvement, integration, and engagement in college, the research questions framing this study are as follows:

1. Is college students’ social class background associated with the amount of time students spend working in employment?
2. Is the amount of time spent in employment associated with students’ involvement in on-campus activities?
3. Does employment moderate the relationship between college students’ social class background and students’ involvement on campus?
4. Is social class background related to students’ involvement in on-campus activities, their interactions with faculty, and their perception of campus climate?
5. Is college students’ social class background related to their sense of belonging?
6. Are campus perceptions and experiences—campus climate, faculty interactions, and involvement in on-campus activities—related to students’ sense of belonging?
Social Class Indicators in Educational Research

Prior to commencing a formal literature review related to lower/working-class students in higher education, it is important to ground one’s understanding of social class and how social class is measured in educational research. It is a challenging task to measure—and define—social class, as Walpole (2007) noted, because “significant overlap and a certain amount of ambiguity exist in these definitions and the ways they are operationalized in research, in part because as a society, we have many terms to describe social class” (p. 3). Further, Apple (1992) noted that social class terms such as “working-class” are shifting signifiers whose boundaries are drawn differently according to the context and the writer. As college students’ social class background is one of the primary measures of interest in this study, it is important to develop a nuanced understanding of the complexities of social class measurement before providing a working definition of social class for the purpose of the present research.

Measuring the differences between the unique lived experiences of individuals from different social class backgrounds has proven challenging to educational researchers and social scientists for a number of reasons. First, researchers tend to employ a variety of theoretical frameworks to distinguish between social classes. Secondly, these theoretical frameworks often yield a variety of categorizations or definitions of social classes that are rarely consistent; for example, variation in the consideration of income, occupational prestige, and educational attainment abounds. Third, cultural differences often present challenges with regard to validation of measurement instruments. Finally, the level of individuals’ class consciousness and the salience of class identity can vary in specific contexts and are relatively mutable over the lifespan. This particular challenge is
especially relevant within higher education research, as college students’ social class identity may be in a state of flux.

According to Barratt (2011), social class is in itself an inherently imprecise concept because class identity is mutable, not easily described with either wealth or income, and involves sometimes subjective and context-specific concepts such as prestige. Even *self*-identification of social class can also be problematic: some Americans classify themselves as middle class because they know others who are better or worse off economically or educationally (Walpole, 2007). Many believe that the American society is classless (or entirely middle class), increasingly rich, and that everyone has the same chance to succeed in life (Mantsios, 2004).

Competing notions of social class identification within our society further problematize attempts to define social class in objective terms. Dahlberg (2003) noted that the underlying societal conviction in the United States is that social class is *chosen* identity—the inability to obtain middle-class success is a matter of individual failure as opposed to the resulting consequence of institutionalized marginalization and discrimination in employment and higher education. These myths perpetuate false beliefs about class and the pursuit of the American dream (e.g., that people who are poor must not be working hard enough to pull themselves up by their own bootstraps), when indeed structural forces often limit social mobility. The changing face of labor in America has also led people to think that the working-class is disappearing; yet, according to Barratt (2011), members of the modern working-class now dress in more prestigious clothing and work in cubicles, but remain working-class due to the lower prestige of their occupations, incomes, and occupational positions.
Furthermore, conflation of terminology to describe social class itself can often create confusion within scholarship and practice. Terms like socioeconomic status and social class are often used interchangeably in scholarship and contemporary society. Many researchers use socioeconomic status and social class interchangeably, without rationale or clarification (Ensminger & Fothergill, 2003). Below, I offer evidence for some of the advantages and disadvantages of using alternative measures to capture social class background, including occupational prestige, income and wealth, parents’ educational attainment, social and cultural capital, and subjective social class identification. While not an exhaustive list of measures, I have attempted to provide a brief overview of how these measures have been used in the past and discuss some of the challenges in using these measures in educational research.

**Parental occupation, income, and wealth.** In discussing the relation between social class and occupation, Van Galen (2000) noted that those within the lower ranges of the continuums of authority, skill, and expertise are typically from families whose wage earners are underemployed, or who are employed in lower levels of manufacturing and service sectors of the economy (where they may be relatively expendable). Individuals in these circumstances may experience relatively limited autonomy in their work and they are likely to earn hourly, rather than weekly or monthly wages (Fay & Tokarczyk, 1993; Rubin, 1994). Discussing the tenuous nature of those positions in the workplace that are characterized by limited power, authority, or skill, Van Galen (2000) noted the impacts upon continuing generations: the children of these parents often experience serious dislocations, experience the most precarious relationships with formal schooling, and attain lower levels of success in academic endeavors.
In describing students’ socioeconomic status (often used as a proxy for social class), some have used a composite of parental education, parental income, and parental occupational status (Terenzini, Cabrera, & Bernal, 2001; Walpole, 2003) while others used only parental education (Goyette & Mullin, 2006) or parental occupation (Slaney & Brown, 1983). While Terenzini, Cabrera, and Bernal (2001) advocated for a composite measure of socioeconomic status, Paulsen and St. John (2002) criticized the use of socioeconomic status, claiming that it fails to adequately account for the complexity of social status, income, and education level.

Jackman and Jackman (1983) acknowledged that occupation is of central significance to social class and affirmed that significant agreement existed among Americans on the extent to which occupations were associated with social classes. Yet, challenges persist in measuring social class by occupation. Crompton (2008) noted that economically inactive individuals (e.g., children, retirees) are difficult to classify; class status is sometimes confounded by other status differences (e.g., age, gender, race); occupational titles are relatively meaningless because they do not give an indication of capital or wealth holdings; and that it is challenging to describe class relations in a theoretical sense. Entwistle and Astone (1994) noted that women tend to be concentrated in occupations that have relatively high prestige but low incomes, making occupational prestige a less valid indicator of financial resources for women than for men. As the workforce is becoming increasingly diverse with regard to job classifications, titles, prestige, and duties, it may become more difficult to rely upon occupational prestige as the sole measure of social class; instead, when integrated with additional indicators, occupational prestige may be more useful in conceptualizing social class.
Parental income reflects the potential for social and economic resources that are available to college students (Sirin, 2005). In higher education literature, several scholars have referenced family income to investigate social class. Paulsen and St. John (2002) used four income categories to examine students’ college choice and persistence while Perna (2005) also used income quartiles in her study of the benefits of higher education. Entwistle and Astone (1994) noted that income is one of the more sensitive measures and is often difficult to procure due to a higher non-response level. Income is also derived from many different sources (e.g., WIC, investments, public housing) and fluctuates for some families on a weekly or monthly basis (Entwistle & Astone, 1994). Sorenson (2000) noted that it is important to consider not the cross-sectional distribution of income but instead the long-term wealth profile that determines permanent income and consumption patterns.

In higher education, family income may be relatively easy to analyze because many students complete the Free Application for Federal Student Aid (FAFSA) form for financial aid purposes, thereby submitting information including family adjusted gross income and expected family contribution. Family income and ability to pay for college are important indicators for college access and attendance. Yet, while income and wealth are important factors in social class research, not every student submits a FAFSA form to his or her educational institution: in the 2007-2008 school year, a total of 8.4 million (40.9%) students nationally did not apply for financial aid (Kantrowitz, 2009). It is not only students from wealthier backgrounds who do not submit the FAFSA: of the 8.4 million students who did not file a FAFSA, an estimated 2.3 million students were estimated to have an expected family contribution (EFC) that would have made them
eligible for a federal Pell Grant, with 1.1 million potentially qualifying for a full Pell Grant (Kantrowitz, 2009). These missing financial aid indicators often mean that higher education institutions—and educational researchers—cannot capture data necessary to help them in understand students’ social class background.

In order to capture data on family income in the absence of FAFSA data, many student surveys rely upon students’ self-reports of their average annual family income. Large-scale survey data, including the National Education Longitudinal Survey (NELS), which has a composite measure of SES, and the Cooperative Institutional Research Program (CIRP) surveys, which include an income scale, have previously been used in higher education research (Akerhielm, Berger, Hooker, & Wise, 1998; Teranshi, Ceja, Antonio, Allen, & McDonough, 2004); yet, a persistent question remains regarding whether students accurately report family income. While research on this topic is relatively scant, one early study by Olivas (1986) demonstrated that a greater proportion of low-income Hispanic students overestimated family income. Soria and Barratt’s (2012) analysis suggested that college students were accurate in identifying family income when compared with family income derived from federal financial aid applications.

**Parental education.** Educational credentials are becoming more powerful gatekeepers in shaping life chances than a generation ago (Grimes & Morris, 1997; Parcel & Meneghan, 1994); subsequently, educational attainment and social class are closely linked. Van Galen (2000) noted that in previous decades, students for whom schools were less effective could find their place in an industrial economy; yet, today, the lower-classes face diminishing wages and uncertain labor markets. School achievement
continues to be correlated with levels of parental education across lines of ethnicity and
gender (Nunez, Cuccaro-Alamin, & Carroll, 1998; Riley, 1999). As a traditional measure
of SES and social class, parental education is considered one of the more stable measures
because it is typically established at an early age and tends to remain the same over time
(Sirin, 2005).

Parental education profoundly impacts college students’ preparation for higher
education and students’ experiences while enrolled in colleges and universities (Pike &
Kuh, 2005). Decades worth of research has centered on the experiences of students who
are the first in their families to attend higher education—also known as first-generation
students. Among this broad research base, however, there are several discrepancies
between scholars’ definitions of first-generation students; correspondingly, the results of
research studies utilizing varying definitions may yield inconsistent results and present
differing implications for institutions and practitioners. There are numerous examples
that demonstrate the different definitions used by scholarship; for example, some have
described first-generation students as being from families where neither parents nor
 guardians have earned a bachelor degree (Choy, 2001; McCarron & Inkelas, 2006; Pike
& Kuh, 2005; Thayer, 2000), others assign a first-generation status in instances where
parents have not attend any postsecondary education (Nunez, Cuccaro-Alamin, &
Carroll, 1998; Warburton, Bugarin, & Nunez, 2001) or, more specifically, students whose
parents’ highest level of education is a high school diploma or less (Ishler, 2005). Still
others have used different definitions: the College Board defined first generation students
as those whose highest level of parental education for both parents is less than an
associate degree (Lee, Jr., & Wiley, 2008).
An additional challenge in measuring students’ parental education is that research on first-generation college students often has missing data (Orbe, 2004; Padron, 1992). Like the heterogeneous definitions used to conceptualize first-generation student status, the increasing heterogeneity of first-generation students also complicates generalizability of research findings. As suggested by Soria and Gorny (2012), a polychotomous consideration of family educational background (as opposed to a dichotomous measure of first-generation and non-first-generation) may prove more advantageous to practitioners and institutions seeking to provide the best services for the students who most need them. The researchers found significant differences between students based on their parents’ education level; for example, students with parents who had no formal education were substantially more likely to be students of color, low-income/poor, immigrants, and non-native speakers of English compared with students with parents who had associate and high school degrees. Students who had parents with no formal education also had lower ACT scores, grade point averages, campus climate, academic engagement, and sense of belonging than students with parents who had an associate degree and high school degree. These significant differences suggest that researchers may find it more useful to consider parental education as a matter of degrees along a continuum rather than dichotomizing into first-generation/non-first-generation status.

**Subjective self-identification of social class.** The ways in which people define identity in their own class provides an important insight into their interpretation of social class (Jackman & Jackman, 1983). Amid the objective criteria above that individuals use to identify social class, most Americans believe that subjective and cultural considerations of class also weigh heavily in social class identification. For example,
when asked to rate the importance of several factors in deciding whether someone belongs to a social class, two separate studies (Centers, 1949; Jackman & Jackman, 1983) discovered that Americans were most likely to select “how the person believes and feels about things” over objective measures such as occupation, education, and income. In Jackman and Jackman’s (1983) study, respondents were also more likely to rate “the person’s style of life” over objective measures; such evidence suggests that class is more often experienced as a cultural, social, or expressive affinity rather than an objective, economic affinity.

Several social psychologists have suggested many factors that influence self-identification or self-categorization of social groups, including the social status of the group, perceived clarity and permeability of social group boundaries, legitimacy and stability of intergroup relations, and perceived similarity to a prototypical group member (Brown, 2000; Huddy, 2001). For example, class-based self-categorization may be problematic because of the rhetoric used to describe classes—“lower” class groups tend to carry most of the negative class stereotypes (Lott, 2002) and individuals may avoid self-categorization in a lower social class to avoid stigmatization. However, members of low-status groups can maintain a positive perception of their collective identity by emphasizing heterogeneity within their group or denigrating the dominant group’s “right” to its superior status position (Brown, 2000).

Blanz, Mummenday, Mielke, and Klink (1998) also found that individuals tend to compare status over time or against absolute standards to find positivity in their situation (e.g., “even if we are poor, we are better off than we used to be”). Gorman (2000) found that working-class people tended to denigrate middle-class values and attitudes, claiming
that middle-class people look down on others, put their careers before family, and do not perform “real work.” These social identity strategies serve as a form of social creativity to maintain a positive collective self-evaluation of social class status.

Class consciousness and the salience of class identity may also be less linked to a strong sense of belonging to a social class and more to a sense of social class as a factor in social inequality (Savage, 2000, p. 36). In their qualitative interviews, Savage, Bagnall, and Longhurst (2000) often found that individuals were ambivalent, defensive, or hesitant to define themselves in terms of social class but were instead able to clearly articulate social class as a political issue, making the language of social class “one of the few public discourses which openly acknowledges the existence of social conflict” (Savage, 2000, p. 36).

Additionally, the criteria that people often use to locate themselves and others in social classes can vary, suggesting that perceptions of class identity can often be ambiguous. As with other social groups, there is also the potential for members of low-status classes to attempt to “pass” as higher-status social class groups. Some researchers have found that poor and working-class students often adopted the speech patterns, dress, and other markers of middle/upper-class status to fit in with their peers (Granfield, 1991; Kuriloff & Reichert, 2003).

The salience of one’s social class position may also become more or less prominent in specific social situations. For example, class differences are typically made more salient for lower/working-class students who attend universities where most students are middle/upper-class (Granfield, 1991; Ostrove & Stewart, 1998). Lower/working-class students may not openly divulge their social class status in such
environments, potentially preventing them from forming social bonds with students from similar backgrounds (Kuriloff & Reichert, 2003).

Social class is mutable and contextually-based, especially within higher education (Barratt, 2011). Students from lower/working-class backgrounds transcend class boundaries as they negotiate the middle class environment of higher education (Hurst, 2010). As people move between social classes, they can often experience challenges in reconciling their acquired social class, as “movement between classes challenges and changes self-identities and relationships” (Aries & Seider, 2005, p. 421). Several scholars have documented displacement, alienation (Beeghley, 2005; Ostrove, 2003; Ostrove & Cole, 2003), estrangement (Goldthorpe, Llewellyn, & Payne, 1987), emotional dissonance (Stuber, 2011), burnout (Stuber, 2011), and isolation (Martín, 2012) that may accompany upward social mobility. The working-class students that Stuber (2011) interviewed in her study put up a false front as they struggled to put a positive spin on their emotions and labored to suppress their more complex negative reactions about their social class experiences in higher education.

As college students leave their families for college and are exposed to new belief systems, values, and lifestyles, relationships with friends and family often change (Karp, Holmstrom, & Gray, 1998); however, for lower/working-class students who gain upward social mobility through higher education, class identities must be renegotiated (Baxter & Britton, 2001), as identities shift in salience and meaning as social class context also changes (Markus & Kunda, 1986). The identity metamorphoses experienced by lower/working-class students can be especially difficult—Baxter and Britton (2001) described that lower income students who participate in higher education are on a
“trajectory of class mobility, which is experienced as a painful dislocation” from the former self, former relationships and affiliations, and former class identification” (p. 99).

Finally, the relative permeability of social class status can also create challenges in self-categorization of social class. This is especially true in the context of higher education: as a perceived path toward upward social mobility, higher education provides access to the mythic American Dream. Yet, despite the extent to which individuals attribute their upward mobility to their own efforts and abilities (Kluegel & Smith, 1986), the reality is that one’s family background exerts tremendous influence on his or her future prospects (Bowles, Gintis, & Groves, 2005; Jackman & Jackman, 1983). Most mobility occurs in the strata within classes (Parkin, 1971), and the upper-class is, by and large, a class position into which one is born (Ostrander, 1984).

Despite these realities, the dominant narrative of our society is that upward mobility remains the responsibility of the individual in our society; as a result, the reinforced notion is that class is an individual choice and that higher education is the “great social class equalizer” (Langhout, Rosselli, & Feinstein, 2007, p. 147). Consequently, many are unaware of barriers to social mobility and believe that our society is meritocratic (Jost, Pelham, Sheldon, & Ni Sullivan, 2003), potentially denuding the importance of social class position in college students’ experiences.

To summarize, social class groups are not homogeneous—one’s experience and sense of belonging to a specific social class can be profoundly different from another’s experience and identity as a member of the same social class. There is little consistency in educational research with regard to definitions for social class and often little agreement among scholars in consideration of variables and experiences that comprise
social class. Additionally, there is considerable overlap in the various factors and categories to describe social class, with many viewing social class as a larger composite measure of several co-occurring or correlated phenomena (e.g., income, wealth, education). Social class identities are often experienced in conjunction with one another, suggesting that social class does not exist in complete isolation. Finally, one’s identification as a member of a social class can shift and change over time, with class identity emerging as more or less salient in different contexts.

With these considerations in mind, social class is decidedly challenging to measure: researchers should therefore be cautious when measuring social class and interpreting results. In this study, one subjective measurement of social class and two objective measurements are utilized to measure students’ social class; specifically, students’ self-reported social class background, parental education (mother’s and father’s education levels), and parental income levels are used to develop a social class factor. The only measurement variable described above and not used in this analysis is parents’ occupation(s). While this omission presents some limitations with regards to interpretations of results, parental income and education are acceptable substitutes as they and often used interchangeably—and are correlated with—occupational status (Sirin, 2005).

**Definition of Lower/Working-Class Students**

For the purposes of the literature review, I refer to students from economically and educationally disadvantaged backgrounds—including low-income, low socioeconomic status, and first-generation students—as lower/working-class students. Such a comprehensive definition of lower/working-class students allows for the inclusion
of several theories, scholarship, and practices that can address the primary research questions of this study.

It is important to distinguish that the literature review in this study utilizes a broad and inclusive definition of lower/working-class students to capture a well-rounded picture of lower/working-class students from several angles; however, the analysis considers only three measures that contribute to students’ social class position: self-reported social class, family income, and parental education. In the analysis, a higher social class position is indicative of higher self-reported social class, family income, and parental educational attainment, while a lower social class position indicates the opposite.

Due to the complication of defining social class, many recent publications on lower/working-class students utilize sociological frameworks for categorizing class (Barratt, 2011; Hurst, 2010; Stuber, 2011). Within these perspectives, class is determined by the “individual’s (or family’s) structural location and the unique life experiences, life chances, and cultural orientations” (Stuber, 2011, p. 21). Jackman and Jackman (1983) described social class status as existing on a continuum based on criteria such as income, educational attainment, lifestyle, values, and beliefs. Social class is a complex, multidimensional factor inclusive of socioeconomic status, parents’ educational attainment, occupational prestige, income or wealth, and related sociocultural elements (e.g., cultural norms, values, knowledge, etc.); consequently, terms such as low-income, working-class, and low socioeconomic status are often cross-referenced because scholarship has operationalized and utilized these variables in multiple ways. According to Walpole (2007), these multiple and contextually-based definitions of social class make “cross-study comparison, analysis, and synthesis arduous” (p. 3). Nevertheless, cross-
referencing studies on first-generation, low socioeconomic status, and economically or educationally disadvantaged students in a heterogeneous fashion situates the present literature review within a larger context that can promote further understanding of lower/working-class students (Walpole, 2007).

Research related to social class has important implications for college students, administrators and policymakers; therefore, in this study, I explore the relationships between social class, access to higher education, and engagement in higher education. In chapter two, I build a foundation for the importance of continued social class research in higher education by elaborating upon the disparities in higher education attendance and attainment between social classes. I also describe how college engagement, involvement, and integration differs between students from different social class backgrounds and I illuminate why these differences in engagement, involvement, and integration matter with respect to college students’ retention, development, and completion. Finally, to conclude chapter two, I discuss prior studies that examined how students perceive and understand social class in college.

Next, in chapter three, I present three conceptual frameworks in which to better understand social class and its role in higher education: Bourdieu’s (1977; 1986) theory of social reproduction, social identity theory (Tajfel, 1974), and intersectionality theory (Crenshaw, 1991). The theory of social reproduction explains the role of social class in higher education culture and suggests that students from lower/working-class backgrounds lack the cultural and social capital to be successful in the middle/upper-class culture of higher education. Social identity theory explains the factors influencing individuals’ self-identification in social class categories, a matter of concern given that
students’ self-identified social class is one of the items used in the conceptualization of social class of this study. Intersectionality theories suggest a complex interplay exists between social identities, including gender, race, and class, with individuals inhabiting unique positions within the intersections of those identities. Overall, these theories reveal the complicated nature of social class identification, frame much of the prior research associated with social class in higher education, and build a conceptual framework for the present study as well.

In chapter four, I describe the methodology used to answer the primary research questions framing this study (structural equation modeling); present the primary conceptual model of the relationship between college students’ social class background and social integration; describe the source of data for the analysis; explain the variables used to construct latent measures and develop a base of literature to support the use of those latent measures; and address assumptions underlying the methodology.

In chapter five, I discuss the results of the analysis, including model fit for the confirmatory factor analysis. I also present the results of the structural equation model fit and respecification of the model. In chapter five, I also provide answers to the research questions in light of my original hypotheses. Finally, in chapter six, I discuss the results of the proposed structural equation model analysis, draw connections to the conceptual theories framing this paper, outline the implications of the present research, suggest directions for future research, and provide recommendations for practitioners and policymakers.
Chapter Two: Review of the Literature

In this section, I demonstrate the inverse relationship between college students’ social class background, access to higher education, and success in college degree attainment. I also focus upon the relationships between college students’ social class background and students’ integration, involvement, and engagement in higher education, with an additional section that provides an expanded conversation about students’ experiences and understanding of social class in colleges and universities.

Social Class and College Access

The system of higher education in the United States is highly stratified, with students from higher social class backgrounds entering more selective institutions and graduating at higher rates than students from lower social class backgrounds. The foundation of this problem may begin with disparities in low-income students’ high school graduation rates: in 2009, the event dropout rate of students living in low-income families was about five times greater than the rate of their peers from high-income families (7.4% vs. 1.4%) (Chapman, Laird, Ifill, & Kewal Ramani, 2011). High school success and graduation is important in facilitating students’ enrollment in higher education, as many colleges and universities consider high school graduation (or equivalent) and high school grade point average as requirements for admission; consequently, due to their lower high school success rates, students from lower/working-class backgrounds are disproportionately disadvantaged with regards to their eligibility to attend colleges and universities.

In addition to lower high school graduation rates, students from lower/working-class backgrounds also have lower college attendance compared with their upper-class
peers. Haveman and Wilson (2007) found an almost 50 percentage point gap in college attendance between students in the top and bottom economic quartiles as measured by family income and wealth. Family income and the ability to pay for college are important indicators for college access and attendance: among high school graduates in 2004, only 43% of students from families with incomes under $30,000 immediately entered into higher education while 75% of students from families with incomes over $50,000 enrolled in higher education (Long, 2008). Despite programmatic changes, access rates for low-income students have dropped while rates among middle-and-high income students have risen over the last 30 years (Bowen, Chingos, & McPherson, 2009).

The gap in educational access rates can be partially explained by the fact that low-income students tend to have fewer academic, social, and financial resources, which negatively affects their enrollment and success in higher education (Engle & Lynch, 2011). Others have found that low-income students have lower aspirations and are more likely to lack access to rigorous coursework (Adelman, 2006; Paulsen & St. John, 2002; Wei & Horn, 2002, 2009). Haveman and Smeeding (2006) noted that students from lower-income families are less well prepared academically; yet, Kane (2004) found that that even among students with similar test scores and class ranks—and from identical schools—students from higher-income families were significantly more likely than those from lower-income families to attend college, particularly four-year colleges.

Low-income college students also struggle with issues concerning their financial aid. For instance, low-income students are more likely to believe that a college education is not financially feasible (Tierney & Venegas, 2009). Additionally, low-income students who decide to attend college are more likely to choose community colleges rather than
four-year colleges and universities (Paulsen & St. John, 2002) and are more likely than their peers to have unmet financial need not covered by financial aid (Choy & Carroll, 2003). After taking into consideration financial assistance such as student loans or grants, low-income students and their families on average spend 25-40% of their family annual income paying for college compared to middle/upper-income families, who spend approximately 1-7% of their annual income on college expenses (Lott & Bullock, 2007). Many lower-income college students also face obstacles related to unmet financial need—the amount of money students owe toward college that has not been covered by scholarships, grants, loans, or other financial assistance (Advisory Committee on Student Financial Assistance, 2001).

Research suggests that lower-income college students with unmet financial need are forced to choose “levels of enrollment and financing alternatives not conducive to academic success, persistence, and, ultimately, degree completion at any institutional type” (Advisory Committee on Student Financial Assistance, 2001, p. 10). Yet, financial considerations do not solely explain lower/working-class students’ enrollment decisions and success in higher education and it is important to consider the confluence of additional factors that may serve as barriers to student higher education attainment, including students’ access to college preparation resources, knowledge of higher education, and community resources. While the costs of higher education may serve as one barrier for many low-income students, Dickbert-Conlin and Rubinstein (2007) noted that “financial aid and college costs cannot and do not account for most of the inequality in higher education processes or outcomes” (p. 2). Chambers and Deller (2011) have described that these students face a network of barriers, rather than a single observable
barrier, and cited both finances and parental education as two of the primary factors that influence students’ participation in higher education.

While disparities exist among students’ decisions to enroll in higher education, inequalities also affect where students choose to attend college. Carnevale and Rose (2004) found that, among 146 top tier colleges and universities, 74% of the entering class came from the highest socioeconomic quartile, only 3% from the lowest socioeconomic quartile, and 10% from the bottom half of the socioeconomic distribution. They also found a 39 point gap in tier two schools and a 25 and 19 point gap in tier three and tier four schools respectively (Carnevale & Rose, 2004). Several additional scholars have demonstrated that access to selective institutions has decreased for low socioeconomic status students over the last thirty years (Astin & Oseguera, 2004; Karabel, 2005; Tinto, 2006).

In addition to being a stratified system, higher education is also a stratifying system, perpetuating a higher social class status among those from the middle and upper classes, who are more likely to attend highly selective universities than lower-income students (Astin, 1993; Kingston & Smart, 1990). These selective institutions have higher rates of persistence and graduation (Astin & Oseguera, 2004; Bowen & Bok, 1998; Carnevale & Rose, 2004; Karabel, 2005), provide access to more selective graduate programs (Carnevale & Rose, 2004), are associated with high-status career tracks (Carnevale & Rose, 2004; Useem & Karabel, 1990), and reinforce upper-class values (Astin, 1993; Kingston & Smart, 1993); thus, the opportunities that reinforce social class status for students from wealthier backgrounds are not afforded to students from lower socioeconomic backgrounds, who may stand to benefit the most from such opportunities.
Most of the research related to the access of low-income students utilizes deficit models—focusing more on what students lack than on how colleges and universities structure their policies to systematically exclude students from lower social classes (Kezar, 2011). Taking a more structural stance, several authors have described the ways in which college admissions systems disadvantage low-income students through early admissions, legacy admissions, admissions based on athletic prowess, and merit awards—all opportunities that benefit students from upper-class backgrounds (Bowen, Kurzweil, & Tobin, 2005; Heller & Rasmussen, 2002; Karabel, 2005). Examination of the structural barriers prohibiting lower/working-class students from engagement can provide important insights to institutions seeking to promote the full participation of all students.

**Integration, Involvement, and Engagement**

Several scholars have noted that students’ experiences in college are associated with important outcomes, including educational aspirations, persistence, and degree attainment (Astin, 1993; Tinto, 1993; Pascarella & Terenzini, 1991, 2005); therefore, studying the relationship between social class and students’ college experiences can provide scholars and practitioners with insights into factors that may reduce or enhance the degree completion rates of college students from lower/working-class backgrounds. Several hallmarks of the college experience are designed to intentionally foster students’ integration, and in turn, their retention on campus (Tinto, 1993). For instance, scholars have frequently found involvement in extracurricular activities to be positively associated with students’ persistence (Pascarella & Terenzini, 1991, 2005; Tinto, 1993). Extracurricular participation can also increase students’ social networks and enhance
their social capital. Furthermore, Stuber (2011) found that students consider extracurricular participation to be “resume builders”—a reference to the potential human capital benefits also gained from involvement in extracurricular activities.

Yet, some scholars have suggested that lower/working-class students are at a distinct disadvantage with regards to their participation in the types of activities that can foster integration on campus. Walpole (2003) found that college students from lower socioeconomic backgrounds spent less time in student clubs and groups compared to students from higher socioeconomic backgrounds, with nearly half of lower socioeconomic status students spending less than one hour a week in student organizations. Stuber (2011) also found that middle/upper-class students tended to be more involved in groups and activities that were directed across the entire student body, whereas working-class students were more involved in activities targeted to first-generation students or were involved as residence life assistants (which holds a dual benefit of income and leadership experience). Stuber (2011) discovered that working-class students were half as likely to participate in sororities and fraternities as their middle/upper-class peers. Some have suggested that students from lower socioeconomic backgrounds cannot afford the financial obligations of social activities or membership in fraternities and sororities (Walpole, 2011).

Stuber’s (2011) qualitative research suggested that students’ social class background encouraged or discouraged their participation in student organizations and extracurricular activities; for example, Stuber found that the cultural orientation of middle/upper-class students was so well honed that many students arrived at college already involved in their campus’s clubs, organizations, or programs. Middle/upper-class
students tended to emphasize the social aspects of extracurricular engagement, appearing to have “internalized the intensive socialization of their parents…to engage independently in behaviors and activities that cultivate their social and cultural capital” (Stuber, 2011, p. 70). Conversely, working-class students were involved in activities they believed would enhance their eligibility as qualified job candidates.

When students participate in campus activities, they benefit through increased interactions with their peers. Students’ interactions with their peers are highly important in fostering their social integration on campus and contributing to larger developmental outcomes. According to Pascarella and Terenzini (1991), “A large part of the impact of college is determined by the extent and content of one’s interactions with major agents of socialization on campus, namely, faculty members and student peers” (p. 620). The many benefits of student interactions with peers can positively influence students’ academic development, analytical and problem-solving skills, and self-esteem (Kuh, 1995). According to Astin (1993), peers are “the single most potent source of influence,” affecting virtually every aspect of students’ development, including students’ cognitive, affective, psychological, and behavioral development (p. 398).

While the benefits of social and academically-oriented interactions with peers are clearly established, research suggests that middle/upper-class students are better positioned to engage in interactions with peers because “feeling comfortable while on display and having the ability to talk to strangers, give them a firm handshake, and look them in the eye, have been framed as forms of cultural capital among the privileged class” (Stuber, 2011, p. 71). The working-class students in Stuber’s (2011) study tended to focus less on the social aspects of extracurricular involvement, emphasized the
academic side of college life, and valued staying closer to home to maintain a sense of family solidarity, a core feature of working-class culture (Dews & Law, 1995; Ryan & Sackrey, 1984).

Students from lower/working-class backgrounds also reported working more hours while in college than their higher socioeconomic status peers (Walpole, 2003). Hurst (2010) found that working-class students often held major work commitments that prohibited them from engaging in social interactions outside of the classroom. The Mexican male college students in Schwartz, Donovan, and Guido-DiBrito’s (2009) qualitative study discussed the necessity of work as an easy identifier of social class on campus. For these students, work was not optional but expected and often required by their families (p. 59). While work experience can benefit students by providing “valuable knowledge, or cultural capital, regarding the world of work and social capital that can be converted to letters of recommendation from supervisors for jobs after graduation” (Walpole, 2003, p. 55), time dedicated to work activities often means time taken away from academic pursuits. Indeed, Walpole (2003) found that lower socioeconomic status students reported less time studying and had lower grade point averages compared to their higher socioeconomic status peers, suggesting that the low socioeconomic status students in the sample were less successful at investing in academic capital while in college than their peers from higher social class backgrounds.

Crossing the boundaries of social class carries significant consequences for lower/working-class students, who may experience alienation (Beeghley, 2005; Ostrove & Cole, 2003) and estrangement (Goldthorpe, Llewellyn, & Payne, 1987) within the middle-class culture of higher education (Hurst, 2010). Because this middle-class college
culture does not “grant dual citizenship” (Jenson, 2004, p. 178), lower/working-class students are expected to conform to the middle-class norms, in a way developing into “middle-class impersonators” (Langston, 1993, p. 69). The imposter syndrome, well-researched in the academy (Brookfield & Preskill, 1999; Jensen, 2004; Megivern, 2003), is a disruptive, dissociative state in which estranged working-class students never feel confident, grounded, or socially connected to the middle-class. Closely associated with the imposter syndrome, class-jumping may also lead students to feel “shame, embarrassment, and humiliation when among middle-class students” (Hurst, 2010, p. 215). Ryan and Sackrey (1984) also noted the consequences of the imposter syndrome and internalized class conflict, including “migraines, ulcers, hypertension, and the unrelenting fear of being ‘found out’ and subsequently humiliated” (p. 120). These stressors could eventually lead to lower/working-class students’ early departure from higher education.

Yet, even when lower/working-class students are successful in their undergraduate education, the feelings of imposture and alienation can persist and follow students into graduation and professional education as well. For instance, Granfield (1991) discovered that first-year law students from lower/working-class backgrounds experienced a crisis in competency their first semester. The incoming working-class students reported significantly higher levels of stress and anxiety stemming from fears of academic inadequacy. Furthermore, the working-class students felt like cultural outsiders and often adapted to the middle class culture of law school by concealing their social class, disengaging from their backgrounds to avoid feeling discredited by upper-class peers, and imitating middle/upper-class culture by passing (Granfield, 1991). Granfield
reported that students felt burdened because of their deception and often felt guilty because they believed they had “sold out” their own social class.

**Experiencing, Perceiving, and Understanding Social Class in College**

In addition to the differences in access, engagement, involvement, integration, and degree attainment by social class reported above, college students also experience, perceive, and understand social class differently depending upon their felt or ascribed social class and the social class of their peers. In an ethnographic study with 60 traditional-aged sophomores and juniors, Stuber (2006) discovered that clear “differences emerged between working- and upper-middle-class students in their class awareness, their class consciousness, and the kinds of symbolic boundaries they draw” (p. 294). Although there were similarities in how working- and middle/upper-class students talked about social class, less privileged students were more likely to claim the ability to see social class more clearly, were more sensitive to social class issues, and were more willing to believe that social class mattered. Stuber (2006) described that both working-class and middle/upper-class students demonstrated the ability to draw symbolic boundaries between their perceived social class and higher social classes.

Schwartz, Donavan, and Guido-DiBrito (2009) also discovered that the students in their sample—Mexican male college students—were able to clearly articulate their astute awareness of social class in society and the university environment by identifying cultural rules and symbols associated with various levels of social class. Aries and Seider (2005) conducted interviews with low-income students at two different colleges—one private and one public—and discovered that the students who attended a private college reported greater feelings of inadequacy, intimidation, exclusion, and inferiority compared
with those who attended the state college. Similar to the students in Stuber’s (2006) study, the lower-income and first-generation students in Aries and Seider’s (2005) study were more conscious of their social class in comparison to their more affluent peers; however, for the lower-income and first-generation students attending the public college, class-based differences were not as salient.

Hess (2007) interviewed 15 working-class students and also discovered that those students were aware of their social class differences compared with their peers. The working-class students in the study identified several critical incidents that spurred them to realize the economic, social, and cultural capital differences between social classes on their campuses. For example, students noted that they felt invisible in the eyes of friends, peers, and university personnel; believed that their fellow students and university staff lacked awareness of the issues and realities facing working-class students; and felt as though there existed prevalent stereotypical views of the working-class on campus.

Ostrove and Long (2007) found that social class background is strongly related to sense of belonging at college, which in turn predicts “social and academic adjustment to college, quality of experience at college, and academic performance” (p. 380-381). The authors suggested that “class background structures a sense of who belongs and who does not” and that “a sense of belonging has crucial implications for college experience and performance” (p. 381). As a result, lower/working-class students are more likely to feel alienated and marginalized at college, suggesting that “social class has some of its most critical influence through a sense of belonging” (p. 381). According to Evans, Forney, Guido, Patton, & Renn (2010), “a sharp social class contrast experience in college can lead to working-class students’ lack of persistence. Ignoring these inequities and others
saturating our economic and social systems perpetuates class privilege and class oppression” (p. 240). Similarly, Rendon (1994) suggested that many non-traditional and underrepresented college students, which can include lower/working-class students, often felt invalidated in and outside of the classroom. These persistent feelings of alienation, invisibility, marginalization, and invalidation can lead to lower/working-class students’ withdrawal from higher education and negatively influence related college outcomes.

**College Success**

Inequalities follow lower/working-class students from admission access to graduation success. Mortenson (2007) found that, by age 24, only 12% of students from low-income families earned a baccalaureate degree compared with 73% of their higher-income peers. Significant gaps within income level also affect outcomes such as retention and graduation: Adelman (2006) found that only 36% of low-income students completed a bachelor degree in eight years while 81% of high-income students graduated in the same time frame. Decades worth of research has established that economically and educationally disadvantaged students are less likely to persist, graduate from college, and attend graduate school compared with their more advantaged peers (Carter, 1999; Ishitani, 2006; Nunez, Cuccaro-Alamin, & Carroll, 1998; Terenzini, Cabrera, & Bernal, 2001; Walpole, 2003).

Many of the factors that compromise lower/working-class students’ access to college also negatively affect their degree completion—in particular, the financial barriers that prevent many lower/working-class students from entering into higher education and selecting four-year institutions also has a negative association with their college completion. For example, Titus (2006) identified that higher socioeconomic
status is positively associated with students’ odds of completing their college degree.
Fenske, Porter, & DuBrock (2000) found that students who had received financial aid but
still had unmet financial need (as is likely to happen with lower/working-class students)
had higher attrition rates than students who received aid and did not have unmet need.
This finding may also help to explain lower/working-class students’ decisions to enroll in
community colleges or less-prestigious four-year institutions as a means of receiving
financial aid packages that more fully cover their costs.

Several authors have generally found a complex interplay between low-income
students’ attrition and their ability to receive financial aid packages that meet their full
financial need. Paulsen & St. John (2002) surmised that low-income students’ attrition
was due, in part, to the inadequacy of their financial aid packages. Cabrera, Nora, and
Castaneda (1992) found that financial aid had an indirect effect on students’ persistence
through students’ intent to persist. Students from low socioeconomic status backgrounds
are very sensitive to tuition increases and financial aid is often one of the most important
reasons these students choose specific colleges or universities (Terenzini, Cabrera, &
Bernal, 2001). Students from lower socioeconomic status backgrounds by definition have
fewer financial resources available to them and, without the resources available to afford
the high cost of tuition for several continuous years, it is evident that lower-income
students are more likely to face challenges associated with persistence and retention. Yet,
while the ability to pay for college is one contributing factor to student’s success in
higher education, as demonstrated in earlier sections of this literature review, it is not the
only deciding factor and should be reviewed among the confluence of factors influencing
the ongoing persistence decisions made by lower/working-class college students.
Finally, the disparities between social classes continue not only from admission to graduation, but also extend to students’ post-graduation outcomes as well. Walpole (2003) found that the differences between low socioeconomic status and high socioeconomic status students persisted beyond graduation: nine years after entering college, students from low socioeconomic status backgrounds reported lower levels of income, graduate school attendance, and educational attainment than peers from higher socioeconomic status backgrounds.

Students from higher socioeconomic status backgrounds are more likely to earn liberal arts degrees than those from lower socioeconomic backgrounds, while students from lower socioeconomic status backgrounds are more likely to be employed in vocationally-oriented fields following college graduation and earn slightly higher incomes (Goyette & Mullen, 2006). Additionally, lower socioeconomic status students are much less likely to persist to graduate school. This disproportionate attendance in graduate school places the higher socioeconomic status students at a greater long-term advantage for higher status jobs and higher paying incomes than the low socioeconomic status students who earned vocationally-oriented degrees (Goyette & Mullen, 2006).

Additionally, students from lower socioeconomic backgrounds are more likely to pursue degrees with limited or shorter-term upward mobility (Goyette & Mullen, 2006). Longwell-Grice (2003) found that first-generation working-class students tended to frame their college experiences in career terms, with many believing that the purpose of college was preparation for the world of work rather than for personal or intellectual development. While there is nothing inherently problematic with those perceptions, these
findings could explain why low-income and working-class students may seek degrees with immediate vocational benefits, are more likely to enter into two-year institutions rather than four-year institutions (King, 2005; Paulsen & St. John, 2011), and are not as likely to continue their education beyond the first degree (Walpole, 2003). Ultimately, the stratified system of educational attainment continues to disadvantage lower social class students long after their pursuit of an initial college degree.

The evidence above alludes to the complex ways in which social class shapes one’s college experience. Yet, gaps in scholarship remain in understanding the relationships between social class and lower/working-class students’ experiences in college. Generally speaking, there has been a distinct shift away from using class as a theoretical framework for diversity research in higher education, mostly due to an “increasing preoccupation with the cultural effects of other kinds of cultural difference—gender, race, ethnicity, sexuality” (Milner, 1999, p. 7). There are several reasons behind the dearth of theory and research on social class in higher education. According to Shor (2005), “social class is an unfamiliar, uncomfortable, and sometimes forbidden theme” in society (p. 163). Within higher education, matters of class are “sanitized” and its powerful effect on the experiences of lower/working-class students is “denuded or made invisible” (McLaren & Farahmandpur, 2005, p. 8).

In this section, I provided evidence for some of the inequalities experienced by lower/working-class students with regard to their entrance into higher education, experiences in higher education, perceptions of social class, college completion rates, and post-college outcomes, including enrollment in graduate school. In the following section, I describe theories that advance our understanding of the structural forces that shape and
constrain students’ access to higher education, involvement and integration in campus life, and success in graduating from colleges and universities. Having better understood some of the higher education access/success and college integration challenges faced by students from different social class backgrounds, it is useful to turn to theoretical frameworks that help to advance notions of how and why these challenges and disparities persist.
Chapter Three: Conceptual Theories

The theories and conceptual frameworks employed in educational research related to social class are as diverse as the terminology used to define social class. For example, previous studies focusing in on the role of social class and socioeconomic status in college students’ experiences, decisions, and behaviors have employed the financial nexus model (Paulsen & St. John, 2002), human capital theory (Long, 2007; Perna, 2005), and status attainment model (Carter, 1999). In this study, I rely upon three conceptual frameworks to understand the interplay between social class and students’ involvement and integration in higher education: social reproduction theory (Bourdieu, 1977, 1986), social identity theory (Tajfel & Turner, 1979), and intersectionality theory (Crenshaw, 1991).

Bourdieu’s (1977, 1986) social reproduction theory has previously been used to explain inequities in educational attainment (Lareau, 1989; McDonough, 1994) and describe the ways in which social class is reproduced in institutions, societies, and individuals (Berger, 2000; Hurst, 2010; McDonough, 1997; Stuber, 2011; Walpole, 2003). Social identity theory (Tajfel & Turner, 1979) describes how one develops an identity as a member of a social group and becomes aware of differences between one’s social group and other groups. Within the context of the present analysis, social identity theory is useful because it describes the means through which students develop unique social class identifications. Additionally, social reproduction theory and social identity theory are useful frameworks in this study because they partially explain lower/working-class students’ feelings of isolation or marginalization among a middle/upper-class majority.
Finally, intersectionality theory (Crenshaw, 1991) recognizes that social class intersects with other aspects of students’ identities (gender, race, ethnicity, first-generation status, etc.), thereby creating a unique experience at the intersection of those multiple identities. This theory is useful in this analysis because it suggests that social class background is only one dimension of college students’ social identities that shapes their experiences in higher education.

In the following sections, I will elaborate upon the three theories that serve as a framework for this analysis. The first theory described is Bourdieu’s (1977, 1986) social reproduction theory, which has had the most significant contributions to prior research associated with social class in higher education and also plays a strong role in explaining the results of this analysis. Next, I will describe Tajfel and Turner’s (1979) social identity theory and associated works, followed by intersectionality theory (Crenshaw, 1991), which provides a more contemporary perspective on the complicated nature of social class background and identification than the previous two theories.

**Bourdieu’s Theory of Social Reproduction**

The basic tenets of Bourdieu’s (1977, 1986, 1990, 1994) theory explain the ways in which individual agency or choice, combined with social structural factors, reproduce existing social stratification. Bourdieu’s sociological framework has been significant in higher education research related to social class (Berger, 2000; Walpole, 2003, 2007); thus, this particular framework was chosen for the present study to better explicate the relationship between college students’ social class background and students’ experiences in higher education. Broadly stated, social reproduction theory suggests that students from lower/working-class backgrounds feel a cultural mismatch in the middle/upper-class
structure of higher education; as a consequence, lower/working-class students are less likely to enter into these formal structures and, when they do, are less successful (e.g., less likely to graduate) than middle/upper-class students because they lack the cultural and social capital to be successful. This cycle, in turn, perpetuates social class stratification in society, with middle/upper-classes retaining power and privilege over time.

According to Bourdieu (1986), social class is a combination of economic capital (accumulated money or wealth), social capital (network of acquaintances), and cultural capital (knowledge or familiarity with the dominant culture). An additional influence on the reproduction of social class is one’s class environment or “habitus,” a “common set of subjective perceptions held by all members of the same group or class that shapes an individual’s expectations, attitudes, and aspirations” (Bourdieu, 1986, p. 9). As they develop, young people reproduce their cultural habitus through practices that conform to the dominant cultural habitus; within the context of higher education, it is often acknowledged that students from lower/working-classes encounter challenges in the middle-class habitus of higher education. These challenges compromise lower/working-class students’ sense of belonging and integration, thus contributing to their lower persistence and graduation rates (Aries & Seider, 2005; Granfield, 1991; Lehmann, 2007; Ostrove, 2003; Ostrove & Cole, 2003).

Cultural capital has been used in scholarly research as a way to explore the college choice process (Freeman, 1997; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Perna, 2000), the transition to college (Walpole, 2003), and college student retention (Tierney, 1999). One of the predominant interpretations of cultural capital alluded to
above is involvement in “highbrow cultural activities” which include fine art, classical
music, theater, and other high-status cultural activities (DiMaggio, 1982). DiMaggio and
Mohr (1985) found significant relationships between respondents’ cultural capital and
their college attendance, college completion, and enrollment in graduate education.
Berger (2000) developed a nuanced theoretical framework that hypothesized that college
students with less cultural capital would have higher attrition rates compared to their
peers. Cultural preferences for elite or highbrow activities perpetuate social distinctions
which also serve to dominate people. Bourdieu and Wacquant (1992) termed this
“symbolic violence” (p. 170)—people are “dominated in and through these social
distinctions but they may not realize it or they may accept it as natural and fair” (Winkle-
Wagner, 2010, p. 15). These cultural preferences are, according to Horvat (2001),
accepted without recognition as an exercise of power but are instead viewed as a part of
the normal, natural social order.

Distinct from cultural capital, social capital was defined by Bourdieu and
Wacquant (1992) as “the sum of the resources, actual or virtual, that accrue to an
individual or a group by virtue of possessing a durable network of more or less
institutionalized relationships of mutual acquaintance and recognition” (p. 14). Social
capital provides opportunities for one to draw upon resources from other members of the
networks to which he or she belongs (Paxton, 1999) and it has been associated with
several positive social outcomes, including positive influences on career success (Burt,
social capital influences the social and economic well-being of individuals who belong to
groups. Furthermore, social capital researchers have found that various forms of social
capital are related to psychological well-being factors, including self-esteem and satisfaction (Bargh & McKenna, 2004; Helliwell & Putnam, 2004). Seen in the context of higher education, social capital can be achieved among college students who develop social networks involving student affairs staff, faculty, and students—agents who provide resources and support to students as they navigate their way through college. Students’ social networks can help them to be successful in college through the establishment of networks of belonging (Parks, 2000) and several researchers (Smith, 2007; Tierney & Venegas, 2006) have used theories of social capital to examine retention and persistence of college students.

College students’ socioeconomic background contributes to the formation of their social capital—a socialization process that begins even at very early stages of life. For instance, Lareau (2003) noted that lower-class children have fewer structured interactions with peers and professionals compared with middle- and upper-class children, who undergo a process Lareau termed “concerted cultivation” in which they are purposefully placed in environments and structured activities that increase their social capital. Children from middle- and upper-class families also develop knowledge related to generating future social capital—knowledge that benefits them in higher education. Based on Lareau’s work, it is often acknowledged that low-income and first-generation students lack the “sufficient social capital networks to succeed in higher education” (Gupton, Castelo-Rodriguez, Martinez, & Quintanar, 2009, p. 250). Whereas middle- and upper-class students benefit from family or school-based networks for academic support, lower-class students lack these networks and therefore do not reap the benefits of social capital (Stanton-Salazar, 1997).
Recently, some critics have advocated advances in Bourdieu’s theory when it comes to application in the field of higher education. Barratt’s (2007) addition of academic capital—the knowledge and skills necessary to be successful in school—considers the influences of educational culture prior to higher education. Within that perspective, is relatively easy to imagine that parents who have earned a college degree are more likely to transmit some of their academic capital (e.g., how to study, where to study, what classes to take while in college, what majors to pursue, etc.) to their college-bound students while students who are the first in their families to attend college may not receive similar academic capital.

Additionally, Kaufman (2003) suggested that social reproduction theory has little relevance regarding the changes that students experience as they transform from lower/working-classes to middle-class status. Instead, Kaufman examined the experiences of lower/working-class students through the lens of social identity formation and social transformation, the “process through which individuals alter the ascribed social-class position of their parents into a different achieved social-class position for themselves” (p. 482). According to Kaufman (2003), “associational embracement, associational distancing, and presentation of self are three identity-work activities employed by individuals who are attempting to change their ascribed social-class positions into achieved social-class positions” (p. 498). For lower/working-class students, this essentially means developing attachments to new social groups and detaching from their former social groups. If an individual can “successfully manage these social interactions and construct a social identity that is imputed back to him or her, then the prospect for social transformation instead of social reproduction is much greater”
The distinctions between social transformation and social reproduction are, unfortunately, rarely acknowledged in higher education scholarship related to social class; however, this perspective is important when examining the role of social class in higher education, as social class status in this particular context undergoes a state of transformation when college students increase their ability to become upwardly mobile through the attainment of higher education. This perspective also somewhat diminishes the more deterministic perspectives of social reproduction theory, suggesting that it is possible for students to transcend class boundaries, albeit with some difficulty.

**Social Identity Theory**

While researchers have paid much attention to sex, race, ethnicity, and sexual orientation as social groups that shape individual identity, fewer researchers have paid attention to how social class shapes identity (Aries & Seider, 2007); yet, it is often acknowledged that one’s social class position plays an important role in shaping the ways in which he or she experiences, views, and understands the world (Aries & Seider, 2007; Ostrove, 2003; Ostrove & Cole, 2003). According to Stewart and Ostrove (1993), social class has an all-encompassing effect on one’s identity and can “shape, constrain, and mediate the development and expression of knowledge, beliefs, attitudes, motives, traits, and symptoms” (p. 476). Barratt (2011) suggested that social class position is not easily defined as a singular concept and that individuals have three class identities: a social class of origin, a current felt social class, and an attributed social class (what others perceive about one’s social class identification). All of these factors are associated with an individuals’ identity in the social group categorization related to social class and are especially important to consider within the context of higher education.
Social identity theory regards the concept of social identity as the individual’s knowledge that he or she belongs to certain social groups—individuals’ definitions of self in terms of their social group identity (Tajfel, 1972). Social identity theory posits that one’s social identity is clarified through social comparison with others in in-groups and out-groups (Abrams & Hogg, 1990). Tajfel and Turner (1986) proposed that people strive to achieve or maintain a positive social identity, which is derived from making favorable comparisons of in-groups to out-groups. For Tajfel and Turner (1979), the character of intergroup attitudes and actions is predicted by the need for positive social identity and group members’ collective definition, perception, and understanding of the social structure of relationships; therefore, social identity membership in social groups might change depending on whether an individual perceives group boundaries as permeable and social group relationships as stable or secure.

Tajfel (1974, 1978) suggested that social behavior exists on a continuum from interpersonal to intergroup: at the interpersonal extreme, all interactions are determined by personal relationships between individuals and individual characteristics while at the intergroup extreme, behaviors between individuals are determined by their membership in social groups. As behavior becomes more “intergroup,” attitudes toward in-groups are more uniform and consensual while out-group members are seen as more homogeneous. Shift along the continuum is also influenced by the extent to which one holds an ideology of individual mobility, in which group barriers are permeable and can resolve their identity problems through individual action or mobility, or an ideology of social change, in which the perceived impermeability of group boundaries means that one can only change their social situation by acting collectively in their shared membership (Turner,
The interpersonal—intergroup continuum draws a distinction between identification with a social group and salience of that identity in a social situation (Turner, 1999).

Extending social identity theory, Korostelina (2007) suggested that there are four types of social identities: a *positioning identity*, when a person identifies oneself within a category of interpersonal relations but is not deeply involved in it and does not acquire the norms, values, and beliefs associated with the position; a *dyadic identity*, when a person describes oneself in terms of a particular category and adopts the values, beliefs, and norms associated with the position; a *descriptive identity*, which reflects one’s identification with specific social categories without actual membership in the group; and a *collective identity*, which forms when a person identifies himself or herself with a group, belongs to the group, shares its beliefs and values, and shows loyalty and deep attachment to its goals.

Furthermore, Korestelina (2007) described three forms of social identity: *cultural identity*, in which people live within their social identity and follow all in-group recommendations and instructions but never think deeply about the roots of their cultural traditions, the in-group’s goals, and the in-group’s status and position within society; *reflected identity*, when people have a deeper knowledge of the history of their in-group and its relation to out-groups, are aware of the intergroup’s position in society, and recognize their in-groups future goals and perspectives; and *mobilized identity*, in which the core aim of the in-group is to increase its power or status and members of the out-groups appear as adversaries. Through this framework, it is evident that one’s social class affinity may change given the nature of one’s cultural, reflected, or mobilized identity.
Social identity theory and its antecedents explain the means through which individuals understand their social class membership in relation to others within their in-group and to others who are perceived as a part of out-groups. For example, lower/working-class students may compare the social behaviors, norms, culture, and values of their immediate family, extended family, and communities with others who live in out-groups (e.g., more middle/upper-class families and communities who have different social behaviors, norms, culture, and values), thus forming an understanding that “we” are different from “them.” Although college students likely perceived social class differences in K-12 schools, within higher education, in-group and out-group comparisons may be expanded in new ways; for example, students may compare not only their pre-college experiences and preparation (e.g., public versus private school attendance, family vacations, academic opportunities such as Advanced Placement courses, etc.), but also their experiences while in college (e.g., having to be employed, participating in study abroad or other expensive college activities, living in residence halls, etc.). Thus, social identity comparisons between in-group and out-groups may become more prominent in higher education based upon the social class composition of the colleges and universities which lower/working-class students attend. Furthermore, social class identification may become more salient, disrupted, or solidified as a consequence of new social identity comparisons.

**Intersectionality Theory**

Critical perspectives of social identity acknowledge that social class intersects with other elements of college students’ identities to shape their experiences in higher education. Many scholars have acknowledged that unique interpersonal and social
experiences are located at the intersection of multiple identities (Crenshaw, 1991; Museus & Griffin, 2011). Additionally, some have suggested that isolating the influence of any one social identity (e.g., gender, race, ethnicity, or social class) masks a deeper understanding of how membership in multiple identity groups can affect how uniquely-positioned college students experience the campus environment, become engaged in colleges and universities, and meet important outcomes (Crenshaw, 1991; Museus & Griffin, 2011).

Prior researchers have revealed, for example, the complex intersections of race, class, and gender that led to different outcomes for students who shared a similar social class background. Fine (1997) discovered that White and Black students of middle-class backgrounds tracked themselves into separate college preparatory curriculum based on their social perceptions about which track was appropriate for students like themselves. Dewan (2012) found that multi-racial girls from middle-class backgrounds were most likely to benefit from equality of opportunity, meritocracy, and cultural diversity while multi-racial boys from working-class backgrounds most often experienced life through the lens of race, class, and gender prejudice. Bettie (2001) and Lawler (1999) explored the intersections of social class and gender in their studies. Gillborn (2012) argued that race and class inequalities cannot be fully understood in isolation; yet, these inequalities may be experienced in unique ways for students. When interviewing Black women in a predominantly White university, Winkle-Wagner (2009) found that social class was a major taboo among the participants in her study—the students in her study only talked about social class issues when they knew that they were in groups with others from similar social class backgrounds.
As with race and gender, membership in specific social classes carries privileges or disadvantages; yet, mobility in social classes is culturally accepted and expected, whereas gender and race changes are considerably more challenging. Illustrating that point, Ostrove and Cole (2003) described that the ideology surrounding class mobility and stratification is located within rhetoric focusing on individual achievement:

For example, although we often hear wealth explained in terms of ambition or poverty in terms of laziness, and we hear the claim that members of certain ethnic or racial groups are poor because they are lazy, no one makes the claim that a person belongs to a certain ethnic group because he or she is lazy. (p. 683)

Furthermore, while race, gender, and class intersect in powerful ways to shape one’s identity, social class differs from race and gender with regard to measurement: race and gender are almost always defined through self-report, whereas social class is often measured through objective means (Ostrove & Cole, 2003).

Yet, amidst those unique qualities, race, gender, and class are not one-dimensional or independent concepts; rather, Ransford (1980) noted that people occupy various social status positions that intersect to create a “unique social space” that manifests as outcomes that one’s social status location (such as gender) cannot occupy alone (p. 277). Feminist psychology and literature, in particular, has focused on the development of intersectionality theory, especially with regard to recognizing intersections between race, class, gender, and sexual orientation (Bowleg, 2009). While intersectionality has typically been used to highlight the experiences of individuals who have multiple disadvantages, corollary observations also discuss how disadvantaged groups can also hold privileged identities (Cole, 2009) or, due to their positions at a
crossroads of marginalization, encounter multiple jeopardy (King, 1988). Conversely, some scholars are beginning to examine the experiences of individuals who have multiple privileged identities; for example, Levine-Rasky (2011) described the intersectionality of race and class by examining the dominant positionality and privilege of the White middle-class.

While intersectionality theories promote an awareness of the implications of holding multiple identities, social class membership as a singular component of social identity exerts a powerful influence upon individuals; according to Hearn (1984; 1991), social class background plays a stronger role as a barrier to college entrance than race, ethnicity, or gender. Karen (1988) found that social class exerted twice as strong as an effect as ethnicity or gender on the selectivity of a student’s college choice. Several have noted an interaction between gender and social class with regards to students’ college attendance (Alexander & Eckland, 1977; Hearn, 1991; Persell, Catsambis, & Cookson, 1992). There is a substantial amount of overlap between social class, socioeconomic status, and first-generation status as well; for example, Corrigan (2003) discovered that two-thirds of low-income students were also first-generation college students. McSwain and Davis (2007) also noted that students from working-poor families (those whose income is 101 to 200% of the poverty level) have experiences similar to first-generation students.

Other research demonstrates complex interactions between students’ social class and race. DesJardins, Ahlburg, & McCall (2006) reported that low-income students were less likely to enroll in college than high-income students across all racial and ethnic groups, although high-income African American students were less likely to enroll than
high-income White or Asian American students. Additionally, Perna (2000) noted that higher parental education level increased the probability that African American and White students would attend four-year institutions but it did not affect Latino students’ odds of attending four-year institutions (although higher family income did increase Latino students’ probability of attending four-year institutions). These findings demonstrate that it is important to account for students’ multiple identities within educational research because, as Ostrove and Cole (2003) have definitively written, “social identities are always experienced in conjunction with each other” (p. 681).

To summarize, these three conceptual frameworks inform social class research by describing the ways in which the system of higher education reproduces class privilege and excludes students who do not belong to middle/upper-classes; explaining how categorical social class identities are developed; and describing how social class intersects with other social identities. Among all three frameworks, Bourdieu’s (1977; 1986) social reproduction theory is the most useful in this study because it explains why college students from lower/working-class backgrounds experience less social integration in the middle/upper-class culture of higher education. In essence, lower/working-class students feel like they do not belong in the middle-class habitus of higher education because of the social and cultural dissimilarities between the habitus of higher education and their habitus of upbringing. Additionally, lower/working-class students lack the social and cultural capital necessary to successfully navigate the habitus of higher education and subsequently are not as socially integrated into campus life. These factors undermine students’ sense of belonging in higher education and can sharply reduce students’ ability to be successful on several levels.
Chapter Four: Methodology

Given the gaps in research regarding students’ social class background, their college experiences, and the relationships between college experiences and students’ social integration, in the present study I examine the relationships between students’ social class background and several factors previously associated with student success in higher education: students’ perceptions of campus climate, their level of involvement on campus, the frequency with which students interact with faculty, and students’ sense of belonging. The purpose of this study is to test a hypothesized and theoretically-driven structural equation model of the direct and indirect relationships between college students’ social class background and their social integration on campus (their sense of belonging). Specifically, the research questions framing this study are as follows:

1. Is college students’ social class background associated with the amount of time students spend working in employment?
2. Is the amount of time spent in employment associated with students’ involvement in on-campus activities?
3. Does employment moderate the relationship between college students’ social class background and students’ involvement on campus?
4. Is social class background related to students’ involvement in on-campus activities, their interactions with faculty, and their perception of campus climate?
5. Is social class background related to their sense of belonging?
6. Are campus perceptions and experiences—campus climate, faculty interactions, and involvement in on-campus activities—related to students’ sense of belonging?
**Research Process**

Structural equation modeling is a method that allows researchers to examine the plausibility of relationships among a set of conceptual variables. It identifies those conceptual and typically latent (unobserved) variables by relating them to measured (observed) variables, with an underlying goal of testing theoretical models. Structural equation methods can provide estimates of the strength of hypothesized relationships between variables. The procedures combine aspects of factor analysis and multiple regression (Maruyama, 1998). Structural equation models are specified using relevant theories and research, with a basic goal of providing a quantitative test of a theoretical hypothesized model (Schumacker & Lomax, 2010). Structural equation modeling is increasingly popular in educational and social sciences because researchers are becoming more aware of the importance of using multiple measures of variables in analysis. Structural equation modeling techniques take measurement error into account when analyzing data and these techniques have provided many researchers with an increased capability of analyzing more sophisticated theoretical models of complex phenomena (Schumacker & Lomax, 2010).

Some researchers (Anderson & Gerbing, 1988; Lomax, 1982) proposed a two-step approach to model building that emphasizes two conceptually distinct models: a measurement model and a structural model. Measurement models, which refer to the pattern of relations of indicator variables with latent constructs in the model (Schreiber, Stage, King, Nora, & Barlow, 2006), are tested using confirmatory factor analyses to determine if measured variables adequately define the latent constructs. The main purpose of confirmatory factor analysis is to obtain the best possible indicators of latent
constructors. Tests of the measurement model reveal how well indicators represent the latent constructors (Schreiber, et al., 2006). Confirmatory factor analysis techniques provide validation evidence for constructs (Brown, 2006); as described by Floyd and Widaman (1995), “construct validity is supported if the factor structure of the scale is consistent with the constructs the instrument purports to measure” (p. 287).

The second overarching step of the structural equation modeling procedure is to test the structural model to determine if the latent variables are related as hypothesized. Parameter estimates provide information related to the statistical significance and magnitude of the hypothesized direct and indirect relationships for individual paths in the model (Schumacker & Lomax, 2010). In both stages of structural equation modeling procedures, the overall acceptability of the measurement and structural models are established by using a selection of fit statistics that indicate how closely the hypothesized model resembles the relations found in the sample data (Hoyle, 1995; Schumacker & Lomax, 2010). Model modification is sometimes identified as an additional step if the implied theoretical model is not acceptable, although this step can be challenging for researchers because there is no single existing procedure sufficient for finding a properly specified model (Schumacker & Lomax, 2010).

Structural equation models are not without their weaknesses: if the hypothesized theoretical models are incorrect, then the analyses may be misleading (Maruyama, 1998). According to Maruyama, “Even ‘small’ errors in positioning variables or including paths can create havoc all over a model and result in the solution suggesting erroneous inferences” (1998, p. 4-5). Yet, generally speaking, interpretations of structural equation analyses can provide a bridge between theoretical and empirical aspects of behavioral
research if 1) good initial models are conceptualized based on sound underlying
substantive theories; 2) appropriate data are collected to estimate the unknown population
parameters; 3) the fit of those data to the hypothesized model are assessed; and 4) models
are modified appropriately if lack-of-fit evidence or model misspecification arises
(Mueller, 1996).

**Proposed Model**

This study tests a hypothesized and theoretically-grounded structural equation
model that examines the relationship between students’ social class, campus experiences,
and sense of belonging. The exogenous variable is students’ social class background, a
factor comprised of four items: self-identified social class, mother’s education, father’s
education, and family income. Endogenous latent variables include campus climate,
campus involvement, student-faculty interactions, and sense of belonging (individual
items comprising those factors are described in detail below). The endogenous manifest
variable is the amount of time students spend employed per week.

**Research Hypotheses**

Based on the model below (Figure 1), the following research hypotheses were
developed:

1. Is college students’ social class background associated with the amount of time
students spend working in employment?
    a. Hypothesis 1: Students’ social class background will have a negative
       relationship with employment (hours worked per week).

2. Is the amount of time spent in employment associated with students’ involvement
   in on-campus activities?
a. Hypothesis 2: Students’ employment will be negatively associated with their involvement in on-campus activities.

3. Does employment moderate the relationship between college students’ social class background and students’ involvement on campus?
   a. Hypothesis 3: Students’ social class background will have a positive indirect relationship with students’ campus involvement.

4. Is social class background related to students’ involvement in on-campus activities, their interactions with faculty, and their perception of campus climate?
   a. Hypothesis 4: Students’ social class background will have a positive relationship with students’ campus involvement, perception of campus climate, and frequency of interactions with faculty.

5. Is college students’ social class background related to their sense of belonging?
   a. Hypothesis 5: Students’ social class background will have a positive relationship with students’ sense of belonging.
   b. Hypothesis 6: Students’ social class background will have positive indirect relationships with students’ sense of belonging through campus climate, faculty interactions, and campus involvement.

6. Are campus perceptions and experiences—campus climate, faculty interactions, and involvement in on-campus activities—related to students’ sense of belonging?
   a. Hypothesis 7: Campus climate, faculty interactions, and involvement in on-campus activities will have positive associations with students’ sense of belonging.
Figure 1. Hypothesized structural equation model for the direct and indirect relationships between social class and students’ sense of belonging.
The latent variables—social class, campus climate, student-faculty interactions, campus involvement, and sense of belonging—were developed using confirmatory factor analysis (CFA) with the program LISREL 8.80 (Jöreskog & Sörbom, 2007). Confirmatory factor analysis is a theory-driven technique that allows researchers to test hypotheses about particular factor structures. The factors used in this study have been previously developed through exploratory factor structure and reliability analyses over several years of survey administration (Chatman, 2011). Confirmatory techniques are appropriate in this study because they are traditionally most useful in later stages of scale development after the factor structure of an instrument has been explored and refined through exploratory factor analysis (Brown, 2006). Furthermore, based on past research evidence (Chatman, 2011; Kim & Sax, 2009; Soria, Troisi, & Stebleton, 2012; Stebleton, Huesman, & Kuzhabekova, 2010), the factors used in this analysis are well-defined and there is a strong *a priori* sense of the existing factors.

**Instrument**

The Student Experience in the Research University (SERU) survey is based at the Center for Studies of Higher Education (CSHE) at the University of California-Berkeley. The SERU survey sampling plan is a census scan of the undergraduate experience—all universities that participate in the administration distribute the survey to all enrolled undergraduate students. The SERU survey is comprehensive, with over 600 questions addressing areas related to academic engagement, global/international engagement, student life and development, civic engagement, and campus climate. The survey has been administered at multiple institutions since 2009 and the consortium continues to add new large, public research universities each year.
Participants

In spring 2011, the SERU survey was administered to 213,160 undergraduate students across nine large, public universities classified by the Carnegie Foundation as having very high research activity. The undergraduate enrollment at the smallest institution in the sample was slightly over 18,000 and the enrollment at the largest institution in the sample was over 38,000. The campuses are located across the United States and are mainly concentrated in the East coast, West coast, and in the South. The institutional level completion response rate for the SERU survey was 38.1% ($n = 81,199$), from which I selected only students who were non-transfer and non-international ($n = 58,400$). The SERU survey is lengthy: less than 10% of students did not complete any items past the first page of the survey and an additional 1.5% did not complete any items on the survey pages related to family income, social class, or parental education; therefore, those cases were deleted, resulting in a reduced $n = 52,740$. Across the entire sample, students were more likely to be female (59.1%) and White (59.4%).

Measures

**Social class.** The measure of social class used in this study includes four items: self-reported social class background, mother’s education, father’s education, and family income. This strategy incorporates subjective elements of self-identification, thereby allowing for the inclusion of students’ own cultural and social understanding of social class, while also considering the value of objective measures to validate students’ self-categorization of their social class status. Exploratory analysis of the four items comprising this factor indicates that the items have good internal consistency (Cronbach’s $\alpha = .73$).
In the SERU survey, students were asked to identify their social class through the question, “Which of the following best describes your social class when you were growing up?” Students could select one of the following categories: wealthy, upper-middle or professional-middle, middle-class, working-class, and low-income or poor. In the sample, 5.2% of students self-identified as low-income, 16.7% as working-class, 42.1% as middle-class, 33.4% as upper-middle or professional-middle class, and 2.6% as wealthy. All descriptive analyses were computed using original data without imputations.

A descriptive analysis of the demographic data suggest unique differences between students based upon their self-identified social class categorization; for example, low-income and working-class students are more likely to be students of color and females compared with their middle/upper-class peers, who are more likely to be White males (Table 1). Differences in students’ academic achievement and scores on pre-college achievement tests are also evident: Table 2 demonstrates differences in composite ACT and SAT scores by students’ social class, in addition to students’ current cumulative college grade point averages (GPA). Clear differences appear between students’ SAT and ACT scores and GPA by their social class, with students from wealthy, upper-professional/professional-middle, and middle-classes having higher SAT, ACT, and GPA scores on average than working-class and low-income students. For example, wealthy students have a cumulative grade point average of 3.37 compared with low-income students, who had a grade point average of 3.08.
Table 1

Demographics of SERU Survey Respondents

<table>
<thead>
<tr>
<th></th>
<th>Wealthy</th>
<th>Upper-middle, professional-middle</th>
<th>Middle-class</th>
<th>Working-class</th>
<th>Low-income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Male (40.9%)</td>
<td>703</td>
<td>50.5</td>
<td>7228</td>
<td>41.1</td>
<td>9147</td>
</tr>
<tr>
<td>Female (59.1%)</td>
<td>690</td>
<td>49.5</td>
<td>10345</td>
<td>58.9</td>
<td>12986</td>
</tr>
<tr>
<td>American Indian or Alaskan Native (.4%)</td>
<td>5</td>
<td>.4</td>
<td>47</td>
<td>.3</td>
<td>89</td>
</tr>
<tr>
<td>African American (5.5%)</td>
<td>15</td>
<td>1.1</td>
<td>395</td>
<td>2.2</td>
<td>1095</td>
</tr>
<tr>
<td>Chicano-Latino (12.1%)</td>
<td>114</td>
<td>8.2</td>
<td>1265</td>
<td>7.2</td>
<td>2370</td>
</tr>
<tr>
<td>Asian, Filipino, or Pacific Islander (18.2%)</td>
<td>107</td>
<td>7.7</td>
<td>2387</td>
<td>13.6</td>
<td>4382</td>
</tr>
<tr>
<td>White (59.4%)</td>
<td>1089</td>
<td>78.2</td>
<td>12642</td>
<td>71.9</td>
<td>13247</td>
</tr>
<tr>
<td>Other (1.4%)</td>
<td>26</td>
<td>1.9</td>
<td>284</td>
<td>1.6</td>
<td>306</td>
</tr>
<tr>
<td>Unknown (30%)</td>
<td>37</td>
<td>2.7</td>
<td>553</td>
<td>3.1</td>
<td>644</td>
</tr>
</tbody>
</table>

Table 2

Differences between Students’ SAT Scores, ACT Scores, and Cumulative Grade Point Average (GPA)

<table>
<thead>
<tr>
<th></th>
<th>Wealthy</th>
<th>Upper-middle or professional-middle</th>
<th>Middle-class</th>
<th>Working-class</th>
<th>Low-income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>SAT</td>
<td>1,885.82</td>
<td>263.13</td>
<td>1093</td>
<td>1,906.16</td>
<td>259.28</td>
</tr>
<tr>
<td>ACT</td>
<td>29.44</td>
<td>3.18</td>
<td>595</td>
<td>29.39</td>
<td>3.21</td>
</tr>
<tr>
<td>GPA</td>
<td>3.37</td>
<td>.46</td>
<td>1388</td>
<td>3.40</td>
<td>.47</td>
</tr>
</tbody>
</table>
In order to gain a measure of parents’ education, the SERU survey asks students to indicate their parents’ highest level of education attained in the United States or in a foreign country, ranging from no formal education to doctoral degrees (nine different categories). Students whose parents were born outside of the U.S. could indicate the highest level of education their parents achieved both in the U.S. and in a foreign country. A cross-tabulation of students’ social class and parental education is shown in Table 3. Clearly, students from low-income and working-class backgrounds were more likely to be first-generation compared with their middle/upper-class peers: 71.7% of low-income students and 54.1% of working-class students were first-generation compared with 19.9% of middle-class, 5.1% of upper-professional-class, and 4.5% of wealthy students who were first-generation.

Additionally, the SERU survey asks students to report their family income through the question, “To the best of your knowledge, which category includes the total annual combined income of you or your parent(s) before taxes in 2009?” Financially independent students selected their own income levels while financially dependent students selected their parents’ income. Students’ financial independence was verified by institutions, who gathered this data from federal financial application forms. A small number of students reported they were financially independent but did not have accompanying institutional verification of that independence, as they likely did not complete the federal financial aid application. In identifying their income, students could choose from one of eleven categories beginning with “less than $10,000” and scaling up to “$200,000 or more” in uneven increments ranging from $10,000 (at the bottom) to $50,000 (at the top).
A cross-tabulation of students’ social class and family income is shown in Table 4. As was evident in the descriptive analyses comparing parental education levels by students’ self-reported social class (Table 3), clear distinctions emerge between the different social classes when regarding their family income. For example, 51.1% of low-income students and 17.3% of working-class students reported annual family incomes less than $19,999 compared with 6.7% of middle-class, 2.8% of upper-professional-class, and 3.2% of wealthy students. Over 76% of wealthy students reported annual family incomes over $200,000 per year compared .5% of working-class and .6% of low-income students.

The descriptive analyses (Tables 3 and 4) suggest clear patterns that distinguish students from each other based upon their social class background. While not a perfect indicator of validity in-and-of themselves, these initial findings suggest that students may be relatively accurate in identifying their social class positions. The majority of lower/working-class students in this study were, as might be expected, from families with lower annual incomes and were more likely to be first-generation college students. Similarly, the majority of middle/upper-class students were, as one might expect, from families with significantly higher annual incomes and were less likely to be the first in their families to earn a college degree.
Table 3

*Highest Parental Education by Students’ Self-Reported Social Class*

<table>
<thead>
<tr>
<th>Highest Parental Education</th>
<th>Wealthy</th>
<th>Upper-Professional</th>
<th>Middle-Class</th>
<th>Working-Class</th>
<th>Low-Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>None (did not receive formal education)</td>
<td>1</td>
<td>.1</td>
<td>6</td>
<td>.0</td>
<td>14</td>
</tr>
<tr>
<td>Less than high school diploma</td>
<td>9</td>
<td>.7</td>
<td>21</td>
<td>.1</td>
<td>173</td>
</tr>
<tr>
<td>High school diploma</td>
<td>35</td>
<td>2.5</td>
<td>419</td>
<td>2.4</td>
<td>2186</td>
</tr>
<tr>
<td>Associate’s or postsecondary certificate</td>
<td>17</td>
<td>1.2</td>
<td>453</td>
<td>2.6</td>
<td>1992</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>320</td>
<td>23.1</td>
<td>4789</td>
<td>27.4</td>
<td>7815</td>
</tr>
<tr>
<td>Post-baccalaureate certificate</td>
<td>19</td>
<td>1.4</td>
<td>313</td>
<td>1.8</td>
<td>415</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>342</td>
<td>24.7</td>
<td>5438</td>
<td>31.1</td>
<td>5895</td>
</tr>
<tr>
<td>A professional degree</td>
<td>263</td>
<td>19.0</td>
<td>2524</td>
<td>14.5</td>
<td>1366</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>377</td>
<td>27.3</td>
<td>3502</td>
<td>20.1</td>
<td>2097</td>
</tr>
<tr>
<td>Non-first-generation</td>
<td>1321</td>
<td>95.5</td>
<td>16566</td>
<td>94.9</td>
<td>17588</td>
</tr>
<tr>
<td>First-generation</td>
<td>62</td>
<td>4.5</td>
<td>899</td>
<td>5.1</td>
<td>4365</td>
</tr>
<tr>
<td>Self-Reported Annual Income</td>
<td>Wealthy</td>
<td>Upper-Professional</td>
<td>Middle-Class</td>
<td>Working-Class</td>
<td>Low-Income</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------</td>
<td>--------------------</td>
<td>--------------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>33</td>
<td>2.5</td>
<td>280</td>
<td>1.7</td>
<td>720</td>
</tr>
<tr>
<td>$10,000 to $19,999</td>
<td>9</td>
<td>.7</td>
<td>146</td>
<td>.9</td>
<td>651</td>
</tr>
<tr>
<td>$20,000 to $34,999</td>
<td>16</td>
<td>1.2</td>
<td>208</td>
<td>1.3</td>
<td>1306</td>
</tr>
<tr>
<td>$35,000 to $49,999</td>
<td>17</td>
<td>1.3</td>
<td>299</td>
<td>1.9</td>
<td>1717</td>
</tr>
<tr>
<td>$50,000 to $64,999</td>
<td>10</td>
<td>.8</td>
<td>490</td>
<td>3.0</td>
<td>2426</td>
</tr>
<tr>
<td>$65,000 to $79,999</td>
<td>14</td>
<td>1.1</td>
<td>816</td>
<td>5.1</td>
<td>3053</td>
</tr>
<tr>
<td>$80,000 to $99,999</td>
<td>25</td>
<td>1.9</td>
<td>1566</td>
<td>9.7</td>
<td>3752</td>
</tr>
<tr>
<td>$100,000 to $124,999</td>
<td>47</td>
<td>3.6</td>
<td>3230</td>
<td>20.1</td>
<td>3885</td>
</tr>
<tr>
<td>$125,000 to $149,999</td>
<td>37</td>
<td>2.9</td>
<td>1918</td>
<td>11.9</td>
<td>1314</td>
</tr>
<tr>
<td>$150,000 to $199,999</td>
<td>102</td>
<td>7.9</td>
<td>2706</td>
<td>16.8</td>
<td>1040</td>
</tr>
<tr>
<td>$200,000 or more</td>
<td>986</td>
<td>76.1</td>
<td>4415</td>
<td>27.5</td>
<td>669</td>
</tr>
</tbody>
</table>
**Campus climate for social class, gender, and race.** Campus climate is conceived as a measure of the organizational habitus that describes how welcoming and affirming the college or university is for students. In this study, campus climate is defined as the perceived level of respect afforded for students based on their socioeconomic status or social class, race/ethnicity, or gender. Campus climate is an increasingly important variable in higher education research, as several studies have examined the role that campus climate plays in facilitating students’ sense of belonging and integration on campus (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Harper & Hurtado, 2007; Hurtado & Carter, 1997).

Many scholars have discovered that campus climate has an indirect effect on student persistence (Pascarella & Terenzini, 1991, 2005); for example, Museus, Nichols, and Lambert, (2008) found that campus climate affected students’ goal commitment, social involvement, academic involvement, and institutional commitment. Based on their substantive review of higher education literature, Pascarella and Terenzini (1991, 2005) concluded that at certain institutions, “the effects [of campus climate] may be more indirect than direct, influenced by more supportive faculty and peer relations and overall educational environment” (p. 438). Perceptions of hostile campus racial climate have been demonstrated to negatively affect students’ sense of belonging and engagement (Chavous, 2005; Harper, Carini, Bridges, & Hayek, 2004; Hurtado and Ponjuan, 2005; Johnson, Soldner, Leonard, Alvarez, Inkelas, Rowan-Kenyon, & Longerbeam, 2007).

Acknowledging the intersectionality theories framing this study—in addition to the evidence depicted in Table 1 that suggests that low-income and working-class students are more likely to inhabit racial and gender positions that may place them at
unique societal disadvantages—in this study, campus climate is considered from three perspectives: climate for social class, gender, and race. In the survey, students were asked to indicate whether they agreed that students were respected on campus regardless of their economic or social class, gender, or race/ethnicity (Table 5). These items were scaled 1 = strongly disagree to 6 = strongly agree. The three items describing campus climate have relatively high internal consistency in this analysis (Cronbach’s $\alpha = .87$).

**Campus involvement.** Activities such as interacting with peers, participating in campus clubs, and socializing with faculty are the types of involvement typically measured under involvement theories (Pascarella & Terenzini, 1991, 2005). Astin (1984) hypothesized that increases in involvement would lead to greater benefits and successes among students and, indeed, several outcomes have been positively associated with student involvement, including academic achievement, retention, and graduation (Pascarella & Terenzini, 1991, 2005).

Students’ involvement on campus and with their peers may lead to increased social integration on campus, a “predictor of persistence [that] is more robust than for academic integration, suggesting that increasing social integration leads to greater institutional commitment and thus greater likelihood of persistence to graduation” (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007, p. 14). Peer interactions are particularly important with regard to social integration, partially because students are more likely to stay in school when they feel comfortable and connected to other students with similar interests and aspirations (Bean, 1980; Tinto, 1975, 1993); thus, studies that address social involvement and peer interactions have important implications toward enhancing the retention and graduation rates of college students.
In the SERU survey, students were asked to indicate how many hours per week they spent participating in student clubs or organizations, socializing with friends, participating in recreational sports or physically active hobbies, performing community service or volunteer activities, participating in spiritual or religious activities, or pursuing a recreational or creative interest (Table 5). Many of these activities can be conducted under the auspices of the campus environment, although it is acknowledged that some of these activities (e.g., spiritual or religious activities and community service) could be conducted off-campus. In the survey, students could indicate the number of hours they were involved each week by choosing from one of eight categories beginning with zero hours and rising incrementally by five hours (e.g., 1-5, 6-10, etc.) until the last option of “more than 30 hours.” These items have a lower internal consistency than the other items used in the analysis (Cronbach’s $\alpha = .69$), but this is somewhat expected, as students who are highly involved in one activity would be less likely to be extensively involved in other activities due to their limitations in time.

**Student employment.** Across several decades, researchers have investigated and revealed the impact of student employment on college students’ academic success and retention; yet, results remain relatively inconclusive regarding the positive or negative effects of employment (Henke, Lyons, & Krachenberg, 1993; Lyons, Krachenberg, & Henke, 1986; Newman, 1942; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1998). Lyons, et al. (1986) found a small negative relationship between student employment and academic performance. In a comprehensive national study of undergraduate college students, Astin (1993) reported that full-time and part-time student employment was also associated with lower grade point averages. Lammers, Onwuegbuzie, & Slate (2001)
concluded that “little doubt exists [that] working while enrolled in college is a threat to students’ level of academic achievement” (p. 72).

On the contrary, however, Volkwein, Schmonsky, and Im (1989) found no negative effects on academic outcomes while Dallam and Hoyt (1981) promoted the value of employment as a means to productively fill time, noting that students with too much free time had diminished academic commitment. King (2002) found that students who worked more than 15 hours per week were less likely to graduate in four years while students who worked fewer than 15 hours were more likely to graduate in four years compared with students who were not employed at all. Hood, Craig, and Ferguson (1992) discovered that students who worked five to ten hours per week had higher grade point averages than students who worked less than five hours per week. Dundes and Marx (2006-2007) similarly found that students who worked 10-19 hours per week were the most likely to earn the highest grades. The authors surmised that students who worked 10-19 hours per week appeared “compelled to manage their time well, perhaps involving a routine in which they set aside time for both their job and their studies” (p. 115).

Several researchers have found that first-generation, low-income, and working-class students are more likely to be employed in college and work more hours per semester (Barry, Hudley, Kelly, & Cho, 2009; Dennis, Phinney, & Chuateco, 2005; Callendar & Wilkinson, 2003; Leathwood & O’Connell, 2003; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Moreau & Leathwood, 2006). Research also suggests that working-class students tend to receive a lower hourly rate compared with their upper-class peers (Callendar & Wilkinson, 2003). These discrepancies can have a negative
influence on the ability of lower/working-class students to become involved on their campuses and can potentially impede the opportunity for lower/working-class students to afford involvement in more expensive college experiences (e.g., spring break trips, study abroad, or fraternities/sororities).

In the SERU survey, students were asked to indicate how many hours per week they spent in paid employment, including paid internships (Table 5). Students could choose from one of eight categories beginning with zero hours and rising incrementally by five hours (e.g., 1-5, 6-10, etc.) until the last option of “more than 30 hours.” This variable did not distinguish whether students were employed on campus or off campus; instead, a second survey question asked how many hours students spent in employment were related to on-campus employment. For the purposes of this study, only students’ total hours spent in employment were used and the location of employment was not considered.

**Faculty interactions.** Student-faculty interactions—inside and outside the classroom—hold the potential to positively impact college student development, student persistence, and achievement measures (Astin, 1993; Chang, 2005; Lamport, 1993; Pascarella & Terenzini, 1991, 2005). Scholarly inquiries about the influences of student-faculty interactions are replete in the higher education literature; in fact, research on student-faculty interaction at the postsecondary level has been conducted for several decades (Endo & Harpel, 1982; Kim & Sax, 2009; Pascarella, 1980; Pascarella & Terenzini, 1977).

Evidence suggests that student-faculty interactions are a particularly important factor in overall student success (Astin, 1993; Pascarella & Terenzini, 1991, 2005; Tinto,
Student-faculty interactions are positively associated with student persistence and other positive student outcomes, including what students gain from their college experience, their view of the campus environment, and their overall satisfaction (Kuh, 2007; Pascarella & Terenzini, 1976). Informal student-faculty interactions (e.g., speaking with faculty outside of class, working on a research project with a faculty member, or serving on committees with faculty) are also positively correlated with student learning and development (Astin, 1993; Kuh, 2003; Kuh and Hu, 2001).

Generally speaking, out-of-class contacts with faculty “appear to positively shape students’ perceptions of the campus environment and seem to positively influence educational aspirations” (Kuh, 2007, p. 56). Such engagement activities may reinforce students’ collegiate goals, deepen their commitment to graduate (Pascarella & Terenzini, 1991, 2005), and lead students to develop a strong bond with their institution (Kuh, Douglas, Lund, & Ramin-Gyurnek, 1994). In summary, Pascarella and Terenzini (191, 2005) noted that student contact with faculty outside the classroom consistently promotes student persistence, educational aspirations, and degree completion.

In the SERU survey, students were asked to indicate the frequency with which they had interacted with faculty inside and outside of classrooms during the academic year. Items included having a class in which a professor knew or learned their name, communicating with faculty by email or in person, talking with instructors outside of class about issues and concepts derived from a course, and interacting with faculty during lecture class sessions (Table 5). These items provide a holistic measure of the frequency of students’ faculty interactions in a variety of contexts. These items were scaled 1 = never to 6 = very often and they have high internal consistency (Cronbach’s $\alpha = .84$).
**Sense of belonging.** The concept of sense of belonging has been included in several models of college student persistence and retention; specifically, the concept of sense of belonging is associated with Tinto’s concept of integration into the college setting (1993); Berger and Milem’s (1999) theory of student involvement; and Bean’s (1985) concept of socialization, which is closely related to students’ institutional fit and commitment. Scholarly research conducted on college student experience and sense of belonging suggests there is a strong association between students’ sense of belonging and their retention at the institution: the greater the sense of belonging to the institution, the more likely it is that the student will remain in college (Hausmann, Schofield, & Woods, 2007; Hoffman, Richmond, Morrow, & Salomone, 2002-2003). Much of this recent work expands on the pioneering and paradigmatic retention work of Astin (1993) and Tinto (1993) and is described thoroughly by Pascarella and Terenzini (2005).

Many scholars have found that social class is positively related to students’ integration and sense of belonging in higher education—the higher one’s social class, the more one is likely to feel as though he or she naturally belongs in the habitus of higher education (Ostrove & Cole, 2003; Ostrove & Long, 2007). Alienation and estrangement can serve as boundaries that limit lower/working-class students’ full integration in the middle-class habitus of higher education. Since some scholars have also established a strong relationship between belonging and students’ retention and graduation, examining working-class students’ sense of belonging can provide some insights into factors influencing their attrition (Alford, 1998; Tovar, Simon, & Lee, 2009).

While the concept of sense of belonging considers students’ individual feeling of connectedness to their campus habitus, some have argued that retention models focusing
on one’s integration in the institution fail to address the needs of students with non-dominant social identities (Rendón, Jalomo, & Nora, 2000); for example, students who belong to underrepresented social class identities—such as working-class and low-income students—may not ever become fully integrated into the middle-class culture of higher education because the assumption of the dominant culture is one of assimilation—that students should either abandon their home culture or maintain their past affiliations while risking academic and social disintegration (Johnson, et al., 2007).

In the SERU survey, students were asked to indicate whether they agreed that they belonged on campus or would return to the same campus knowing what they know about campus life. These items were scaled 1 = strongly disagree to 6 = strongly agree. Students were also asked to indicate their satisfaction with their overall social and academic experiences (1 = very dissatisfied to 6 = very satisfied). These four items have high internal consistency (Cronbach’s $\alpha = .85$) (Table 5).
Table 5

*Means, Standard Deviations, and Coding of Variables Used in Analysis*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Stem</th>
<th>Item (Abbreviation)</th>
<th>M</th>
<th>SD</th>
<th>Coding/Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus Climate</td>
<td>Indicate how strongly you agree or disagree with each of the following statements</td>
<td>Students are respected here regardless of their economic or social class (Social Class Climate)</td>
<td>4.55</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students are respected here regardless of their gender (Gender Climate)</td>
<td>4.88</td>
<td>1.00</td>
<td>1 = strongly disagree to 6 = strongly agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students are respected here regardless of their race or ethnicity (Race/ethnicity Climate)</td>
<td>4.68</td>
<td>1.09</td>
<td></td>
</tr>
<tr>
<td>Faculty Interactions</td>
<td>How frequently during this academic year have you done each of the following?</td>
<td>Had a class in which the professor knew or learned your name (Faculty Knew Name)</td>
<td>4.11</td>
<td>1.44</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communicated with a faculty member by email or in person (Communicated with Faculty)</td>
<td>4.34</td>
<td>1.31</td>
<td>1 = never to 6 = very often</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Talked with an instructor outside of class about issues and concepts derived from a course (Talked with Faculty)</td>
<td>3.28</td>
<td>1.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interacted with faculty during lecture class sessions (Interacted with Faculty)</td>
<td>3.39</td>
<td>1.42</td>
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<tr>
<td>Sense of Belonging</td>
<td>Please rate your level of satisfaction with the following aspects of your university education</td>
<td>Overall social experience (Social Satisfaction)</td>
<td>4.70</td>
<td>1.12</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Overall academic experience (Academic Satisfaction)</td>
<td>4.61</td>
<td>1.05</td>
<td>1 = very dissatisfied to 6 = very satisfied</td>
</tr>
<tr>
<td></td>
<td>Please rate your level of agreement with the following statements</td>
<td>I feel that I belong on this campus (Belonging)</td>
<td>4.92</td>
<td>1.09</td>
<td>1 = strongly disagree to 6 = strongly agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowing what I know now, I would still choose to enroll at this campus (Would)</td>
<td>4.99</td>
<td>1.19</td>
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</tbody>
</table>

76
<table>
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<tr>
<th>Factor</th>
<th>Stem</th>
<th>Item (Abbreviation)</th>
<th>M</th>
<th>SD</th>
<th>Coding/Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>How many hours do you spend in a typical week (7 days) on the following activities?</td>
<td>Paid employment (including paid internships) (Employed)</td>
<td>2.28</td>
<td>1.55</td>
<td>1 = 0 hours; 2 = 1-5; 3 = 6-10; 4 = 11-15; 5 = 16-20; 6 = 21-25; 7 = 26-30; 8 = over 30 hours</td>
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<tr>
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<td></td>
<td>Performing community service or volunteer activities (Community Service)</td>
<td>1.79</td>
<td>.83</td>
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<td></td>
<td>Participating in physical exercise, recreational sports, or physically active hobbies (Physically Active)</td>
<td>2.53</td>
<td>1.02</td>
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<tr>
<td>Campus Involvement</td>
<td>How many hours do you spend in a typical week (7 days) on the following activities?</td>
<td>Participating in spiritual or religious activities (Spiritual Activities)</td>
<td>1.48</td>
<td>.67</td>
<td>1 = 0 hours; 2 = 1-5; 3 = 6-10; 4 = 11-15; 5 = 16-20; 6 = 21-25; 7 = 26-30; 8 = over 30 hours</td>
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<tr>
<td></td>
<td></td>
<td>Participating in student clubs or organizations (Clubs or Organizations)</td>
<td>2.25</td>
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<tr>
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<td></td>
<td>Pursuing a recreational or creative interest (arts/crafts, reading, music, hobbies, etc.) (Creative Interests)</td>
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<td>1.06</td>
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<tr>
<td></td>
<td></td>
<td>Socializing with friends (Socialize with Friends)</td>
<td>3.35</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>Social Class</td>
<td>Which of the following best describes your social class when you were growing up?</td>
<td>(Social Class)</td>
<td>3.12</td>
<td>.89</td>
<td>1 = wealthy; 2 = upper-middle or professional-middle; 3 = middle-class; 4 = working-class; 5 = low-income or poor</td>
</tr>
<tr>
<td></td>
<td>What is the highest level of education reached by your mother?</td>
<td>(Mother’s Education)</td>
<td>5.00</td>
<td>1.75</td>
<td>1 = None (did not receive formal education); 2 = Less than high school diploma; 3 = High school diploma; 4 = Associate’s or postsecondary</td>
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<td>What is the highest level of education reached by your father?</td>
<td>(Father’s Education)</td>
<td>5.41</td>
<td>2.05</td>
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<tr>
<td>Factor</td>
<td>Stem</td>
<td>Item (Abbreviation)</td>
<td>M</td>
<td>SD</td>
<td>Coding/Scale</td>
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<tr>
<td></td>
<td></td>
<td>Which category</td>
<td>6.69</td>
<td>2.85</td>
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<td></td>
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<td>includes your</td>
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<td>household’s total</td>
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<td></td>
<td></td>
<td>annual income in 2011?</td>
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</table>

(Concluded with the table and the text.)
Assumptions

Structural equation modeling rests on several assumptions, including that 1) the model is correctly specified (which includes omitting no variables from the model); 2) the observations are independent; 3) there are no systematic missing data; 4) there is a sufficiently large sample size; and 5) the distribution of the variables is multivariate normal (Kline, 2010). Before beginning larger analyses, therefore, the following sections describe the results of tests of some of the assumptions.

Missing values. Missing values analysis conducted in SPSS 19.0 (IBM Corp., 2010) revealed that the majority of the individual variables had no greater than 2% missing data, although self-reported income had 7% missing data and mother’s/father’s education had 1.2% and 2.0% missing data. Little’s (1982) missing cases at random (MCAR) test revealed that the data were not missing completely at random ($\chi^2 = 9079.55$, df = 6524, $p < .05$). Kline (2010) suggested that missing data patterns in social sciences are rarely, if ever, completely randomized. Therefore, I chose to substitute missing data using the Monte Carlo Markov Chain (MCMC) multiple imputation method in LISREL, which introduces random variation to preserve a proper degree of variability in the imputed data (Brown, 2006). After substituting missing values, I produced two correlation matrices: one using the original data and the other using the new data set with the missing values imputed. A comparison of the two correlation matrices revealed no appreciable differences in the correlations between the original and imputed variables.

Univariate normality of data. Kolmogorov-Smirnov tests indicated that all variables were non-normal ($p < .001$); however, because these tests are overly sensitive to large sample sizes, I examined the histograms and box plots and also assessed
standardized skewness and kurtosis in PRELIS 8.80 (Jöreskog & Sörbom, 2007). Many of the variables associated with campus climate and sense of belonging demonstrated negative skewness (indicating students generally had a positive view of campus climate and a greater sense of belonging on campus overall) while other variables (e.g., faculty interactions and the social class values) appeared to demonstrate normality according to plots. Variables associated with students’ involvement on campus were positively skewed, indicating students were more likely on average to spend a shorter amount of time on some of the activities (e.g., 1-10 hours per week rather than 20+ hours per week). All of the variables had standardized skewness values higher than the absolute value of 3.00 ($p < .001$)—three standard deviations away from the mean—suggesting significant departures from normality (Kline, 2010).

All variables had standardized kurtosis values higher than the absolute value of 3.00 ($p < .001$) (Kline, 2010). The variables with the highest kurtosis values included time spent per week participating in student clubs or organizations, participating in spiritual or religious activities, participating in recreational sports or physically active hobbies, working in employment, pursuing a recreational or creative interest, and performing community service or volunteer activities. To some extent, it makes logical sense that these variables would not have completely normal distributions, as that normality would imply that the majority of students spend between 11-20 hours in each of those activities per week (amounting to 66-120 hours per week on those activities). Examinations of the histograms for the time variables suggests that the majority of respondents spent between zero and 6-10 hours week participating in student clubs or organizations (85.8%), participating in spiritual or religious activities (95.5%),
participating in recreational sports or physically active hobbies (84.4%), working in
employment (73.4%), socializing with friends (58.9%), pursuing a recreational or
creative interest (86.5%), and performing community service or volunteer activities
(94.4%).

Univariate and multivariate outliers. A univariate outlier indicates the presence
of an extreme score on a single variable whereas a multivariate outlier has an extreme
score with respect to multiple variables (Kline, 2010). I checked for univariate outliers by
calculating individualized $z$ scores and identifying scores that exceeded an absolute value
of 3.00 (indicating three standard deviations from the mean). All of the variables save for
those relating to student-faculty interactions, the amount of time students spent
socializing with friends per week, social class, parental education, and income had at
least one observation that exceeded the absolute value criterion. Most of the univariate
outliers appeared within the time variables, so I reviewed the individual students’
responses to the amount of time they indicated participating in these activities per week.
A small sample of students ($n = 204$) indicated they participated four, five, six, or seven
different activities over 30 hours per week apiece, an improbable situation due to the
limited number of hours available in each week.

Multivariate outliers were detected by computing a squared Mahalanobis distance
($D^2$), which measures the distance of a case from the centroid (multidimensional mean) of
a distribution given the covariance (multidimensional variance) of the distribution.
Mahalanobis distances were computed using linear regression with a dummy dependent
variable. A case is considered an outlier if the probability associated with its $D^2$ is $p <
.001$. $D^2$ follows a chi-square ($\chi^2$) distribution with degrees of freedom equal to the
number of variables (df = 22). In the sample, 2,329 cases had Mahalanobis $D^2$ values that were statistically significant ($p < .001$).

In examining the standardized data, it was apparent that the majority of outliers were associated with students’ use of time per week (including the aforementioned 204 cases). In these cases, it is apparent that students overestimated the number of hours they participated in the seven activities used in this study per week, which did not even include measures of how often students attended classes or studied (time-consuming activities in higher education). Instead of transforming these variables, truncation, wherein extreme scores are recoded to the highest reasonable values (Osborne & Overbay, 2004), made sense given the unlikely event that students could actually participate in each of these activities for such extensive amounts of time per week. I collapsed the three categories over 16 hours per week (16-20 hours; 20-25 hours; 26-30 hours; over 30 hours) into one category: over 16 hours per week.

Truncation reduced the number of variables with significant Mahalanobis $D^2$ values by half (now constituting 2.7% of the sample), which was deemed more acceptable. Further analysis of the standardized truncated time variables suggested that two variables still had outliers that were three standard deviations or more from the mean: time spent participating in community service and time spent participating in religious or spiritual activities. Interestingly, half of the problematic cases ($n = 575$) had significant deviations in both categories at once. It is perhaps the case that students may have completed both activities simultaneously—participating in community service through a church or synagogue, for example, or even volunteering within religious organizations themselves (e.g., serving as a volunteer during a religious service). These variables were
therefore truncated again, with anything over 16 hours per week collapsed into one variable for community service participation and anything over 11 hours per week collapsed into one variable for participation in spiritual or religious activities.

I produced two correlation matrices: one using the original data and the other using the new data set with the truncated values. A comparison of the two correlation matrices revealed no noticeable differences in the correlations between the original and truncated participation variables. Comparisons of means and standard deviations also indicated that the largest difference was between the pre- and post-truncation of the “time spent socializing with friends” variable (mean difference of .22 and standard deviation difference of .45). Univariate skewness and kurtosis values improved after truncation.

**Linearity and homoscedasticity.** I examined normal probability (Q-Q) plots of the standardized residuals for cases of nonlinearity and scatterplots of standardized residuals and predicted scores for heteroscedasticity. Multiple regression analyses were conducted with the four sense of belonging items as dependent variables and the standardized residuals for the dependent variables and predictor variables were saved. Examination of the plots revealed that the assumptions of homoscedasticity and linearity were met.

**Multicollinearity and singularity.** Next, using linear regression on a dummy variable, I examined multicollinearity, which develops when one or more of the independent variables is highly correlated with one or more of the other independent variables. The variance inflation factors were all below the recommended critical value of 10 (Kline, 2005). Only three bivariate correlations were above .70 among the independent variables: 1) campus climate for race/ethnicity and campus climate for...
gender ($r = .718$); 2) campus climate for race/ethnicity and campus climate for social class ($r = .700$); and 3) students’ sense of belonging on campus and their desire to reenroll at the institution ($r = .751$) (Table 6). If one independent variable is a perfect linear combination with other independent variables, then the matrix of intercorrelations among the independent variables will be singular and there will exist no unique solution for the regression coefficients. Singularity is automatically evaluated in LISREL, which found no incidence of a covariance matrix that was not positive definite.
### Table 6

**Correlation Matrix of Variables**

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<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>7</th>
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<td>1. Social Class Climate</td>
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<td>2. Gender Climate</td>
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<td>3. Race/Ethnicity Climate</td>
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<td>4. Faculty Knew Name</td>
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<td>6. Talked with Faculty</td>
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<td>.231</td>
<td>.227</td>
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<td>.156</td>
<td>.122</td>
<td>.156</td>
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<td>9. Academic Satisfaction</td>
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<td>.225</td>
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<td>.128</td>
<td>.156</td>
<td>.647</td>
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<td>.252</td>
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<td>-.062</td>
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<td>-.053</td>
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<td>.012</td>
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<td>-.045</td>
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<td>.040</td>
<td>.043</td>
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<td>.030</td>
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<td>.031</td>
<td>.033</td>
<td>.043</td>
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<td>.029</td>
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</table>

**M**  4.55  4.88  4.68  4.10  4.34  3.28  3.38  4.70  4.60  4.92  

**SD**  1.14  .99  1.09  1.44  1.31  1.46  1.42  1.12  1.05  1.09
Table 6 (Continued)

*Correlation Matrix of Variables*

<table>
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<th></th>
<th>11</th>
<th>12</th>
<th>13</th>
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<tr>
<td>Employed</td>
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<td>-0.004</td>
<td>0.044</td>
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<td>0.065</td>
<td>0.038</td>
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<td>0.461</td>
<td>0.525</td>
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</table>

M: 4.99 2.28 1.79 2.53 1.48 2.25 2.33 3.35 3.11 6.69 5.00 5.41  
SD: 1.19 1.54 .83 1.02 .67 1.14 1.06 1.11 .89 2.83 1.73 2.03  

86
**Multivariate normality.** Next, I examined multivariate normality of the data, which suggests that each variable in a sample has a univariate normal distribution and each pair of variables has a bivariate normal distribution (Hayduk, 1987). Mardia’s (1970) multivariate relative kurtosis value was 1.16, meaning that no serious deviations from multivariate normality existed, although multivariate skewness and kurtosis values were 17.98 and 588.84, respectively. Kline (2010) noted that slight departures from normality can rise to statistical significance in the event of large sample sizes. Given that the sample size in this analysis is large, it is likely that the skewness and kurtosis values were affected correspondingly.
Chapter Five: Results

Confirmatory Factor Analysis

Confirmatory factor analysis was used to test a measurement model of the indicators and latent constructs using maximum likelihood parameter estimation. The underlying principle of maximum likelihood estimation is to “find the model parameter estimates that maximize the probability of observing the available data if the data were collected from the same population again” (Brown, 2006, p. 73). According to Brown (2006), maximum likelihood rests on several key assumptions; namely, sample sizes must be large, indicators must be measured on continuous scales, and the distribution of the indicators must be multivariate normal. If non-normality is extreme, then maximum likelihood will produce incorrect parameter estimates and the assumption of the linear model will be rendered invalid (Brown, 2006); however, maximum likelihood is relatively consistent at producing efficient estimation and is rather robust against moderate violations of normality assumption provided that the sample provides more than 100 or more observations (Anderson & Gerbing, 1998; Diamantopoulos & Siguaw, 2000). The sample size meets the minimum criterion for number of recommended observations and the moderate assumptions violations listed in chapter four should therefore have a minimal impact upon the final results. The covariances of the variables were used in the confirmatory factor analysis (Table 7).
Table 7

*Covariance Matrix of Variables*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<td>-.051</td>
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<td>.054</td>
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<td>.098</td>
<td>.098</td>
<td>.052</td>
<td>.064</td>
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M
4.55 4.88 4.68 4.10 4.34 3.28 3.38 4.70 4.60 4.92

SD
1.14 .99 1.09 1.44 1.31 1.46 1.42 1.12 1.05 1.09
Table 7 (Continued)

_Covariance Matrix of Variables_  

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<td>3. Race/Ethnicity Climate</td>
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<td></td>
</tr>
<tr>
<td>5. Communicated with Faculty</td>
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<td>0.112</td>
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<td>6. Talked with Faculty</td>
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</tr>
<tr>
<td>7. Interacted with Faculty</td>
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<td>0.053</td>
<td>0.137</td>
<td>0.260</td>
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<td>1.131</td>
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<tr>
<td>8. Social Satisfaction</td>
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<td>0.039</td>
<td>0.295</td>
<td>0.365</td>
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<td>9. Academic Satisfaction</td>
<td>0.078</td>
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<td>-0.021</td>
<td>0.074</td>
<td>-0.021</td>
<td>0.069</td>
<td>0.032</td>
<td>0.131</td>
<td>0.801</td>
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<td>0.212</td>
<td>-0.106</td>
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<td>0.385</td>
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<td>-0.023</td>
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<td>0.083</td>
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<td>0.857</td>
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<td>1.883</td>
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<td>M</td>
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<td>2.28</td>
<td>1.79</td>
<td>2.53</td>
<td>1.48</td>
<td>2.25</td>
<td>2.33</td>
<td>3.35</td>
<td>3.11</td>
<td>6.69</td>
<td>5.00</td>
<td>5.41</td>
</tr>
<tr>
<td>SD</td>
<td>1.19</td>
<td>1.54</td>
<td>0.83</td>
<td>1.02</td>
<td>0.67</td>
<td>1.14</td>
<td>1.06</td>
<td>1.11</td>
<td>0.89</td>
<td>2.83</td>
<td>1.73</td>
<td>2.03</td>
</tr>
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</table>
LISREL 8.80 (Jöreskog & Sörbom, 2007) was used to produce an overall test of
the goodness of fit of the proposed model to the sample data. For the purpose of this
study, the following fit indices typically reflected in applied research (Brown, 2006) were
used to evaluate the confirmatory factor analysis output: standardized root mean square
residual (SRMR), root mean square error of approximation (RMSEA), comparative fit
index (CFI), and Tucker-Lewis index, also known as the non-normed fit index in
LISREL (NNFI). Brown (2006) broadly characterized these fit statistics as falling in
three main categories: absolute fit (SRMR), fit adjusting for model parsimony (RMSEA),
and comparative or incremental fit (CFI and NNFI). According to Brown (2006), these fit
indices are recommended based on their overall satisfactory performance. The chi square
to degrees of freedom ratio ($\chi^2/df$) test, also an absolute fit test alongside SRMR, was also
reported; however, this test is overly sensitive to sample size and more likely to be
significant when the sample is large (Brown, 2006).

The SRMR is the average discrepancy between the observed correlations and the
correlations predicted by the model (Brown, 2006). The SRMR can take a range of values
between 0.0 and 1.0, with 0.0 indicating a perfect fit; Brown (2006) suggested that
reasonably good fit occurs when SRMR values are close to .08 or below. The RMSEA
assesses the extent to which a model fits reasonably well in the population. Values of .05
or less suggest good model fit, values less than .08 reflect adequate model fit, and any
value greater than .10 should be rejected (Brown & Cudeck, 1993). Comparative fit
indices (CFI and NNFI) evaluate the degree of fit between the hypothesized and baseline
or null measurement model. CFI and NNFI values in the range of .90 to .95 may be
indicative of acceptable model fit (Brown, 2006).
Overall, the confirmatory factor analysis fit indices indicated a reasonable fit to the data: the SRMR of .043 signified an average fit. The RMSEA value of 0.055 also represented a reasonably good fit. The values for CFI and NNFI were .95 and .94, respectively, which exceeded the recommended value of .90, suggesting adequate model data fit. Hair, Anderson, Tatham, and Black (1998) suggested that the absolute value of factor loadings of .30 are significant, loadings of .40 are considered more important, and loadings of .50 or greater are very significant. In this analysis, the majority of the factor loadings were above .50, although four factor loadings were below .50 in the campus involvement factor (time spent being physically active, participating in spiritual or religious activities, pursuing creative interests, and socializing with friends) (Table 8). The $\chi^2$ statistic was large at 28,883.52 ($p < .001$) and the $\chi^2$/df was also large (161.36), indicating a poor fit (although, as described above, this is likely attributed to the large sample size). Figure 2 visually represents the five factors developed using CFA.
Table 8

**Standardized Factor Loadings Matrix**

<table>
<thead>
<tr>
<th>Item</th>
<th>Campus Climate ($\alpha = .87$)</th>
<th>Faculty Interactions ($\alpha = .84$)</th>
<th>Sense of Belonging ($\alpha = .85$)</th>
<th>Campus Involvement ($\alpha = .69$)</th>
<th>Social Class ($\alpha = .73$)</th>
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</thead>
<tbody>
<tr>
<td>Social Class Climate</td>
<td>.79</td>
<td>---</td>
<td>---</td>
<td>---</td>
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<tr>
<td>Gender Climate</td>
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<td>Race/ethnicity Climate</td>
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</table>
Figure 2. Results of confirmatory factor analysis.
Structural Model

Structural equation modeling was used to conduct the data analysis for testing the research hypotheses and hypothesized model. Structural equation models examine measurement error and provide path coefficients for both the direct and indirect relationships of structural hypotheses. After specifying a confirmatory factor analysis model and estimating the parameters, it is appropriate to assess whether the data fit the hypothesized model. This step provides an indication for whether the hypothesized structure should be rejected due to data-model misfit or whether the model might be a viable representation of the theoretical relationships between the exogenous and endogenous variables.

LISREL 8.80 (Jöreskog & Sörbom, 2007) was used to produce an overall test of the goodness of fit of the proposed model to the sample data. The following four categories of fit indices were used to evaluate the structural model, as suggested by Kline (2011): 1) absolute fit indices, which are generally interpreted as proportions of the covariances explained by the model; 2) comparative fit indices, which indicate the relatively improvement in fit of the proposed model compared with a baseline model; 3) parsimony-adjusted indices, which consider the complexity of the model; and, 4) predictive fit indices, which estimate model fit in hypothetical replication samples. The fit indices used here include model chi-square ($\chi^2$), goodness of fit index (GFI), standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), non-normed fit index (NNFI), and comparative fit index (CFI).

Table 9 demonstrates the values of the fit statistics from the first and second structural equation models. The first model’s chi-square statistic, $\chi^2(199) = 30884.23$, $p <$
.001, suggests that the exact-fit hypothesis is rejected. As reported earlier, the chi-square ($\chi^2$) test is overly sensitive to sample size and can also be affected by multivariate non-normality, correlation size, and variables with high proportions of unique variance (Kline, 2011). The comparative fit index (CFI) compares a specified model to the null model but takes sample size into account (Byrne, 1994). Traditionally, CFI values of .95 or higher indicate a good fit (Hu & Bentler, 1999). The model’s CFI value (CFI = .94) suggests a less-than-optimal fit and indicates that the fit of the model is about a 94% improvement over that of the independence model fit (Hu & Bentler, 1999). The non-normed fit index value also suggested a less-than-optimal fit (NNFI = .940) (Hu & Bentler, 1999). The root mean square error of approximation value of .055, along with the lower and upper bounds of its confidence interval, suggests a failure to reject a poor fit hypothesis, although it is close to the recommended cutoff value of RMSEA < .06 (Hu & Bentler, 1999; Kline, 2011). The covariance matrix predicted by the model explains about 95% of the total variability in the sample covariance matrix (GFI = .948). The standardized root mean square residual, a measure of the difference between the observed and predicted correlations, suggests relatively good explanatory power at the level of pairs of observed variables (SRMR = .051) (Hu & Bentler, 1999).

A review of the modification indices suggested several areas in which freeing parameters would decrease the $\chi^2$ badness-of-fit measure. A modification index is a univariate Lagrange multiplier which is expressed as a $\chi^2$ statistic with a single degree of freedom and the value of the statistic estimates the amount by which the overall model $\chi^2$ would decrease if a particular fixed-to-zero parameter were freely estimate (Mueller, 1996). Kaplan (1990) suggested that fixed parameters with large modification indices
(MI) and expected parameter change statistics (EPC) may be freed but parameters with large MI and EPC and those with small MI and EPC should remain fixed. Jöreskog and Sörbom (1993) argued that a large $\chi^2$ (as compared to the degrees of freedom) should be taken as an indication that certain parameters should be freed to improve the data-model fit. Several of the modification indices and expected parameter change statistics suggest that possible internal error specification errors could be removed by modifying the initial structure so that the measurement error terms of most of the variables would be free to covary in the theta-epsilon matrix (variance-covariance matrix of the observed indicators). Further, the modification indices suggest that errors could be removed by allowing the error terms to covary in the psi matrix (variance-covariance matrix of endogenous residuals). These steps do not affect the original structural paths but remove extraneous variance within and across constructs.

Kline (2010) suggested that researchers avoid respecifying models based solely on statistical criteria—researchers should instead use knowledge of relevant theory and research to inform respecification. Using both statistical criteria and theoretical insight, I therefore permitted the measurement errors to covary in areas with the greatest expected parameter changes and where theoretically justifiable. Kline (2011) noted that the addition of each disturbance correlation to the model costs one degree of freedom, makes the model more complicated, and can result in biased estimates of direct effects redistributed to the exogenous end of the model; yet, if there are substantive and theoretical justifications for specifying disturbance correlations, it is probably better to estimate the model post hoc.
There are several theoretical bases for allowing the disturbances to covary in the model; for example, the covariance between the disturbances of two indicators of faculty interactions—interacting with faculty in class and having a class in which a faculty knew or learned their name—is theoretically plausible, given that faculty who interact with students in classes are more likely to learn their names. Likewise, students who spend time socializing with friends are plausibly more likely to be satisfied with their overall social experience in college. One’s social class is likely correlated with one’s income, just as mother’s education is likely correlated with father’s education. Those are a few of the examples of instances where the disturbances were allowed to covary for theoretical and model specification reasons.

A comparison of the fit statistics from the first and second model suggests the second model has a better overall fit. The $\chi^2$ statistic decreased from model one to model two, although it remained large and statistically significant. The root mean square error of approximation value decreased to .032, suggesting a plausible fit (Kline, 2011). The comparative fit index (CFI) increased to .982, indicating a good fit (Bentler & Hu, 1999). The relative fit of the second model is about a 98% improvement over that of the independent model fit (CFI = .982). The NNFI increased to .977, suggesting a better fit over the first model (Hu & Bentler, 1999). In order to draw comparisons between the two models, Akaike Information Criterion (AIC) values were compared. Typically, models with the lowest AIC values are preferred due to their better fit (Kline, 2011) and, indeed, the second model has the lowest Akaike Information Criterion value (AIC = 9489.247). A review of the two models’ fit statistics suggests the second model has an overall better fit than the first model (Table 9).
Table 9

Values of Fit Statistics for the Structural Models

<table>
<thead>
<tr>
<th>Index</th>
<th>Model One</th>
<th>Model Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>32108.851</td>
<td>9333.247</td>
</tr>
<tr>
<td>df</td>
<td>200</td>
<td>175</td>
</tr>
<tr>
<td>$p$</td>
<td>$&lt; .001$</td>
<td>$&lt; .001$</td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>.055 (.055, .056)</td>
<td>.032 (.031, .032)</td>
</tr>
<tr>
<td>GFI</td>
<td>.948</td>
<td>.984</td>
</tr>
<tr>
<td>CFI</td>
<td>.940</td>
<td>.982</td>
</tr>
<tr>
<td>NNFI</td>
<td>.940</td>
<td>.977</td>
</tr>
<tr>
<td>SRMR</td>
<td>.051</td>
<td>.031</td>
</tr>
<tr>
<td>AIC</td>
<td>32214.851</td>
<td>9489.247</td>
</tr>
</tbody>
</table>

Direct, indirect, and total effects decompositions for the second structural model are presented in Table 10. All of the $t$-values were greater than 3.0, suggesting that the relationships are statistically significant ($p < .001$); however, the level of significance is likely attributed to the large sample size. The $R^2_{smc}$ model-implied variance suggests that the model explains 24.7% of the variance in students’ sense of belonging.

The coefficients suggest that the first research hypothesis—that students’ social class background would have a negative relationship with hours employed each week—is supported by the data. The unstandardized path coefficient for the direct relationship between social class and employment is statistically significant (-.626) and the corresponding standardized path coefficient indicates a relatively moderate effect size ($\beta = -.183$). The results suggest that students from higher social class backgrounds are less likely to work more hours each week, while students from lower/working-class backgrounds are more likely to be employed for longer periods of time per week.

The second hypothesis predicted that the amount of time that students spent in employment would be negatively associated with their involvement in on-campus
activities. The results suggest that prediction is not supported. The unstandardized path coefficient for the direct relationship between employment and campus involvement is positive and statistically significant (.015) and the corresponding standardized path coefficient indicates a small effect size ($\beta = .060$). The results suggest a positive direct relationship between the amount of time students are employed each week and their involvement in campus activities.

The third hypothesis predicted that students’ social class background would have a positive indirect relationship with students’ campus involvement through employment. The results suggest that prediction is not supported: the unstandardized path coefficient for the indirect relationship between social class and campus involvement is negative and statistically significant (-.010) and the corresponding standardized path coefficient indicates a small effect size ($\beta = -.011$). The results suggest a negative indirect relationship between students’ social class background and their involvement when moderated through campus employment.

The fourth hypothesis predicted that social class background would have a positive relationship with students’ campus involvement, perception of campus climate, and frequency of interactions with faculty. The results fail to reject that hypothesis. The unstandardized path coefficient for the direct relationship between social class background and campus involvement is positive and statistically significant (.162) and the corresponding standardized path coefficient indicates a moderate effect size ($\beta = .185$). The unstandardized path coefficient for the direct relationship between social class background and campus climate is positive and statistically significant (.138) and the corresponding standardized path coefficient indicates a small effect size ($\beta = .089$).
Additionally, the unstandardized path coefficient for the direct relationship between social class background and faculty interactions is positive and statistically significant (.102) and the corresponding standardized path coefficient indicates a small effect size ($\beta = .049$). The results suggest that students from higher social class backgrounds are more likely to be involved in on-campus activities, perceive a more welcoming campus climate, and interact with faculty with more frequency.

The fifth hypothesis predicted that students’ social class background would have a positive relationship with students’ sense of belonging. The results fail to reject that hypothesis. The unstandardized path coefficient for the direct relationship between students’ social class background and sense of belonging is positive and statistically significant (.118) and the corresponding standardized path coefficient indicates a small effect size ($\beta = .081$). The sixth hypothesis predicted that students’ social class background would have a positive indirect relationship with students’ sense of belonging. The results fail to reject that hypothesis. The unstandardized path coefficient for the indirect relationship between students’ social class background and sense of belonging is positive and statistically significant (.102) and the corresponding standardized path coefficient indicates a small effect size ($\beta = .070$). Overall, the results suggest that college students’ social class background is a positive indirect and direct predictor of students’ sense of belonging on campus.

Finally, the seventh hypothesis predicted that campus climate, faculty interactions, and involvement in on-campus activities would have positive associations with students’ sense of belonging. The results fail to reject that hypothesis: the unstandardized path coefficient for the direct relationship between campus climate and
sense of belonging is positive and statistically significant (.336) and the corresponding standardized path coefficient indicates a moderate effect size ($\beta = .358$). The unstandardized path coefficient for the direct relationship between faculty interactions and sense of belonging is positive and statistically significant (.162) and the corresponding standardized path coefficient indicates a moderate effect size ($\beta = .230$). Finally, the unstandardized path coefficient for the direct relationship between campus involvement and sense of belonging is positive and statistically significant (.245) and the corresponding standardized path coefficient indicates a moderate effect size ($\beta = .147$).

Students’ social class background has the greatest total positive effects (direct and indirect) on students’ involvement in on-campus activities ($\beta = .174$) and on their sense of belonging ($\beta = .150$). Among all of the endogenous variables, campus climate has the greatest total positive effects (indirect and direct) on students’ sense of belonging ($\beta = .358$), followed by faculty interactions ($\beta = .249$), and campus involvement ($\beta = .147$). College students’ social class background has the greatest total effect on students’ campus involvement ($\beta = .174$). The indirect effects of social class on sense of belonging—as moderated through faculty interactions, campus climate, and campus involvement—suggests a smaller relationship than the direct effects of social class identification on students’ sense of belonging ($\beta = .070$ and $\beta = .081$, respectively). Overall, the results suggest that students from higher social class backgrounds are more likely to feel as though they belong on campus, a factor also enhanced when moderated through faculty interactions, campus involvement, and perceptions of campus climate.
Table 10

Effect Decomposition for the Structural Model

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Faculty Interactions</th>
<th>Campus Involvement</th>
<th>Campus Climate</th>
<th>Sense of Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>β</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Social Class</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Effects</td>
<td>-.626*</td>
<td>.021</td>
<td>-.183</td>
<td>.102*</td>
<td>.011</td>
</tr>
<tr>
<td>Indirect Effects</td>
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<td>---</td>
</tr>
<tr>
<td>Total Effects</td>
<td>-.626*</td>
<td>.021</td>
<td>-.183</td>
<td>.102*</td>
<td>.011</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
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<tr>
<td>Indirect Effects</td>
<td>---</td>
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<tr>
<td>Total Effects</td>
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</tr>
<tr>
<td><strong>Faculty Interactions</strong></td>
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<tr>
<td>Indirect Effects</td>
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<tr>
<td>Total Effects</td>
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<tr>
<td><strong>Campus Climate</strong></td>
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<tr>
<td>Indirect Effects</td>
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</table>

Note. * p < .001
Figure 3. Modified structural equation model.
Note: for simplicity, disturbances related to variables are not shown.
Chapter Six: Discussion

The purpose of the present study was to investigate relationships between college students’ social class background and factors influencing college students’ social integration on campus: employment, campus climate, faculty interactions, campus involvement, and sense of belonging. The results of this study suggest that students’ social class background is significantly and positively associated with students’ perception of campus climate; the amount of time students spend participating in campus activities; the frequency of students’ faculty interactions; and students’ sense of belonging on campus. Students from middle/upper-class backgrounds were more likely to perceive a positive campus climate for social class, gender, and race; participate more in extracurricular activities; interact more frequently with faculty; and feel like they belong on campus, which included their satisfaction with academic/social aspects of campus life and their likelihood of re-enrollment at the same university.

This study suggests that students’ social class background is also negatively associated with the amount of time students spend in employment—students from lower/working-class backgrounds are more likely to be employed compared with their middle/upper-class peers. Surprisingly, time spent in employment was positively associated with students’ campus involvement. The unexpected positive relationships between employment and students’ campus involvement, campus climate, and sense of belonging may be partly explained by the high proportion of students in this sample who indicated they worked in on-campus employment. In the survey, students were first asked how many hours each week they were employed (the item used in analysis) and, in a follow-up question, were asked whether they were employed on campus (and, if
employed, how many hours per week they spent in employment on campus). Of those who reported they were employed, approximately 60% reported they worked on campus. The preponderance of students who worked in on-campus employment in this study may indeed have contributed to the positive relationship between employment and students’ sense of belonging.

Overall, the results of the structural equation model suggest that college students from higher social class background are more likely to experience a greater sense of belonging within higher education institutions. Conversely, students from lower/working-class backgrounds face disadvantages with regards to their social integration on campus compared with their middle/upper-class peers—these students are less likely to feel like they belong in higher education, have fewer faculty interactions, are more likely to be employed, have lower campus involvement, and perceive a less welcoming campus climate for race and class. It is important for colleges and universities to be attuned to the unique campus experiences of students from lower/working-class backgrounds, as these students may struggle to find acceptance within the ivory towers.

The improvements in college access over the last several decades have resulted in increased higher education opportunities for students from lower social class backgrounds. In fact, colleges have doubled their enrollments from nearly nine million undergraduates in 1980 to over 20 million in 2011; yet, amid that growth, overall college completion rates have only increased slightly, if at all (Bound, Lovenheim, & Turner, 2009; Supiano, 2011). Despite the nation’s success in increasing access to college and reducing the gap in access between students from higher and lower socioeconomic backgrounds, “we have not yet been successful in translating the opportunity access
provides into college completion” (Tinto, 2012, p. 4). In fact, the overall proportion of low-income students who completed a four year degree in five years fell over the last two decades while the degree completion rate of high-income students increased in that timeframe, leading to even more of a glaring disparity between these students when considering that high-income students were already three times more likely to complete a four-year degree than low-income students (Haycock, 2006; Horn, Berger, & Carroll, 2004).

The results of this study have important implications for higher education institutions, administrators, and college students—particularly for lower/working-class students, who potentially stand to gain the most from a successful college experience. The Spellings Commission (2006) noted that the consequences of lower college completion rates are the most severe for students from low-income families. The dramatic differences between the income levels of individuals with and without college degrees suggest that “it pays to complete a four-year college degree, and it does so now more than ever” (Tinto, 2012, p. 1). In addition, this study also has implications within the national college completion agenda promoted by many national leaders, policy organizations, and higher education consortiums, including President Barack Obama, the National Governors Association, Complete College America, the Lumina Foundation for Education, and the Bill and Melinda Gates Foundation (as summarized in Humphreys, 2012). As these important individuals and organizations look for ways to leverage degree completion rates among all students, the results of this analysis suggest that these key players should consider the unique experiences of lower/working-class students in their organization and planning efforts.
In the remaining sections of this discussion chapter, I elaborate upon the meaning of these results for higher education researchers and practitioners; draw connections between the results and the conceptual theories framing this paper; explain the limitations of the analysis; and suggest directions for practice, policy, and future research.

**Unpacking the Findings: Social Class and Social Integration in Higher Education**

The results of this study affirm prior research that suggests students from lower/working-class backgrounds face challenges with regards to their social integration in higher education (Hurst, 2010; Stuber, 2011; Walpole, 2003). Students from lower/working-class backgrounds may therefore not stand to gain from the many benefits of social integration—including enhanced development in self-esteem, cognitive, affective, and analytical skills (Astin, 1993; Kuh, 1995). Lower/working-class students who are not as involved on campus may also lack access to important social, cultural, academic, and human capital that can enhance students’ success after graduation (Stuber, 2011; Walpole, 2003). The consequences of lower social integration can also run much deeper and have profound implications for lower/working-class students’ futures—students who do not experience social integration are less likely to persist and complete their college degrees (Pascarella & Terenzini, 1991, 2005; Tinto, 1993).

This study also suggests that college students’ social class background has a positive direct relationship with the frequency of students’ faculty interactions. Students from higher social class backgrounds are therefore more likely to have faculty who know their names, communicate with faculty outside of class, talk with faculty about course concepts, and interact with faculty in classes. Conversely, students from lower/working-class backgrounds are significantly less likely to interact with their faculty inside and
outside of classes. Given the many benefits of faculty interactions, the aforementioned results are concerning and hold potentially negative long-term ramifications for lower/working-class students; for example, students from lower/working-class backgrounds may be less likely to draw upon the social capital they could have attained through faculty interactions. This means that lower/working-class students are less likely to obtain letters of recommendation from faculty or use them as references in employment applications.

Lower/working-class students may lose out on additional long-term benefits of faculty interactions, including socialization to academic fields or professions and increased odds of graduate school attendance (Walpole, 2003). Yet, this finding also has negative implications for students’ immediate experiences with regards to their persistence in higher education, as this study found that faculty interactions have a direct and positive relationship with students’ sense of belonging. Student-faculty interactions may be even more meaningful in the particular institutional context of this study—large, public research universities often have large class sizes and it can be challenging for students to engage with their faculty on a regular basis. Therefore, lower/working-class students who do not interact frequently with their faculty may experience a greater sense of disconnection with their campuses given the large, often impersonal, class sizes.

Additionally, the results suggest that college students’ social class background has direct and positive associations with students’ campus involvement. Students from middle/upper-class backgrounds spend more time socializing with friends and participating in student clubs and organizations, community service, spiritual activities, physical activities, and creative interests. Barratt (2012) summarized the challenges
students from lower socioeconomic backgrounds face in becoming involved on campuses, noting that students’ perceptions of campus involvement is often deeply affected by their social class of origin. These perceptions subsequently affect how—and why—students become involved in campus activities. Students from lower socioeconomic backgrounds who perceive that student organizations do not include students from their similar social class backgrounds, or those who have little or no prior experience in leadership development, will not likely perceive the importance and meaning of such experiences in college and will therefore not actively participate in them (Barratt, 2012). As suggested by the model, campus involvement is important because it is positively associated with students’ sense of belonging on campus. Due to the direct and positive relationship observed between campus involvement and students’ sense of belonging, students from lower/working-class background who are not as involved in campus may lose out on opportunities to cultivate belongingness within their campus culture.

Students from higher social class backgrounds also perceived a more welcoming campus climate for race/ethnicity, gender, and social class. Like faculty interactions and campus involvement, the results suggest that campus climate had a positive and direct association with students’ sense of belonging. Indeed, that particular relationship is among the strongest observed in predicting students’ sense of belonging. This finding echoes prior research; for example, Hurtado and Carter (1997) found strong relationships between campus climate and sense of belonging as well. Lower/working-class students who perceive a less-welcoming campus climate for diversity are subsequently less likely to feel as though they belong on campus. Improving campus climate for diversity is
potentially one of the most salient ways in which higher education administrators can enhance a sense of belonging among all students.

This study also suggests that college students’ social class background has a negative direct relationship with campus employment, providing evidence that students from lower/working-class backgrounds are more likely to be employed than their middle/upper-class peers—a finding that has been documented by other researchers (Barry, et al, 2009; Dennis, Phinney, & Chuateco, 2005; Pascarella, et al, 2004). Yet, this study also suggests that employment is not necessarily a negative experience for students. This model suggested that employment was directly and positively associated with students’ campus involvement and indirectly and positively associated with students’ perception of campus climate and sense of belonging. While others have found that employment acted as a barrier to lower/working-class students’ ability to engage fully in the social aspects of campus life (Stuber, 2011; Walpole, 2003), this study suggests that student employment may indirectly benefit students’ sense of belonging on campus by positively promoting their campus involvement and social integration.

It is important to note that the direct and indirect relationships between students’ social class background and the other variables in the model are significant, although not strong. The large sample size likely contributes to the significance of the predictors amid very small relationships; therefore, the overall results should be interpreted with caution. Social class is important in predicting students’ employment, campus involvement, faculty interactions, perceptions of campus climate, and sense of belonging; however, it is only one facet of students’ identities that serves to explain those elements of students’ social integration in higher education.
Overall, the results of this study support prior work conducted in higher education which suggests that students from lower/working-class background are employed more hours; are less involved in extracurricular activities; perceive a less welcoming campus climate; interact less frequently with faculty, and have a lower sense of belonging in higher education (Hurst, 2010; Ostrove, 2003; Ostrove & Long, 2007; Soria, 2012; Stuber, 2011; Walpole, 2003).

**Unique Contributions to Scholarship**

While the results of this study support previous findings, there are several unique contributions to higher education scholarship; for example, the present study explored several relationships among the latent variables that have previously gone unexplored. Walpole’s (2003) study, which demonstrated that students from low socioeconomic status backgrounds were less involved in extracurricular activities and interacted less frequently with faculty compared with their peers from higher socioeconomic backgrounds, only examined those findings in a descriptive manner and did not explore how these measures related to each other or to students’ sense of belonging. Similarly, Ostrove and Long’s (2007) study used limited bivariate correlations and regressions which did not explore students’ sense of belonging as moderated by additional variables (such as campus climate, campus involvement, and faculty interactions). Therefore, the theoretical model developed in this paper is in itself a unique contribution to the literature given the complex relationships examined and the variables used in the analysis.

This study also serves to fill a sizable gap in the limited higher education scholarship that focuses on social class and students’ involvement on campus. Prior research has been primarily qualitative, restricted by smaller sample sizes, and typically
drawn from only one or two institutions (Aries & Seider, 2005, 2007; Hurst, 2010; Longwell-Grice & Longwell-Grice, 2007; Ostrove, 2003; Ostrove & Cole, 2003; Schwartz, Donovan, & Guido-DiBrito, 2009; Stuber, 2011). This study included a large sample size that was derived from nine different institutions, factors that can enhance the potential generalizability of the results and provide support to substantiate prior findings. The large, public universities in this sample are some of the largest higher education institutions in the United States. While the 2011 national undergraduate enrollment statistics for Title IV public four-year institutions have not yet been released, the most recent statistics estimate that 6.28 million students were enrolled in 2009 (U.S. Department of Education, 2010). While the 50,000+ students who were used in this sample constitute a small share of all undergraduate students enrolled at traditional public four-year institutions in the United States, the sample size is one of the largest among studies that focus upon social class.

The quantitative nature of this study and the inclusion of students’ self-identification into a social class group is a unique contribution—while prior studies have focused on financial and socioeconomic factors and their influences on college students’ experiences (Walpole, 2003), this study provides evidence for the importance of social class identification in understanding students’ social integration. Given the strong and positive relationships between students’ social class, mothers’ education, father’s education, and family income, the results of the confirmatory factor analysis also suggests that college students are relatively accurate in identifying their social class.

Overall, this study suggests that it is important for higher education administrators and practitioners to view social class as an element of students’ identities that influences
their experiences at traditional, four-year colleges and universities. Social class should therefore become more readily recognized as an important element of diversity on college campuses that shapes students’ social integration. The role that four-year higher education institutions play in perpetuating social class reproduction—and inequality—should be brought to the forefront of policy discussions seeking to level the playing field for students from lower social class backgrounds. Higher education institutions should examine their current practices and traditions to become more inclusive of lower/working-class students in ways that can enhance their social integration on campus.

**Connections to Theory: Contributions and Limitations**

Of the three theories framing this study—social reproduction theory, social identity theory, and intersectionality theory—social reproduction theory (Bourdieu, 1977) has the most relevant connections to the results of the analyses. Bourdieu (1990) described higher education as a *field*—a space governed by uniform rules and within which institutions play a major role in reproducing class structure. Ultimately, those uniform rules—dictated and dominated by the middle/upper-class—are foreign to lower/working-class students. Lower/working-class students lack much of the social and cultural capital to successfully navigate the new environment; face challenges regarding their acculturation, assimilation, or rejection of the new cultural norms; struggle to feel a true sense of belonging in the foreign habitus of higher education; and are confronted with profoundly complicated forces embedded deeply in social structures that unravel, stimulate, and challenge their ongoing social identity construction.

The present study is limited because it did not seek to understand why lower/working-class college students are less involved in campus activities, have fewer
interactions with faculty, perceive campus to be less welcoming, and feel less like they belong on campus; instead, this study sought to understand whether those hypothesized patterns existed in the sample used in this analysis. This study provides some evidence toward Bourdieu’s (1977) theory that social class status is reinforced and reproduced in traditional forms of higher education: lower/working-class students are less likely to feel a sense of belonging in the middle-class habitus of higher education, a factor that may contribute to the lower retention and graduation rates persistently found among students from lower social class and socioeconomic backgrounds. Lower/working-class students who do not persist and complete their college degrees are not as likely to attain upward social class mobility. Conversely, those in middle/upper-classes who do feel a stronger sense of belonging in higher education are more likely to persist and graduate, thereby maintaining their middle/upper-class status.

Yet, the implications of this study also support additional facets of Bourdieu’s (1983, 1986) theories of capital and are also explained by elements of social reproduction theory; for example, it is possible to hypothesize that lower/working-class students interact less frequently with faculty because they lack the social capital inherited by their middle/upper-class peers from college-education families. In turn, it is likely that lower/working-class students, by interacting less frequently with faculty, will not acquire the social capital acquired by their middle/upper-class peers, who benefit by developing important networks with faculty who may continue to support them with letters of recommendation, research opportunities, mentorship, etc. Thus, the social class status of the dominant and privileged middle/upper-class students is again reproduced in such a scenario.
It follows that a broader environmental factor like campus climate also plays a role in benefitting middle/upper-class students who arrive on campus feeling at ease in a campus culture where they belong to the majority and continue to perceive the campus climate as supportive because of their majority status. As noted in the results, campus climate is a strong positive predictor of students’ sense of belonging—middle/upper-class students who perceive a welcome climate are more likely to feel as though they belong within the institution and are therefore more likely to persist and graduate. Thus, social class status again benefits middle/upper-class students as they enter into higher education and is subsequently reinforced and reproduced when they graduate with their degrees.

Middle/upper-class students who enter into higher education arrive with higher social capital, thus possessing the knowledge, skills, and abilities to become more easily and readily involved in campus activities. Higher involvement in campus activities allows middle/upper-class students to develop social networks with their peers, which continues to increase their social capital (another cycle of reproduction). Although individual students have degrees of agency which enable them to make their own choices regarding their involvement in higher education, the broader campus environment in many ways sets the stage for this process to unfold. Stuber (2011) argues that an institution’s organizational habitus makes particular student organizations more or less accessible to students from disadvantaged backgrounds. Some institutions may provide greater opportunities for student involvement, which in turn provides greater opportunities for class-based mobility. Staff, faculty, and administrators at middle/upper-class-oriented higher education institutions who are unaware of class-based differences in campus involvement may not consider the role that they play in perpetuating those differences
and may not provide institutional structures to promote the participation of lower/working-class students. As a consequence of all of these factors, higher education institutions perpetuate social class inequalities.

While social reproduction theory is the most relevant to the results of the analysis, it is important not to neglect the contributions of the other two theories framing this study. Social identity theory (Tajfel & Turner, 1979) is useful in understanding the processes which facilitate one’s identification in a social class group; however, in this study, the relative “accuracy” of students’ social class identification was not interrogated in any manner other than its association with the known social class indicators of parental education and family income. The contributions of social identity theory to this study are minimal when it comes to its application in developing a sophisticated understanding of the social class identification formation of students in this sample, a limitation of this study. This is an important omission, as other researchers have noted that the salience of students’ social class identification plays a major role in understanding the extent to which their social class identification impacts students’ experiences on college campuses (Backhaus, 2009; Martin, 2012; Stuber, 2011).

There were also limitations in the analysis that prevented strong applicability of intersectionality theory to the findings. For example, the study did not examine differences between students from different genders, races, or ethnicities, nor were those important demographic variables included as exogenous variables in the model. This omission presents limitations in the applicability of intersectionality theory and the implications of the results of the analysis, as social class may or may not be a significant predictor of some students groups’ involvement and integration over others. Furthermore,
the intersections of students’ gender, race, and ethnicity with their social class may yield
different associations with their involvement on campus, perceptions of campus climate,
faculty interactions, and sense of belonging. For example, students who belong to
underrepresented minority groups and lower social classes may experience significantly
less of a sense of belonging on campus than White students who are from lower social

Another limitation of this analysis is that the sample is derived from a college
student survey in which approximately one-third of students at nine large, public research
universities responded. It is possible the data suffer from nonresponse bias, which occurs
when the survey respondents are different from the non-respondents in terms of
demographic or attitudinal variables (Sax, Gilmartin, & Bryant, 2003). Survey data are
also sometimes limited due to the risk that students may respond in socially desirable
ways, repeatedly endorse items regardless of content (e.g., in the case of students who
marked they participated in all activities over 30 hours per week), expend little effort to
interpret and answer questions, or exaggerate answers (Caslyn & Winter, 1999; Grandy,
1998; Krosnick, 1999; Sax, Gilmartin, & Bryant, 2003). All of these factors can
potentially compromise the quality of survey responses and the corresponding results of
analyses.

Additionally, this study only examines the relationships between college students’
social class background and additional variables—no causality should be assumed
because the research design was correlational and concerned with associated patterns
rather than causes and effects. The survey was administered only at large, public research
universities. Generalizability to other institutional types is therefore very limited—this is
especially the case with institutions that may enroll more lower/working-class students (e.g., community colleges). In different institutional contexts, students with a lower/working-class identity may feel a stronger sense of belonging where they are not a minority group on campus.

There are limitations in the measurement of some of the variables; for example, students’ employment on or off campus was not considered—only the total number of hours students spent in employment was used in this analysis. There are likely differences in the direction and size of the relationships predicting students’ sense of belonging based upon whether students were employed on campus or off campus (with a hypothesized positive relationship between on-campus employment and sense of belonging an a negative relationship between off-campus employment and sense of belonging). As noted earlier, many students in this sample were employed on campus, although it is not known whether the students employed on campus were more likely to be from lower/working classes or middle/upper-classes. Along those lines, the prestige of the employment positions and the hierarchical location (e.g., supervisor, manager) of those employment positions are also unknown—these factors may have some relation to students’ social class and bear weight on students’ involvement and integration on campus as well.

Finally, there are innumerable variables and constructs missing in this analysis that could expand our understanding of the role that social class plays in students’ social integration in higher education; for example, outcome measures did not include students’ retention, degree completion rate, or grade point average—all markers of success in higher education. College experience variables such as residence, academic major, proximity to home, friendships, engagement in high impact practices—all of these factors
also went unanalyzed. As noted previously, individual-level variables such as race, ethnicity, and gender, were not considered along with students’ academic level (e.g., freshman, sophomore, junior, senior), pre-college academic success (e.g., high school grade point average), or pre-college preparation. The inclusion of these variables in future studies may yield new insights into the many complex ways in which social class shapes students’ experiences in higher education.

**Recommendations for Future Research**

The limitations of this study open potential avenues for future research; for example, this study was quantitative in nature and qualitative methodologies could yield new insights into the results that are not possible to obtain from the limited survey items. It is recommended that researchers seek to understand why students from lower/working-class backgrounds have fewer interactions with faculty, are less involved in campus activities, perceive a less welcoming campus climate for social class, and feel less of a sense of belonging on campus. Are these patterns a consequence of inheriting lower social and cultural capital? Is it possible that students from lower/working-class backgrounds can inherit these forms of capital in other ways, such as through friendships, interactions with high school faculty or counselors, or through other important relationships with those in their communities?

One particularly surprising finding in this study is the positive relationship between employment and campus involvement. Scholars are encouraged to examine these variables further to determine whether one-campus and off-campus employment matters in predicting students’ campus involvement. Additionally, scholars are encouraged to explore whether levels of on-campus or off-campus employment positions
might impact students’ campus involvement and whether hierarchies exist within employment positions or locations that help or hinder students’ ability to become involved in extracurricular activities. There may exist an ideal number of hours in which students can be employed that also maximizes their overall engagement on campus; for example, Dundes and Marx (2006-2007) suggested that students who worked 10-19 hours per week were most likely to earn the best grades due to their time management skills.

Researchers are also encouraged to explore more nuanced measures of social class that can be used in future analyses. Scholars can dig deeper to understand whether students’ subjective social class identification is accurate or valid given objective conditions surrounding students’ social class (e.g., parental occupation, income, etc.). The role of cultural factors in students’ social class identification should also be explored. Social identity research has sometimes been criticized for treating all social groups as theoretically equivalent (Thoits & Virshup, 1997); countering this criticism, some have argued for a multidimensional conception of social identity (Deaux, 1993, 1995; Deaux, Reid, Mizrahi, & Ethier, 1995). Scholars are therefore encouraged to explore the potentially dynamic influence other social identities may have on college students’ social class identification and social integration. The continued use of intersectionality theories in social class research is recommended as a means of framing the complexity of students’ multiple identities.

Scholars could also employ multi-level structural equation modeling to address the equity implications of different organizational habitus (McDonough, 1997). Along those lines, it would be important for researchers to examine whether the findings are
generalizable at other types of four-year institutions (e.g., liberal arts colleges, public regional universities, etc.). Longitudinal studies can also be utilized to examine whether the effects of social class diminish over time or whether specific programs, activities, or institutional measures can be leveraged to enhance lower/working-class students’ sense of belonging at their institutions. Studies can also be undertaken to examine the factors that may have enabled lower/working-class students to be successful in four-year institutions.

One of the most important steps that scholars can take is to examine the effectiveness of particular organizational strategies that might increase lower/working-class students’ sense of belonging on campus. Are there pathways that institutions can establish to assist lower/working-class students who desire to become more involved in their institutions? It is also important to continue investigating the personal, interpersonal, or institutional factors that have enabled successful lower/working-class students to complete their degrees in the past—-we can learn much from the students who have achieved success in higher education.

**Recommendations for Policy and Practice**

There are several steps that colleges and universities can take to enhance lower/working-class students’ social integration on college campuses. It is important for practitioners to consider social class as an important element of diversity on campus just as they currently focus on race/ethnicity, sexual orientation, and gender. Working-class students may internalize their struggles because social class is relatively “invisible” on college campuses—few campus resources, classes, or student programs currently address social class issues. Student affairs practitioners can make social class visible by talking
openly about class struggles, privilege, and ambivalence about working-class identity issues (Clawson & Leiblum, 2008; Granfield, 1991). As noted by Oldfield (2007), faculty and administrators should encourage all students to become aware of class on campus, as “it is equally important that we change the campus environment to be inclusive so that privileged students are encouraged to understand and appreciate the values reflected in poor and working-class students’ ways of life” (p. 9). Among other themes of diversity in campus organizations and student programming, themes related to social class issues should be present.

Barratt (2011) encouraged institutions to build bridge programs for incoming working-class students that balance their acquisition of social and academic capital. Bridge programs can help first-year working-class students to experience a welcoming campus climate even before traditional classes begin and further enhance their sense of belonging through the early development of faculty and classmate interactions. Within larger institutions (as is the context of this study), bridge programs can also help working-class students connect with advisors and faculty who can serve as supporters, cultural brokers, and mentors.

Similar to bridging programs, living learning programs—in which students live within residential communities that share an academic or thematic focus (Shapiro & Levine, 1999)—can also be developed to ease lower/working-class students’ transition to higher education. Inkelas, Daver, Vogt, & Leonard (2007) found that first-generation students who participated in living learning programs reported a more successful academic and social transition to college than their first-generation peers who lived in traditional residence hall settings. Living learning programs can also increase students’
faculty interactions, as most of the academic classes taught in a living learning program have smaller class sizes (Inkelas, Daver, Vogt, & Leonard, 2007). Furthermore, by increasing students’ connections with their peers—as students live among each other in the residence hall in addition to seeing each other frequently in their shared academic course—students from lower/working-class backgrounds can access social capital from their peers and become more connected to campus resources.

Advisors and other student affairs practitioners can also help working-class students to acculturate to the new social and cultural norms of campus while still maintaining and valuing their social class identities. Hurst (2010), Stuber (2011), and Granfield (1991) found that many working-class students in their qualitative studies spoke with pride about the values they learned growing up in working-class families, including having developed a strong work ethic and discipline for task completion. Lehmann (2009) found that working-class students perceived themselves as more hard-working, mature, responsible and independent relative to students from higher social class backgrounds. Reay, Crozier, and Clayton (2009) discovered that upwardly mobile working-class students who attended universities coped by drawing upon attributes such as determination, self-reliance, and the ability to cope with adversity. These are values that can support working-class students as they make transitions to higher education—with support and encouragement from faculty, staff, and administrators, working-class students can integrate these cultural norms and values without feeling pressure to completely assimilate in the middle-class culture of higher education.

Lower/working-class students may find it necessary to work while enrolled in higher education to fund their tuition and living expenses; however, as suggested by this
study, employment may also serve as a catalyst for lower/working-class students’ involvement in extracurricular activities on campus. Higher education practitioners can assist lower/working-class students in finding employment opportunities on campus that may support their social integration on campus and help them to build important connections with their peers. In fact, Kulm and Cramer (2006) observed that on-campus student employment was positively associated with students’ outside-of-class social interactions with peers. Kulm and Cramer (2006) suggested that students who are employed—especially on campus—may find that their employment provides them with opportunities to stay continuously connected on campus and persist on campus.

Tinto (2012) suggested that students’ expectations of their own success are important in facilitating students’ degree completion; however, institutions can set and continually communicate high expectations for students. Tinto (2012) noted that colleges and universities should incorporate a comprehensive framework of strategies to promote students’ success. For example, students benefit from well-rounded academic, social, and financial support—factors that are especially important in students’ first year of study, when students are most likely to withdraw from colleges and universities (Tinto, 2012). Students are also more likely to be successful in institutions that assess their performance and provide frequent feedback in ways that allow students to adjust their behaviors to facilitate their success. Finally, Tinto (2012) suggested that students’ academic and social engagement is important in promoting students’ success.

Given that the present study suggests that lower/working-class students are less likely to be socially engaged on their campuses, colleges and universities should consider programmatic strategies to enhance lower/working-class students’ social engagement.
Tinto (2012) noted that students’ social affiliations are crucial because of the social and emotional support they provide to students—support that is expansive and leads to greater student involvement in educational activities. Some universities—such as the University of Wisconsin at Madison—currently have student groups and unions to support working-class students (Schmidt, 2010). Students should be encouraged to form similar formal peer groups and it is recommended that institutions continue to expand the availability of these social identity groups for the benefit of students from lower social class backgrounds.

This study also has broader implications for higher education policy; for example, efforts to increase diversity within higher education should consider the unique role that social class plays in shaping students’ experiences when enrolled. Parity should also be achieved when it comes to admitting college students from lower social class backgrounds in traditional four-year institutions. In the present sample, for example, working-class students comprise a small percentage of the student population (16.7%) in comparison with national longitudinal surveys of the American population, which suggest that 46% of Americans self-identified as working-class in 2006 (General Social Survey, 2006). From 1972 to 2006, the percentage of Americans identifying as working-class (out of four categories when asked “If you were asked to use one of four names for your social class, which would you belong in: the lower class, the working class, the middle class, or the upper class?”) has not varied greatly—the lowest percentage of Americans identifying as working-class was 42.7% in 2004 and the highest percentage was 48.7% in 1977 (General Social Survey, 2006). Zweig (2000) estimated that as many as 62% of Americans are working-class due to the nature of their position of power in the
workplace. The low rate of self-identified working-class students represented in the survey, along with other factors, is one indication of the underrepresentation of working-class students in traditional universities—policymakers should therefore seek to develop ways to examine the structures leading to these barriers for students from lower social class backgrounds.

As policy leaders continue to call for higher education institutions to open access to students from diverse backgrounds—and to ensure the success of these diverse students—they should also provide support to infuse higher education structures with a deeper understanding of multicultural awareness that includes social class cultural awareness. It is not enough for institutions to consider increasing financial aid packages to increase affordability for lower social class students; instead, institutional leaders should train faculty and staff to understand social class differences. The continued funding and growth of federal grant programs such as TRiO Student Support Services, which have been demonstrated to positively benefits students’ academic and social integration, can also assist low-income and first-generation students as they transition to higher education (Chaney, Muraskin, Cahalan, & Goodwin, 1998). Policymakers and institutional leaders should work in tandem to support these programs and connect incoming students to these institutional support structures. Yet, while some students can certainly benefit from involvement in TRiO programs, broader institutional changes are still necessary to provide a safe and welcoming campus for students from all social class backgrounds.

Finally, higher education administrators, educators, and practitioners are encouraged to acknowledge the complex role that social class plays in students’ lived
experiences on campus. Recent studies about the experiences of low-income and working-class students are leading practitioners, scholars, and administrators to develop new insights into the challenges facing these students (Backhaus, 2009; Barratt, 2011; Kezar, 2011; Martin, 2012; Stuber, 2011; Walpole, 2007); yet, even amidst the growing body of literature regarding social class in higher education, issues of social class remain silent on many colleges and universities. Practitioners and administrators should consider social class as a dimension not to be overlooked when examining the campus climate for underrepresented students. Furthermore, higher education faculty can consider the important role that they play in facilitating college students’ sense of belonging and be more attuned to the frequency of their interactions with students from lower social class backgrounds. The needs of working-class students should not be marginalized but instead brought to the forefront of conversations related to the experiences of underrepresented students on campus. The role that social class plays in framing and shaping college students’ experiences on campus should not be neglected; instead, social class should continue to be brought to the forefront of discussions concerned with enhancing college students’ success, social integration, and retention.

Conclusion

The results of this study suggest that undergraduate students’ social class background plays a role in shaping students’ experiences on campus; namely, the directions of the relationships between social class and the variables used in this analysis suggest that students from lower/working-class backgrounds are less likely to be involved in campus activities, interact with faculty, perceive a welcoming campus climate, and feel a sense of belonging on their university campuses. Furthermore, this study suggests the
important role that campus involvement, campus climate, and faculty interactions have in positively affecting students’ social integration. These are particular areas within which higher education administrators, educators, and practitioners may wish to concentrate their attention, as they reveal class-based disparities that exist within the large, public universities constituting this sample.

This study also provided a critique of higher education’s role in perpetuating social class inequalities in the United States. The social integration challenges that lower/working-class students face within higher education should continue to be brought to the forefront of higher education equity discourse, research, policy, and practice. Social class has important implications for college students—especially for students from lower/working-class and economically disadvantaged backgrounds. As suggested by this study, social class is associated with nearly every aspect of students’ journeys in higher education, including students’ preparation for college, their decisions to enter into higher education and the types of institutions they select to attend, their experiences in higher education, and their likelihood of achieving successful outcomes. Those wishing to enhance college completion rates across the nation are therefore advised to consider the unique experiences and challenges encountered by lower/working-class students in higher education, as these experiences and challenges bear considerable weight on the likelihood of lower/working-class students’ ultimate success in higher education.
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