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The influence of social class on academic outcomes: A structural equation model examining the relationships between student dependency style, student-academic environment fit, and satisfaction on academic outcomes

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THE INFLUENCE OF SOCIAL CLASS ON ACADEMIC OUTCOMES: A STRUCTURAL EQUATION MODEL EXAMINING THE RELATIONSHIPS BETWEEN STUDENT DEPENDENCY STYLE, STUDENT-ACADEMIC ENVIRONMENT FIT, AND SATISFACTION ON ACADEMIC OUTCOMES

by

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Submitted in Partial Fulfillment of the Requirements for the

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MAJOR PROFESSOR: Dr. Meera Komarraju

The purpose of this study was to investigate the relationship between college students' social class and their academic outcomes. A structural equation model was proposed, hypothesizing that a student's socioeconomic status (SES) is related to their motives for attending college, thus influencing their perception of fit at the university, their satisfaction with the university, their academic self-efficacy, and their grades, attendance, and likelihood for retention.. The results from a sample of 500 undergraduate students show that overall, the hypothesized model was a borderline good fit of the data. While SES was negatively related to interdependent motives for attending college, it was not related to independent motives for college. Independent motives for attending college were positively related to perceptions of fit at the university, while interdependent motives were not. Finally, fit at the university was positively related to satisfaction, which was related to intention for retention, class attendance, and academic self-efficacy. Academic self-efficacy was significantly related to students' grade point average. These results suggest that students from low SES backgrounds are more interdependent. Further, those who are more independent feel a greater sense of fit with the university and are more likely to be satisfied, express commitment to continuing at the university, and attend their classes. These results provide support for a proposition that higher education institutions should value students

who have different types of motives and to consider what is communicated to students through programs and expectations that are focused on independent values.

Keywords: Socioeconomic Status, Academic Outcomes, Person-Organization Fit, Academic Self-Efficacy

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CHAPTER 1

INTRODUCTION

In the United States, the higher education system aims to provide all individuals an equal opportunity to attain a postsecondary degree and to increase their potential for social mobility (Bowen, Kurzweil, Tobin, & Pichler, 2005; Hout, 1988; Torche, 2011). However, this idea is debated by many social justice researchers and educators who argue that even though obtaining a degree and education is a route to social mobility, the higher education system is only beneficial for individuals with the power, privilege and thus the ability to navigate through it (Fryberg & Markus, 2007; Li, 2003; Stephens, Fryberg, Markus, 2012; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). This study explores the idea of social class inequality in higher education institutions. It does so by exploring how students' social class is related to their motives for attending college, their feeling of fit at a university, their academic self-efficacy and satisfaction with the university, and ultimately their academic performance and their commitment to remaining at a university.

Research by Stephens, Fryberg, Markus, Johnson, and Covarrubias (2012) has shown that a majority of American universities have a focus on individualism and place an emphasis on students working toward being more independent. This research is very much in line with work by Shapiro (2006), who in his book, *Losing Heart,* discusses the role that competition plays in developing American norms of being individualistic, being the best, and getting the most at whatever the cost. This competitive aspect of American society is reflected in the education domain as well, as evidenced by the focus on standardized test performance mandated by No Child Left Behind, and by the large role that standardized tests (ACT and SAT) play in

determining university admissions. Such a strong focus on standardized testing as a proxy for academic ability and as a major criterion for selection decisions is problematic for many reasons. For this study however, the focus is not on standardized tests, but on how non-cognitive factors become relevant when higher education institutions systemically provide some students with power and privilege while oppressing others, resulting in differential academic outcomes for individuals from a lower socioeconomic status.

Many higher education institutions take an approach of meritocracy to education. In other words, in higher education, the assumption is that anyone who has superior competence or ability will be selected and can succeed. This theory of meritocracy however, is a pillar of systemic power, privilege, and oppression. As Allan Johnson (2006) discusses in his book *Privilege, Power, and Difference*, privilege, power, and oppression are systemic issues, rooted deeply in the history of American society. Though difficult to define, privilege refers to the rights and advantages given to an individual who belongs to the majority group, generally a White, heterosexual, middle or upper class, male in American society, simply because they are, or seem to fit the characteristics listed above. As a result of having these rights and advantages simply granted to them, these individuals also have power, an ability to dictate and define the cultural norms, create laws, and to center society on how they, the privileged, can best maintain their power. As a direct result of this, oppression occurs. Oppression is the direct opposite of power and privilege. To be oppressed is to embody what is not the norm, to constantly have to earn and prove to others in order to have the same rights and chances that are freely granted to the privileged and powered. Applying this concept to the higher education system, it can be seen that higher education institutions provide White, middle to upper class students, privilege and power, just as most other places in society.

One way oppression occurs is with the process of admission, as most higher education institutions focus on standardized test scores and high school performance (high school rank and grade point average) as determinants of admission and for scholarship opportunities. This privileges middle and upper class students as it is these students who have the resources to better prepare for these exams. These students are also often in school districts with more resources that help prepare them for these exams; and the main determinant of resources for schools in the United States is the socioeconomic status of the families that live in that school district (U.S. Department of Education, National Center for Education Statistics, 2001) . Stephens et al. (2012) show in their research that working class students more often choose interdependent motives for attending college, while middle and upper class students choose independent motives for attending college. Additionally, these researchers show that most universities focus on student independence, a trait that privileges and empowers middle and upper class students and disadvantages working class students (Markus & Kitayama, 2003; Stephens, Fryberg, & Markus, 2012).

As a result of how privilege and power work to create oppression, it can also be seen that this process is cyclic, such that only those who have privilege and power can truly work towards equality. This is also true in higher education institutions. Universities often systemically oppress working class students, by encouraging and supporting values of independence and being individualistic, resulting in decreased performance for these students. This then continues to recreate the oppression of those who are part of the working class, as decreased performance disposes students to a likelihood of not attaining a degree from a higher education institution, and thus less social mobility opportunities. Again, this perpetuates the systemic and reoccurring nature of privilege, power, and oppression, as those who succeed in the higher education system

are often those who have privilege and power and thus maintain it and the system which grants it to them.

Moving from a conceptual level of how privilege and power work in oppressing working class students within higher education systems, this study is intended to explore how this phenomenon manifests itself both psychologically and behaviorally in students. Drawing from extensive research by industrial and organizational psychologists, person-environment fit theory (P-E fit) will be used to draw parallels with the cultural mismatch theory (Stephens et al., 2012). This research focuses on working class students' lack of fit in higher education institutions because of the institutions' emphasis on independent values. These authors argue that a lack of fit occurs because of the university's expectations of students to be independent oriented while the working class norm is being interdependent. To extend this research, the theory of P-E fit which has focused on work place organizations and employees will be applied to students and higher education institutions. Most research on P-E fit has been in the work place and has investigated how the degree of match or congruence between an employee and an organization is associated with factors such as satisfaction and behavioral outcomes such as work productivity, performance, and turnover. In a meta-analysis of research on P-E fit, Kristof-Brown, Zimmerman, and Johnson (2005) reported that the relationship between P-E fit and satisfaction was moderately large (.44) while the relationship between P-E fit and performance and between P-E fit and turnover (negatively) were relatively small. Similar to the empirical work on P-E fit in organizations and research by Schmitt, Oswald, Friede, Imus, and Merritt (2008) in the domain of academics, the relationship of P-E fit will be used to predict students' self-efficacy and satisfaction with the university, their academic performance, their intention to remain at the university, and their class attendance behavior.

In the model proposed by Schmitt et al., (2008), students' feelings of fit at the university were moderately related to their satisfaction and thus their GPA, absenteeism, and intent to return to the university. In the current study, the model will be expanded by testing the relationship between perceived fit and students' feelings of satisfaction, then testing the relationship between students' satisfaction and their academic self-efficacy. Academic self-efficacy is a student's perception of their ability to perform or do well in the domain of education. This perception is influenced by students' previous experiences and is associated with the desire to do things that are satisfying (Bandura, 2001). A review of ninemeta-analyses found that self-efficacy is a predictor of both performance and motivation across many environments (Bandura & Locke, 2003). Additionally, self-efficacy has been shown to be related to students' motivation, persistence, and academic performance (Multon, Brown, & Lent, 1991).

In conclusion, the current study intends to replicate and extend prior research examining the role of social class and a student's self-construal in their academic performance. Additionally, this research will investigate the role that person-environment fit plays in understanding student satisfaction, performance, intention to be retained, and class attendance behavior. The current study creates and tests a structural model that combines Stephens et al.'s (2012) cultural mismatch theory and Schmitt et al.'s (2008) P-E fit theory applied to academics. Additionally, the current model will explore how self-efficacy may be related to students' social class and their feelings of fit and satisfaction with a university. Finally, the relationship between satisfaction and self-efficacy will be tested in explaining students' academic outcomes.

CHAPTER 2

LITERATURE REVIEW

Predicting Academic Outcomes

For years, many psychologists have focused their research programs on determining both cognitive and non-cognitive factors that predict academic performance. Based on their meta-analysis of studies examining cognitive ability as a predictor of academic and other life outcomes, Kuncel, Hezlett, and Ones (2001; 2004) argue that cognitive ability is a significant predictor of academic outcomes, specifically academic performance as measured by grade point average. This is contrary, however, to other researchers who argue that non-cognitive factors are just as, if not more, important in predicting academic outcomes such as performance, retention, and attendance (Brown, Traymayne, Hoxha, Telander, Fan, & Lent, 2008; Robbins, Lauver, Le, Davis, & Carlstrom, 2004). These researchers suggest that non-cognitive factors mediate the relationship between cognitive ability and performance. In understanding the relative contributions of cognitive and non-cognitive factors, it is important to also examine theories of self-construal and person-organization fit as predictors of academic performance. The following is a review of the research examining the relationship between these factors and academic performance.

Cognitive ability. The relationship between cognitive ability and academic performance has long been of interest and has been researched for over 75 years. For example, Asher (1934) found that scores on intelligence tests predicted college English class grades better than English tests. Additionally, in an early review of the relationship between intelligence tests and academic performance, Stroud (1941) reviewed 17 studies from 1938-1940 that showed positive

relationships between intelligence scores and academic performance, mainly college grades. Since these early studies, there has been much more research on intelligence tests and the relationship between intelligence and academic performance. Within this research, there has been much debate regarding the size of the relationship that exists between cognitive ability and performance.

General cognitive ability, or *g*, has been shown to be significantly related to academic outcomes, including grade point average (GPA) and course grades. Though there are many measures of *g*, three meta-analyses have shown similar relationships between ACT, SAT, and Miller Analogies Test (MAT) scores and both undergraduate and graduate GPA (Kuncel, Hezlett, & Ones, 2001, 2004; Robbins et al., 2004). Additionally, these meta-analyses have shown small positive relationships between *g* and undergraduate retention (Robbins et al., 2004) as well as a moderate positive relationship between *g* and graduate retention (Kuncel, Hezlett, & Ones, 2001, 2004). These authors argue that cognitive ability encompasses both an individual's acquired declarative and procedural knowledge. As a result, individuals' level of cognitive ability incorporates their skill in applying their declarative knowledge (the information they already know) and their procedural knowledge (their ability to learn or know how to do something), which both seem to be related to their ability to succeed in learning and demonstrating their knowledge of new material in college, thus their academic performance. As well, their performance, knowledge, and ability to apply their knowledge ultimately is related to their ability to remain at a university.

Berry and Sackett (2009) conducted a study in which they proposed that the relationship between cognitive ability and academic performance is severely underestimated as it relies on

college GPA, and is subject to individual differences in course grades. These researchers found that high school GPA and SAT scores accounted for 44% – 62% of individual course grades in the sample they reviewed, significantly more than when estimating only the overall GPA of college freshman. This analysis included over five million course grades for 167,816 students. In general, these researchers found that SAT scores and high school GPA accounted for at least half of the variance in college grades, after correcting for error related to course choice and difficulty. To do this, the authors used statistical procedures to standardize course grades based on the difficulty of each course within and across universities (Berry and Sackett, 2009). Additional findings that support the role of cognitive ability in predicting academic success comes from research by Goldman and Hewitt, 1976. These researchers found that higher levels of GPA were predicted by higher scores on intelligence tests. Nobel and Sawyer who conduct research for ACT, further investigated the extent to which intellectual ability test performance predicted GPA. Noble and Sawyer (2002) used high school GPA and ACT scores to predict student academic performance (college GPA) in their sample of 434,359 students from 595 post-secondary institutions. They hypothesized that cognitive factors would be related to higher levels of academic success while non-cognitive factors would be related to lower levels of academic success. Similar to Goldman and Hewitt (1976), Noble and Sawyer (2002) found that high school GPA and ACT scores were significant predictors of grade point averages between 2.00 and 3.00, while only ACT score was a predictor of first year GPA from 3.25-4.00, supporting claims by Goldman and Hewitt (1976).

In summary, cognitive ability has been shown to be a reliable predictor of college student academic performance. The size of the relationship between cognitive ability and performance (course grades or university GPA) has been shown to be at least moderate. Findings are similar

for the relationship between cognitive ability and student retention. Specifically, Kuncel, Hezlett, and Ones (2001) and Kuncel and Hezlett (2007) found that students who have higher cognitive ability scores (ACT/SAT or GRE) are more likely to be retained and to attain their degree relative to students with lower cognitive ability scores. Further, research by Kuncel, Hezlett, and Ones (2001) indicated that cognitive ability significantly predicted the time taken to graduate with a college degree, with students who had higher cognitive ability scores graduating in less time than those with lower cognitive ability scores. Finally, Lubinski, Benbow, Webb, and Bleske-Rechek (2006) found that higher SAT scores predicted students' attainment of a Ph.D. degree. Students with higher SAT scores were more likely to attain a Ph.D. than those students with a lower SAT score. The findings about cognitive ability and performance, however, do not stand uncontested. Many researchers argue that though cognitive ability may play some role in predicting student performance and retention, there are non-cognitive factors that explain performance and account for additional variance in performance. In some interesting research, Coyle and Pillow (2008) investigated the ability for ACT and SAT scores to predict GPA, after removing the cognitive ability component from the ACT and SAT scores. To do this, the researchers removed the shared variance between ACT and SAT scores and *g* scores. Then, using only the unique variance of ACT and SAT scores, ACT and SAT were used to significantly predict GPA. These findings suggest that ACT and SAT scores predict GPA not only because they are a measure of *g*, but also because these scores include a non-cognitive component. These authors argue for the need to understand non-cognitive factors in predicting GPA, especially non-cognitive factors that are a component of ACT/SAT scores.

Non-cognitive factors. As suggested above, identifying the best predictors of college outcomes such as GPA and retention is still actively debated. What is shown however, is that

non-cognitive factors do predict academic outcomes such as GPA and retention beyond what is explained by cognitive ability. Much research has been devoted to understanding how non-cognitive factors, such as individual level personality characteristics, psychosocial factors, and societal level demographic factors such as socioeconomic status or social class might predict student academic performance.

Personality characteristics. A major line of research has been focused on understanding how personality traits predict students' academic performance. Research by Rothstein, Paunonen, Rush, and King (1994) investigated personality characteristics and cognitive ability in predicting student academic performance. To do so, these researchers investigated narrow personality traits and GMAT scores to predict GPA, written work performance, and class performance (a measure of one's ability to solve problems during class sessions). These researchers found that while cognitive ability (GMAT scores) had a moderate to strong positive relationship to GPA and written scores it only showed a small relationship with class performance. They also examined the contributions of personality traits, specifically need for achievement, a facet of conscientiousness, dominance, a facet of agreeableness, and exhibition, a facet of extroversion in relation to performance. Their findings suggest that though achievement, dominance, and exhibition did not show the largest relationships with written work scores they were substantially related to GPA and to class performance. This research supports the notion that personality characteristics do have some association with academic performance. Paunonen and Ashton (2001) also investigated narrow personality traits as predictors of GPA. In their research, need for achievement, and need for understanding had stronger relationships with GPA than their broad personality trait counterparts, of conscientiousness and openness to experience. Additionally, these researchers examined the relationship between the broad

characteristics combined and GPA and the narrow traits combined and GPA. Results indicated that while conscientiousness and openness to experience had a small relationship with GPA, need for achievement and need for understanding had a large positive relationship with GPA. Finally, in a meta-analysis, O'Connor and Paunonen (2007) found that conscientiousness is a strong and consistent predictor of academic success. Additionally, openness to experience showed a somewhat positive relationship and extraversion showed a somewhat small negative relationship with academic success. O'Connor and Paunonen (2007) also argue however, that narrow personality traits, namely achievement striving and self-discipline, have shown to be significantly stronger correlates of academic performance. The achievement striving trait has been shown to have low to moderate correlations with academic success, while self-discipline has been shown to have similar yet slightly stronger correlations with academic success. Despite this research supporting a stronger relationship between narrow personality traits than broader personality characteristics, the majority of research focuses on the Big 5 factors of personality (Costa & McCrae, 1992) and their relationship with GPA.

In a comprehensive meta-analysis of 80 different studies of the personality-academic performance relationship, Poropat (2009), found that in a sample of 58,522 students, openness to experience was positively related to academic performance (GPA). As well, reviewing literature that included 70,926 students, Poropat (2009) reported a moderate relationship between conscientiousness and GPA. Finally, the relationship between agreeableness and GPA was found to be small in a sample of 60,442 students. Poropat (2009) also reported that conscientiousness predicted students' GPA beyond high school GPA and independent of intelligence scores (ACT and SAT scores). Farsides and Woodfield (2002) also found that both openness to experience and agreeableness had moderate positive relationships with GPA in their sample of college

students. Additionally, these researchers tested a hierarchical regression including intelligence test measures, motivation and application (attendance), and the Big 5 personality characteristics to predict GPA. This research showed that the best model for predicting GPA was the model including an intelligence test, attendance, and openness to experience. Further, the relationship between agreeableness and GPA was mediated by class attendance, showing that students who have higher levels of agreeableness attend class more often, and as a result achieve higher GPAs. Conard (2005) also investigated the role of personality in predicting GPA and found that cognitive ability (SAT score), class attendance, and conscientiousness were all significant predictors of GPA and class performance (class grade). Further analyses showed that conscientiousness was a better predictor of both GPA and course performance (grade) compared to cognitive ability. Finally, regression analyses also indicated that SAT scores predicted academic performance directly, while the relationship between conscientiousness and academic performance was mediated by class attendance. Thus, findings by Conard (2005) as well as Farsides and Woodfield (2002) support the notion that personality characteristics predict academic performance through their association with students' class attendance behavior.

In their research Zyphur, Bradley, Landis, and Thoresen (2008) used a latent growth model to predict initial and lasting (or later) academic performance in college students. This model indicated that while cognitive ability and conscientiousness predicted initial performance, only conscientiousness positively predicted later performance beyond the third semester. Noftle and Robbins (2007) further investigated how personality was related to actual and perceived cognitive ability, and how these variables predicted college GPA. In several regression analyses these researchers found that personality was related to cognitive ability and academic performance across four samples using four different personality inventories. Specifically,

openness to experience was significantly related to perceived verbal ability, which predicted SAT performance, while controlling for high school GPA (HSGPA). Additionally, conscientiousness was found to be a significant predictor of both HSGPA and college GPA. Further analyses indicated that the relationship between college GPA and conscientiousness (while controlling for HSGPA and SAT scores) was mediated by both academic effort and perceived academic ability. These findings suggest that students who have the need to achieve, are self-controlled and able to persevere (all facets of conscientiousness), and are able to perform better in their academic lives even across time, because they are more likely to perceive that they can perform and because they put forth more academic effort. Also, these findings imply that an individual's personality is associated with their beliefs about their sense of self, goals, and motives for performance, which provide incremental ability in predicting their performance, above and beyond their intellectual ability and past performance. To support these findings Chamarro-Premzic and Arteche (2008) tested a structural equation model and found that openness to experience, conscientiousness, and neuroticism predicted college GPA. These relationships were all partially mediated, such that self-assessed intelligence mediated the relationship between neuroticism and GPA, and beliefs about crystallized intelligence partially mediated the relationship between conscientiousness and GPA. These findings again implicate certain personality characteristics as being related to an individual's beliefs about their self, thus influencing their approach to learning, and ultimately their academic performance. Komarraju, Karau, Schmeck, and Avdic (2011) support the relationship that personality may have with an individual's learning strategy as they found that neuroticism, openness to experience, agreeableness, and conscientiousness significantly predicted student GPA. Further, regarding how personality predicts GPA, Komarraju et al. (2011) found that the relationship between

openness to experience and GPA was mediated by synthetic analysis and elaborative process, which are reflective rather than agentic learning styles. This suggests that students who are intellectually curious perform well academically because they process the material they learn, more deeply and meaningfully. Together these studies support arguments that psychosocial factors (PSFs) such as learning style, motivation, academic effort, and attendance, along with personality are related to academic performance. These findings are supported by Dollinger, Matyja, Huber (2008) who found that though conscientiousness was positively correlated to GPA, personality characteristics only predicted scores on class projects, not exam scores or class attendance. Factors such as intellectual ability and study time predicted both GPA and exam scores, while intellectual ability also significantly predicted project scores. These findings are congruent with previous research, which suggests that while personality is related to performance, it does so indirectly, by influencing students' motivation, perception of self, and other non-cognitive factors that predict academic performance. Thus, most researchers argue that it is not an individual's intellectual ability or personality that predicts their academic performance, but a combination of these factors and their relationship with non-cognitive psychosocial factors, which likely predict academic achievement.

Psychosocial factors (PSFs). A recent meta-analysis by Richardson, Abraham, and Bond (2012) found that though ACT scores did significantly correlate with GPA, cognitive ability was not the best predictor of GPA. Instead, these researchers found that self-efficacy, a non-cognitive variable, was the best predictor of GPA. In this research that included between 4,006 and 41,322 students, extraversion, academic self-efficacy, self-esteem, learning goal orientation, and academic intrinsic motivation all had significant relationships with college GPA. A deep information processing style and strategic approaches to learning showed positive relationship to

GPA while surface or shallow information processing showed small negative relationships with GPA. Together, they accounted for 9% of the variance in GPA, suggesting that students who truly engage in the learning process by continually attending class, reviewing material, and investigating the material through application and other means perform better than students who haphazardly engage in material and process the material at a shallow and superficial level. Conscientiousness (positive) and procrastination (negative) had significant relationships with GPA, accounting for 7% of the variance in GPA, while conscientiousness and need for cognition as well as conscientiousness and emotional intelligence accounted for 5% of the variance in GPA. This suggests that students who do not procrastinate and those who are conscientious are likely to have better GPAs, in part because they are organized and self-disciplined and have a strong need to think and learn. Again, these findings suggest that those who have the ability to persevere through the many challenges and demands of college classes, those who have a need to learn and perform, and those who are able to regulate their emotions, a facet of emotional intelligence, are the students who are more likely to perform at a higher level in the classroom. Students' thoughts and beliefs about the self also predict their academic performance. For example, locus of control, which had a small significant relationship with GPA, in addition to academic self-efficacy and grade goals, accounted for 14% of the variance in GPA. Students who believe that they have the ability to perform and set personal, challenging goals related to their academic performance perform to a higher level, as indicated by their GPA. Further, cognitive (elaboration, critical thinking, metacognition, and concentration) and behavioral (effort regulation, help seeking behavior, time/study management skills) self-regulatory factors together accounted for 11% of the variance in GPA. These findings implicate that performance is a component of both how a student thinks about their performance and how to do well, but also the

skills they have in their academic performance toolbox. Students who are able to engage in deeper cognitive processes and those who are able to use a variety of behavior tools effectively are the students who perform successfully in the classroom. Finally, a hierarchical regression analysis showed that while ACT and high school GPA accounted for 22% of the variance in college GPA, a model with ACT and HSGPA as well as effort regulation, academic self-efficacy, and grade goals accounted for significantly more variance in college GPA, a total of 28%. Thus, though past performance is important in predicting college GPA, it may be that a combination of ability and past performance provides students a sense of competence (academic self-efficacy), how to manage their time and effort accurately to get the best outcomes in each class (effort regulation), and how to set challenging yet attainable goals, based on their previous performance. As a result, students who are able to effectively use their non-cognitive tools, which are associated with their previous performance and their intellectual ability, are able to perform better academically.

Additional meta-analytic findings support this claim. These studies show that although standardized test scores (ACT and SAT) and previous performance (high school GPA) were significantly related to retention (or persistence) and college GPA, non-cognitive factors, such as psychosocial and study skill factors (PSFs), are better predictors and have larger correlations with these outcomes because these factors are the mechanisms that students must be able to use effectively in order to perform. (Robbins et al., 2004; Robbins, Allen, Casillas, Petereson, & Le, 2006; Casillas, Robbins, Allen, Kuo, Hanson, & Schmeiser, 2012).

Specifically, Robbins and colleagues (2004) investigated the relationship between PSFs and retention and GPA and found that in a sample of 17,575 students, academic goals had a

strong positive relationship with retention. Academic self-efficacy also showed strong relationships with retention and with GPA, in a sample of 9,598 students. Finally, academic skills had the strongest relationship with retention while achievement motivation had a strong positive relationship with GPA. In regression analyses, these researchers also found that PSFs (academic goals, institutional commitment, social support, social involvement, and academic-self efficacy) significantly predicted college GPA and retention beyond socioeconomic status, standard achievement scores, and high school GPA suggesting that PSFs are crucial for academic performance. Students who have the ability to set academic goals, who have social support, are committed to the university, and have the belief in their self to attain their goals, are the students who will perform best, regardless of their past performance or socioeconomic status. In another meta-analysis, Robbins, Allen, Casillas, Petereson, and Le (2006) investigated PSFs in predicting student GPA and retention at 2 year and 4 year institutions. These researchers found that after controlling for ACT/SAT scores and institutional effects (admissions policy, enrollment, percent of minority students, and control [private or public institution]) academic discipline and general determination both significantly predicted students' first year GPA. Academic discipline also showed positive relationships with student retention at two year and 4 year institutions. Social connection also improved the likelihood of student retention at 4 year institutions after the first semester and after the first year of college. Across both types of institutions ACT, HSGPA, and academic discipline together significantly predicted first semester and first year GPA, as well as retention. These findings provide further support for the importance of non-cognitive factors, specifically the role of academic discipline, determination, and social connection, in predicting academic performance and retention. These findings suggest that after controlling for differences due to type of universities and students' past performance, those students who have the ability to

show discipline for their academic work, who have the motivation or determination to perform, and who feel that they are socially connected to the university or others at the university are likely to perform better and be retained. Finally, there was a significant relationship between socioeconomic status and GPA, such that students with a lower SES showed lower GPAs. Friedman and Mandel (2011) support these findings in their research which found that demographics (gender, minority status, parents education), and SAT scores had no significant relationship with college GPA, while HSGPA and need for achievement had positive relationships with college GPA and autonomy had a negative relationship with college GPA. They also found students whose parents completed college, or had a college degree, were more likely to be retained than those whose parents did not have a college degree suggesting that first generation college students are likely to face more challenges in being retained, because their parents do not have the knowledge and ability to support them like those parents who have had in navigating the challenges of college.

Another set of studies focuses on academic self-efficacy as a PSF in predicting academic performance of college students. Elias and MacDonald (2007) found that while HSGPA predicted college GPA, it also predicted academic self-efficacy (ASE). Interestingly, ASE was found to be the best predictor of college GPA, above and beyond HSGPA. Similarly, in a meta-analytic review, Brown et al. (2008) reported that cognitive ability and high school grade point average did not predict student retention, and non-cognitive variables such as feelings of integration or fit within the university and academic self-efficacy were significant and better predictors of student retention. These authors also indicate that cognitive ability was a strong correlate of college GPA, but this relationship was partially mediated by academic self-efficacy. Specifically, while ACT scores were better than HSGPA in predicting college GPA, HSGPA

was a significantly better predictor than ACT in predicting ASE. These findings suggest that while ACT may predict college GPA, it may be the non-cognitive aspects that are captured by HSGPA, such as performance feedback over a period of four years, which shapes a student's academic self-efficacy. As a result, academic self-efficacy predicts college GPA and students' academic goals.

Academic self-efficacy. Albert Bandura describes self-efficacy as one's ability to combine and organize cognitive, social, and behavioral skills into "one integrative course of action in order to serve innumerable purposes" (Bandura, 1982, p. 122). It is an individual's perception or judgment of their capability to "produce and regulate life events" (Bandura, 1982, p. 122). An individual's perception of their self-efficacy has a significant relationship with their thought patterns, achievement, and emotional arousal. Individuals must make choices each day about what to do and for how long they will do that. As a result, people choose to what they think they can do. Thus, self-efficacy influences what we choose to do, as our perceptions of our own efficacy for different situations and tasks help us decide what we do. Additionally, perception of self-efficacy for some task is also related to how much effort we put into completing that task, and for how long we will persist if we face adversity while completing that task. Those individuals with higher self-efficacy show longer and better performance and less likelihood of quitting than do individuals who have low self-efficacy for a task or domain (Bandura, 1982). As Bandura (1982) describes, higher self-efficacy has been show to produce higher performance and lower emotional arousal, as well as better coping behavior, less physiological stress responses in aversive situations, higher levels of achievement striving, and a growing intrinsic motivation or interest in tasks. Though there has been a myriad of research on

self-efficacy in a variety of different areas, the current focus will center self-efficacy as a predictor of learning and academic outcomes.

Academic self-efficacy is a student's perception that they have the skills and ability to succeed in academic environments. Students who show higher levels of academic self-efficacy have stronger beliefs that they possess the skills, knowledge, and ability to complete academic tasks required for them to succeed in educational settings. As discussed by Bandura (2001), self-efficacy is influenced by past experiences, failures and successes, which shape current perceptions of our ability, as a means to experience situations or environments that are satisfying. Interestingly, research on younger school children (McMahon, Wernsman, & Rose, 2009) and on college students (Wessell, Ryan & Oswald, 2008) has shown that feelings of fit and feelings of satisfaction are positively related to students' feelings of academic self-efficacy, supporting the claim that both perceptions of fit and feelings of university satisfaction are related to academic self-efficacy.

The relationship between academic self-efficacy and academic outcomes, namely academic performance and retention is strongly supported with research. In three separate meta-analyses there has been a consensus of a significant positive relationship between academic self-efficacy and both academic performance and student retention. Specifically, a meta-analytic review by Multon, Brown, and Lent (1991) indicated a moderate to strong relationship between self-efficacy and academic performance, and between self-efficacy and persistence. Thus, students who are more confident in their ability to perform experience greater performance and are more likely to stay in college than those who are not self-assured. Robbins et al. (2004) further supported this work in their meta-analytic review of the relationship between self-

efficacy and both performance and retention. These researchers again reported a moderate to large relationship between self-efficacy and grade point average. Additionally, these researchers found that academic self-efficacy was the best predictor of college GPA above students' socioeconomic status, standardized achievement scores (ACT scores) and high school GPA. These findings show that although traditional predictors, such as previous performance, cognitive ability, and social class may aide in predicting students' performance, ASE explained additional unique variance and was also the best predictor of their actual performance. Finally, in a recent meta-analysis, Richardson, Abraham, and Bond (2012) again found a positive moderate to large relationship between students' academic self-efficacy and their GPA and established that academic self-efficacy was the best predictor of GPA, above high school GPA and ACT scores. These findings suggest that students may differ in previous performance, intellectual ability, or class status, but it is their degree of self-confidence in their competence that will most significantly predict their actual performance.

Early researchers have provided empirical evidence to establish that students' self-efficacy is related to their previous performance, their self-regulated learning strategies, the goals they set for their performance, and ultimately their academic performance (Bandura, 1989; Schunk 1984, 1989; Zimmerman, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992). Additionally, in a review of research on self-efficacy, Pajares and Miller (1995) and Pajares (1996) found that though self-efficacy was a good motivator and predictor of academic success, it is important that it should be measured directly and specifically as it is related to one's beliefs about one's abilities within some domain, not as a general measure of their perceived ability.

Research by Zajacova, Lynch, and Espenshade (2005) investigated the role of self-efficacy in predicting the performance of minority and immigrant college students. Their findings suggest that though high school GPA, stress, and demographics were included in the analyses, academic self-efficacy was a significantly better predictor of students' number of credits completed and their GPA. These findings suggest that academic self-efficacy is a powerful predictor of academic performance. These students faced stressful and difficult situations as they were not only minority and immigrant students but many were non-traditional college students. Interestingly however, it was not stress levels but academic self-efficacy that predicted performance, indicating that even students in very difficult situations can succeed, as long as they believe they have the tools to do so in the classroom. As a result, ASE may not just be the belief of being able to succeed in the classroom but also the ability to adjust to the demands of a college environment. Research by Chemers, Hu, and Garcia (2001) found that ASE significantly predicted both college GPA and the academic adjustment of college students. The relationship between ASE and GPA was direct and indirect, through expected performance and coping ability. These findings indicate that students who believe in their ability to perform also set higher and more achievable expectations for their performance and can also properly deal with the challenges of college. These students are more likely to see adversity or difficulty in college as a challenge rather than a threat, and as a result use their perceived skills and abilities to overcome and preserve even when in very difficult and stressful situations, as indicated by their academic performance. These findings are supported by the work of Zimmerman (2000) who found that self-efficacy was related to motivation and learning for students. In this research, Zimmerman (2000) found that higher levels of academic self-efficacy was related to better academic choices, more effort, persistent, and the ability to control emotional reactions.

Additionally, those with higher levels of academic self-efficacy showed higher levels of motivated and self-regulated learning strategies being used. As a result, students who have high levels of academic self-efficacy perceive they have the skills to perform, and use this belief as means to motive their effort and persistence and to bolster their performance and learning strategies, so that they do perform. Thus, students with higher levels of ASE believe they have the skills to perform in the classroom and to cope with the difficulties of the higher education environment, as well as the motivation to use these skills, persist, and perform at college. As indicated above, academic self-efficacy is a powerful predictor of academic performance in terms of grades and perseverance or retention. As well, there is research that suggests one's ASE is malleable and able to be changed, as it is developed through prior experiences within the domain, in this case, prior educational performance and experiences in education.

Chemers, Hu, and Garcia (2001) and Zimmerman and Kitsantas (2005) found that previous performance is significantly related to academic self-efficacy. As suggested by Bandura (1982, 2001) self-efficacy is an individual's ability to integrate past experiences, thoughts, and behaviors together, as a means of predicting their current and future potential for success on some task or within some domain. These findings support this notion of past experience influencing one's perception of their efficacy within some domain. As well, Gore (2006) found support for how improvement in academic-self efficacy predicts academic performance. Gore (2006) reported that though academic self-efficacy was related to academic performance, the size and strength of the relationship was somewhat dependent upon on the time of the measurement of performance and self-efficacy. These results showed that students' self-efficacy as measured at the beginning of their first semester of college was not strongly related to the GPA, however their self-efficacy measured after the first semester showed a much larger and stronger

relationship with GPA. These findings propose a potential change in student's perception of their efficacy based on their experiences and performance within an unfamiliar domain.

These findings highlight the importance of academic self-efficacy for students in understanding their academic performance, namely their grade point average, and their retention at the university. Additionally, these analyses show the significance of academic self-efficacy in predicting students' outcomes, as self-efficacy emerges as the strongest predictor of GPA and a strong predictor of retention. Research findings support the idea that students with higher levels of self-efficacy are better able to cope with the stress and adversity of college, framing it as a challenge, staying motivated with continual effort, using self-regulation, and motivated learning strategies in order to perform. As well, theory and research on the development of self-efficacy indicate a strong positive relationship between feelings of fit, and satisfaction with higher levels of self-efficacy.

The research on predicting the academic success of college students is important because there is a growing trend that a higher education degree is required to remain competitive in the job market and to be successful in US society. A higher education degree has long been perceived as a means of social mobility for all individuals, as those with college degrees earn 90% more than individuals who do not have a degree, and also show better health and happiness (Torche, 2011). Yet there are many inequalities that exist between students in higher education. These inequalities lie in the structure and development of higher education systems, as they are built upon middle and upper class norms and values, thus giving an advantage to middle and upper class students who have insider knowledge about the norms and values to navigate this environment (Bernstein, 1974; Bourdieu & Passeron, 1990; Bourdieu & Wacquant, 1992;

Stephens et al., 2012; Torche, 2011). As a result, a myriad of research has focused on understanding the experiences of working class students and the factors that are related to their performance and retention (or persistence) during postsecondary education.

Socioeconomic class. The study of working class students, often defined as students from low socioeconomic status families and first generation college students, focuses on differences in their academic outcomes such as grades (GPA) and graduation rate (or retention rate) compared to their middle and upper class counterparts. Though the relationship between socioeconomic status (SES) and academic achievement is often disputed, three meta-analyses show at least a small to moderate relationship between SES and academic performance (Richardson, Abrahams, Bond, 2012; Robbins et al., 2004; Sirin, 2005). According to these researchers, SES may have both a direct and indirect link with academic performance. Socioeconomic status is directly related to both the resources children have in their homes and the school district in which they are educated. Students in lower socioeconomic homes have less academic resources, from games and thought stimulating toys, to resources for tutoring or advanced academic opportunities (Sirin, 2005). As well, those in lower SES families often attend schools in lower SES districts, which may be related to the quality of instruction they receive. Also, Sirin (2005) and Richardson, Abraham, and Bond (2012) suggest that SES influences the social capital an individual has, thus influencing their ability to adapt academically and socially in a higher education setting. To support this, in a meta-analysis of 75 different studies including over 100,000 students, the author reported a moderately large average relationship between SES and academic performance (Sirin, 2005). In another meta –analysis, Robbins et al. (2004), reported a moderate relationship between SES and performance in their sample of 12,081 students from 13 studies. More recently, Richardson, Abraham, and Bond (2012) conducted a meta-analysis of 21 studies including

75,000 students and found a small relationship between SES and GPA. Though there may be inconsistency in the size of the relationship between academic performance and socioeconomic status, this research indicates that there is a significant relationship between these variables. The relationship between socioeconomic status and student retention is less researched; however, Robbins et al. (2004) reported a moderate relationship between SES and retention, from a sample of 7,704 students from 6 data sets. These meta-analyses indicate that there are potentially significant differences between working class students' grades and retention rates and those of their middle and upper class counterparts. To better understand why these differences exist, Stephens, Fryberg, and Markus (2012) suggest a cultural mismatch theory*;* and this is explained in the following pages.

Cultural Mismatch Theory. Cultural mismatch theory, postulated by Stephens, Fryberg, and Markus (2012), is partially derived from previous work by Markus and Kitayama (1991, 2003) who focused on how social class conditions create different motives or *models of agency* that determine culturally appropriate behavior for individuals. An individual's model of agency is influenced, and somewhat determined, by the cultural norms within which they are raised. An individual's cultural norms provide clues about the appropriate way to think and act in a situation, partly by modeling the behavior and thoughts by significant members of their community. Markus and Kitayama (1991) discuss the self as a set of schemas that include past behavior as well as patterns for current and future behavior. Additionally, they argue that the self is always situated in a context, such that it is developed by the contextual experiences of one's social environment and the interactions that occur in that social environment. "Self-construal is conceptualized here as a constellation of thoughts, feelings, and actions concerning one's relationship to others, as the self is distinct of others" (Markus and Kitayama, 1991, p. 581).

One's social environment plays a crucial role in determining or influencing the self that is developed as "[the] Concept of self is important to an individual's perceptions, evaluations and behaviors and is influenced by cultural norms, values and beliefs" (Singelis. 1994, p. 2). As discussed by Oyserman, Elmore, and Smith (2012), the self is a motivational tool, because though it is dynamically constructed from situational context, it also "feels like a stable anchor" (p. 69). Although there are differences in what is implied by context, Oyserman, Elmore, and Smith (2012) summarize that the self a created by the environment in at least three ways. First, they argue that "people do not create themselves from air, rather, what is possible, what is important, what needs to be explained all comes from social context – from what matters to others" as a result people are going to define themselves dependent on their situation and context and what is valued in that culture (Oyserman, Elmore, Smith, 2012, p. 71). Second, they argue that it is important to have others support and value one's self, and as a result structures and environments that support one's self matter, because it is in these environments that one will feel good about one self. Thus, the self is derived from a social context as a situation, culture, or context that supports it the self is often sought out by individuals. Finally, Oyserman, Elmore, and Smith (2012) argue that "…the aspects of one's self and identity that matter in the moment are determined by what is relevant in the moment" (p.72). This is true because often individuals will change how they behave so that others view them the same as they view themselves, thus validating or endorsing their behavior.

One area that has been widely researched is how one's self construal works to determine what is normal behavior/interaction between the self and others. Most self-theorists argue that the self matters as an influence or indicator of appropriate behavior. These researchers have shown this through different studies, either by experimental studies that manipulate how people

think about themselves or predicting different behaviors or through self-reflection and future prediction studies. Markus and Kitayama (1991) argue that social interaction differs based on whether the self is independent or interdependent. These ideas of the self are similar to what others may call individualism and collectivism but differ from these variables as collectivism and individualism are reflected at the group level whereas independent and interdependent selves occur at the individual level (Singelis, 1994). Collectivism and individualism are one's concerns with the relationship the individual has to the collective group. Individualistic selves give priority to personal goals, while collectivistic selves emphasize subordinating personal goals in order to meet group goals. Though these variables are similar to independent and interdependent self, individualism-collectivism (I-C) and independence-interdependence (I-I) differ in that I-C focuses on social interaction at a group level while I-I focuses on social interaction at the individual level (Markus and Kitayama, 1991; Singelis, 1994).

Markus and Kitayama (1991) describe the independent self-construal as "a bounded unitary, stable" self that is composed of elements 1) emphasizing internal abilities, thoughts and feelings 2) being unique and expressing the self, 3) realizing internal attributes and promoting one's own goal 4) being direct in communication" (p. 226). Individuals with an independent self-construal focus on their own ability, characteristics, and/or goals, not the thoughts, feelings, or actions of others. When these individuals think about others, they focus strongly on other's individual characteristics and attributes rather than any relational or contextual factors. To gain self-esteem, independent self-construal individuals focus on validating their internal attributes by expressing their unique self. When addressing others, they use direct communication, expressing exactly what they think and feel, and having inner attributes regulate their behavior (Markus and Kitayama, 1991; Singelis, 1994).

The interdependent self-construal however is a "flexible, variable" self that emphasizes external, public features such as statuses, roles, and relationships, belonging and fitting in, occupying one's proper place and engaging in appropriate action, and being indirect in communication and 'reading others' minds" (Markus and Kitayama, 1991, p. 227). When these individuals think about themselves and others, they see the self and others as intertwined and being influenced by the environment or situation. Further, these individuals increase self-esteem by having "harmonious interpersonal relationships" and by being able to adjust to various situations (Singelis, 1994, p. 3). To do this, interdependent self-construal individuals use indirect communication but are more attentive others feelings and their unexpressed thoughts. These individuals rely on others, their relationships with other, and situation/contextual factors to regulate their behavior (Markus and Kitayama, 1991; Singelis, 1994).

Some research has focused on gender as a major determinant or influential factor of one's interdependentce and independence (Cross & Madson, 1997, Markus & Kityama, 1991). As discussed by Gabriel and Gardner (1999), there is strong support showing differences in socialization of males and females, both at home and in public schools. Cross and Madson (1997) contest that, especially in western societies, men are more likely to develop an independent self-construal while women are more likely to develop an interdependent self-construal. From a conceptual level, this may be visible by purely examining the definitions of independent and interdependent self-construal, as provided by Markus and Kitayama (1991) and by exploring research on gender socialization.

Gabriel and Gardner (1999) highlight a myriad of research supporting different socialization of males and females. These researchers suggest many studies that support the

notion that females are socialized to place a greater emphasis on relating with others, being more cooperative, having intimate friendships, and to generally value interpersonal relationships and harmony. Males however, are socialized to be dominant, competitive, and being *independent* in the world. This theory is somewhat validated in a study by Rosenberg (1989), who found that there were significant differences in what self-concept characteristics were valued by adolescent males and females. While males valued characteristics such as competitiveness and social dominance, females valued characteristics associated with interpersonal harmony and sensitivity. Finally, Thoits (1992), shows support for this difference in socialization patterns continuing from adolescence to adulthood, women report the relational or connective aspects of their self-concept as significantly more important to them than men do.

Other researchers have also supported differences in the value placed on social relationships for males and females across different age populations, all of which supports the notion that they are socialized to value and have a more independent self-construal, while women are socialized to value and have a more interdependent self-construal (Clancy & Dollinger, 1993; Josephs, Markus, & Tafarodi, 1992; McGuire & McGuire, 1988). As a result, several researchers have measured and reported significant differences in self-construal with men reporting higher independence and women reporting higher interdependence (Cross, Bacon, & Morris, 2000, Gabriel & Gardner, 1999; Gardner, GabrieL, & Hochschild, 2002, Kemmelmeir & Oyserman, 2001).

The focus of the current study will include the relationship between social class and the development of self-construal. In order to better understand how social class might be related to one's dependency style (interdependent or independent), or motives for social interaction, there

is a need to understand how social class is related to both physical (income, wealth) and social resources (relationships with family, cultural capital). The physical resources and social resources an individual has is a byproduct of their social class. As a result, the resources an individual has access to may be related to their approach to social interaction. Markus and Kitayama (2003) argue that middle class Americans value and work to develop independent agency in their children. Middle class families have both the economic and cultural capital to facilitate intellectual growth for their children and also have more choice and control of their environment. Since middle class families often have parents with college degrees, these parents learn the value of having independent opinions and ideas via their college educational experience. As a result, these parents raise their children to have values such as confidence, individualized ideas and opinions, standing out, and being confident because they see the rewards of having these values of an independent self (Stephens, Fryberg, & Markus, 2012).

Working class families however, have less economic and cultural capital, as they do not have the monetary resources to pay for many programs that facilitate greater intellectual growth for their children. Additionally, these parents lack the cultural capital of knowing how to help their children enroll in college, or apply for student loans and grants, because they themselves have not gone to college. Further, by not attending a university, many times these parents are "more likely to live in the same town for most of their lives, to have frequent contact with family, to be embedded in densely structured social networks, and to maintain lifelong friendships" (Stephens, Fryberg, & Markus, 2012, p. 8-9). As a result, these parents model and encourage interdependent values for their children, showing the importance of relationships and connectedness. These parents do not promote a value for independence but focus on being reliant on others and reliant for others, valuing team work, and following the rules (Stephens, Fryberg,

& Markus, 2012). Further, there exists a large difference between working class individuals and middle and upper class individuals in their degree of interdependence/independence motives for interacting with others, and potentially their motives for attending college.

Snibbe and Markus (2005) provide empirical evidence to support the idea that there are differences in the behaviors of those with an interdependent or independent self-construal. These researchers found that participants with a bachelor's degree expressed more independent behaviors, such as expressing preference for their own cultural products (rock music lyrics, which reflected more independent motives), being unique, attempting to control the environment, influencing others and getting what they wanted. Participants who had only a high school education expressed more interdependent motives (country music lyrics, which expressed more interdependent motives) emphasizing a need to maintain integrity, adjusting selves, resisting influence, and getting what they needed. Finally, in an experimental study these researchers found that participants with a bachelor's degree who chose a specific pen but then received a different pen (not the one that they chose) evaluated it more negatively than when they kept the pen they chose. This did not happen for participants with only a high school education. The latter group did not prefer one pen over another, indicating they did not have a strong desire to assert their self and their need for choice as did participants who were more independent. These findings support the notion that an individual's education level influences their self-construal and shows that individuals with an independent self-construal like to control a situation, wish to express and receive their own personal preference, and be unique. High school educated participants on the other hand expressed interdependent self-construal by their desire to maintain integrity and adjust themselves in the situation. Further support for differences in models of agency and self-construal in determining behaviors between working-class and middle-class

participants is reported by Stephens, Markus and Townsend (2007) through their series of 5 experimental studies. What their research found was that working class individuals more often choose pens and images that were the same as that of others, not different from others. Additionally, working class individuals liked the pens they chose more when someone (a confederate) chose a similar pen. Working class individuals also responded more positively when a friend chose the same car in a hypothetical scenario. The opposite was true for middle class individuals. These individuals more often chose pens and images that were unique, and did not like it when others made the same choice as they did. As a result, these studies display the stark differences between an independent and an interdependent self-construal, the effects self-construal has on behavior, and how social class may influence one's self-construal.

Researchers are also interested in how social class is predictive of college students' academic outcomes. Oyserman (2012) details much research to date showing the importance of an education in having a better life suggesting that parents from all social classes have high expectations of their children and this is relatively stable across time. This, however, also comes with findings that suggest a lack of equality in student success, such that low income and minority students are nearly half as likely to graduate high school, and are less likely to graduate college (Jackson, 2010; Orfield, Losen, Wald, & Swanson, 2004). In a longitudinal study of students from first grade through the age of 22, Entwistle, Alexandra, and Olsen (2005) showed that a student's family SES was a significant predictor of performance in first grade, high school graduation, college graduation, and years of school at the age of 22. Students from higher SES groups showed better grades, higher graduation rates, and more years of education than lower SES students. Further, research by Huang, Guo, Kim, and Sherraden (2010) found that in a longitudinal national sample of students, both parents' wealth and ability to pay for college were

predictive of students' academic performance early in life as well as if they were likely to enroll in college. These studies show that parent income is not just an important influence on student's early academic performance but also their likelihood of enrolling in college. Finally, Kim and Sherraden (2010) support these findings in a sample of a national longitudinal study. These researchers found that a student's socioeconomic status is predictive of all types of academic performance and attainment, including high school graduation, college entry, and college entry. Thus, these findings all support the notion that socioeconomic status or social class matters for students' academic performance and their ability to graduate high school and college. To explain this relationship, Stephens et al. (2012) highlight how social class influences one's self, and as a result is associated with academic success.

Stephens and colleagues (2012) argue that lower SES students develop more interdependent selves and higher SES student develop more independent selves, and this leads to differences in their ability to perform within higher education environments, as the latter value independent selves. Research by Stephens et al. (2012) found that university administrators, from top and second tier universities, indicated that their university expected students' behavior to subscribe to an independent norm. That is, these universities valued and expected independent (learn to express oneself, learn to be a leader) not interdependent (learn to ask others for help, learn to be a team player) behavior and motives from their students. As a result, students who have an interdependent model of social interaction and interdependent motives for attending college experience a cultural mismatch when they attend a university that values independence. This cultural mismatch is hypothesized to decrease these students' perception of fitting in at the university, to decrease their ability to perform well on academic tasks, and to decrease their persistence at that university.

Stephens et al. (2012) conducted several studies to test cultural mismatch theory. In their research, these researchers found that students from the working class background more often choose interdependent motives for attending college (help my family out after I'm done with college) indicating that working class students are more likely to experience a cultural mismatch at college. Students from a middle class background however, more often choose independent motives for attending college (become an independent thinker), which suggests these students more often experience a cultural match. These researchers also found that the type of motive a student had for attending college significantly predicted their academic achievement (grade point average). Students with more independent motives had higher GPAs while those with interdependent motives had significantly lower GPAs. Further, the relationship between a student's social class and academic achievement was mediated by the student's motives for attending college. This finding supports the idea that the social class of an individual predicts their motives for attending college (dependency style) and ultimately predictive of their academic performance. In their third study, Stephens et al. (2012) used an experimental design to show that participants experiencing a cultural mismatch performed significant lower on an anagram task than those who experienced a cultural match. Finally, in their fourth experiment, Stephens et al. (2012) replicated the findings from study three and found that students who experienced a mismatch reported that their task was more difficult, while those who experienced a cultural match reported tasks to be easy. Finally, the relationship between social class and students' perception of the difficulty of the task was mediated by experiencing a cultural match or mismatch. Students from working class families experienced a cultural mismatch which resulted in perceptions of the task being more difficult.

In summary, Stephens et al. (2012) and Stephens, Fryberg, and Markus (2012) suggest that a cultural mismatch occurs when students attend college with interdependent motives, since colleges are established on principles and norms that value independence in students. As established from the research discussed, students from low socioeconomic status families are more likely to have interdependent motives for attending college and thus are more likely to experience a mismatch when the college values independence in students. When a mismatch occurs between the values of the student and those of the university, Stephens et al. (2012) and Stephens, Fryberg, and Markus (2012), argue that students experience discomfort with the setting. Though the postulation of discomfort or a lack of fit with the setting has yet to be established in research, what has been established is that a cultural mismatch results in perceptions of tasks as being more difficult and thus leading to decreased performance for students' academic outcomes and other intelligence tasks (anagrams). The current study looks to replicate this line of research by examining whether a student's social class is related to their dependency style, and which in turn might be related to their academic outcomes of performance, retention, and attendance. Further, the current study extends prior research by positing that a student's dependency style, and thus their match or mismatch with the university, will predict their feelings of fit within the university, which in turn is likely to lead to differences in their academic outcomes.

Student-University Fit. As suggested by Stephens et al. (2012), a cultural mismatch is negatively associated with a student's performance at the university. These researchers suggest this may occur because students experience or perceive a lack of fit at the university. The relationship of fit between a person (in this case, the student), and an environment (in this case, the university as an organization), has been researched as the construct of person-environment fit

(P-E fit). P-E fit has been researched by psychologists for over 20 years such as Dawis' (2005) theory of work adjustment, and Holland's (1959) theory of personality in work environments, but has generally been applied to the context of an employee and their work environment. P-E fit research has been conducted to investigate how the fit between person and environment is related to an individual's attitudes and behaviors in a variety of contexts (Dawis, 2005; Kristof-Brown, Zimmerman, & Johnson, 2005). P-E fit researchers argue that it is a person's perception of fit within an environment that is essential in explaining their behavior within that environment. As such, it is important to understand the person, the environment that they are experiencing, and the perceived fit that individuals believe exists between them and their environment. This, however, comes with the recognition that both the person and the environment are dynamic and always evolving. Therefore, it is necessary to understand the interaction between the person and the environment. As discussed by Kristof-Brown et al. (2005), person environment fit is the attunement or agreement of an individual and a work environment, which occurs when both of their characteristics are similar or matched, and they theorize that there are different types of fit; person-vocation, person-organization, person-job, person-group, and person-supervisor.

Person-organization fit. The focus of this study will be on person-organization fit (P-O Fit). To define P-O fit, it is important to first understand the major conceptualizations of fit. The first conceptualization of fit is that of person-organization compatibility. In order to define P-O Fit, Kristof (1996) uses an integrative definition by weaving together the major conceptualizations of P-O Fit. According to Kristof (1996), there are three potential ways in which fit may occur. First, supplementary fit may occur when an individual's personality, values, goals, and attitudes are similar to the organization's climate or culture, values, goals, and norms. Both the person and organization can be described in what they demand and what they will

supply, both of which are influenced by their characteristics (goals, values, norms). As a result, these supplies and demands are places where fit (or misfit) may occur. Thinking about the supplies and demands of both the organization and the person, there is a possibility for complementary fit in two ways: needs-supplies and demands-abilities. This occurs when the organization supplies what the person demands, such as when financial, task-related, and interpersonal demands, complementary fit occurs in a needs-supplies context. Finally, the third way fit occurs is when the person's abilities (their skills or supplies) fulfill the demands of the organization. As a result of the person meeting the organizations demands, complementary fit occurs, in the context of the demands-abilities conceptualization. Therefore, Kristof (1996) defines P-O Fit as "The compatibility between people and organizations that occurs when (a) at least one entity provides what the other needs, or (b) they share similar fundamental characteristics, or (c) both" (p. 4).

To understand P-O fit and what it encompasses more clearly, Kristof (1996) investigated the major ways in which this construct is operationalized. There are four distinct ways that P-O fit has been operationalized, value congruence, goal congruence, matching person preference and organizational structure, and matching individual personality and organizational climate. Judge and Bretz (1992) operationalized P-O fit as the congruence between the values of the person and the values of the organization. The congruence of these values represents fit in the context of supplementary compatibility or fit. Witt and Silver (1995, in Kristof 1996) also operationalized P-O fit in a supplementary compatibility context. These researchers operationalized fit as congruence of individual or personal goals and the goals of an organization. Using both a supplementary compatibility and needs-supplies context, Bowen, Ledford, and Nathan (1991) operationalized P-O fit as a match between individual personality characteristics and

organizational climate. Kristof (1996) argues that this operationalization is both supplementary, because it focuses on a match between individual (personality) and organizational (climate/culture) characteristics, but also as needs-supplies, as the organizational climate/culture must satisfy or support the individuals' needs for their personality. Finally, Bretz and Judge (1994) use a needs-supplies and demands-abilities context in operationalizing P-O fit. These researchers operationalize fit as a match between a person's needs and preferences and the organizational system and structure.

Though P-O fit may fall under a similar umbrella as person-vocation, person-group, and person-job fit, Kristof (1996) suggests P-O fit is theoretically and conceptually different from each of these constructs. Specifically, Kristof (1996) argues that person-vocation fit is focused on the relationship between a person and a specific vocation, and that even within specific vocation industries there are large differences (especially cultural or climate differences) within these organizations. Additionally, person-group fit (P-G fit) is different from P-O fit in that P-G fit research suggests a focus on how group composition, such an individual demographics, personalities, and group goals and culture (which may be different from the goals of an organization) are associated with members' feelings of fit within that group. Finally, person- job fit focuses on specific job demands and characteristics and how those factors are related to an individual's feelings of fit with their specific job.

Application of P-O fit to student-university fit. The current study focuses on person-organization fit, and applies these principles to students' perceptions of fit at a university. Specifically, fit will be measured in a supplementary fit context, and as both a needs-supplies and demands-abilities context. In assessing P-O fit, students' motives for attending college and

their perception of what the university expects from students will provide the supplementary fit and demands-abilities contexts, while students' perceptions of their match with the university and the resources it offers will also fulfill a supplementary fit and needs-supplies context. Additionally, the current study will focus on the relationship that perceptions of fit have on students' academic outcomes, by influencing their degree of satisfaction with the university and academic self-efficacy.

Across a sample of 1,100 students from several universities, Schmitt and colleagues (2008), found that students' perceptions of fit at their university significantly predicted their satisfaction with the university. Further, students' satisfaction with the university significantly predicted their turnover intent (retention), grade point average, and absenteeism from class. Additionally, Pittman and Richmond (2007) found that students' feeling of belonging (or what could be called perception of fit) significantly predicted their grade point average even after controlling for socioeconomic status, gender, ethnicity, and parents level of education. Finally, research by Ostrove and Long (2007) showed that students' perception of belonging at a university was significantly predicted by their social class, such that higher social class students perceived more belongingness at the university.

Applying the research findings regarding P-E fit to student-university fit will be a focus of the current study. As Ostrove and Long (2007) showed, students from lower social class groups generally perceive less belonging at the university. This is similar to the notion of a cultural mismatch they might experience between their norms and values and the norms and what is valued at a university (Stephens et al., 2012). In either case, lower social class students, those who are more likely to have interdependent motives (Stephens et al., 2012), are more likely

to feel less belonging or fit at a university that values independence or middle to upper class values (Ostrove and Long, 2007). When a student feels like they fit in at a university they experience greater satisfaction, which is associated with lower absenteeism to increased grade point average, increased retention, and (Schmitt et al., 2008). As a result, students who experience a cultural mismatch and have interdependent motives for attending college may experience less fit and thus less satisfaction, explaining their decreased academic performance.

University Satisfaction. Much research has been conducted on P-E fit within the organizational and business context, with a major focus on the relationship between perceptions of fit and feelings of satisfaction, performance, retention, and absenteeism. In several meta-analyses (Arthur, Bel, Doverspike, & Villade, 2006; Hoffman and Woeher, 2006; Kristof-Brown et al., 2005), results have shown that fit has a moderate to large positive relationship with satisfaction and intent to leave, in a business setting. Smaller significant relationships were shown to exist between performance, turn over, and withdrawal and with feelings of fit within an -organization. As described in the next section, research on the application of P-O fit to the university context has focused on the relationship between course, major, and teacher satisfaction and academic outcomes; the relationship between perceived academic fit and university satisfaction; and the relationship between university satisfaction and academic outcomes of GPA, retention, and absenteeism.

Course, Major and Teacher Satisfaction. Pascarella, Terenzini, and Hibel (1978) investigated the role of non-class room communication between students and faculty and found that controlling for previous performance, intellectual ability, personality and demographic characteristics, the number or frequency of non-classroom interaction predicted the difference

between students expected and their earned GPA. This was especially true when students reported these interactions to be focused on intellectual, course related, or matter related to the students' future careers. Aitken (1982) found that students' perceived GPA, their course satisfaction, their satisfaction with their major, their instructor ratings, and their feelings of isolation (negative) were all significantly related to academic performance. Along with previous performance, SAT scores, class attendance, and parents' education, students instructor ratings, satisfaction with their facilities, and feelings of positive relationships with their peers all predicted performance at the university. Surprisingly, students who felt that they knew the faculty or that they were satisfied with their major did not relate to performance in this sample. Delaney (2008) reported however, that in a sample of 1,500 students, interaction with faculty significantly predicted academic performance and satisfaction with faculty interaction predicting overall college satisfaction. Thus, these findings support a notion that students' interaction with their faculty members is important for facilitation of a learning environment that is sufficient for student performance and promotes students' feelings of fit and belonging, thus influencing their retention at the university. Hong, Shull, and Haefner (2011) found that there were large positive correlations between faculty being caring and perceived positive outcomes of self-efficacy, locus of control, persistence, and commitment to the university. Further, Lillis (2011) found that the more interactions students have with faculty the more likely they are to be retained at the university. Interestingly, students assigned to faculty members with lower levels of emotional intelligence were more susceptible to attrition when they had low communication with their faculty member, compared to students assigned to faculty with higher levels of emotional intelligence. There was no difference between emotional intelligence levels of faculty members and attrition rates however, when students frequently interacted with their faculty member. This

again supports the notion that the level of student-faculty interaction is associated with feelings of fit and belonging, as well as academic performance and retention.

There is also a portion of literature focused on the fit between a student's interest and their major and the relationship this fit has with academic performance and retention. In a sample of 8,574 students from 87 different higher education institutions, Tracey and Robbins (2006) found that interest-major fit (or congruence) is a significant predictor of GPA (after year 1, after year 2, and at graduation) even after accounting for institutional differences. Similarly, in a sample of 3,860 students from 28 different 2 and 4 year institutions, Allen and Robbins (2010) found that a fit between interest and major has a significant positive relationship with graduating on time. Students who experienced more fit between their interest and major were more likely to graduate in the normalized time (2 or 4 years depending on the degree and institution size) than students who did not experience high levels of fit. Additionally, they found that higher levels of person-environment fit were related to higher GPAs and students persisting in their major and career area. Students whose interest matches their major are more likely to stay in their major, while those that do not experience fit are more likely to change majors to find a better match. As a result, congruence with the major was found to be highly predictive of GPA and academic performance as well as persisting in the major. Finally, Nye, Su, Rounds, and Dasgow (2012) reported from an analysis of 60 different studies, that students' interests are related to performance at both work and in academic settings. Additionally, congruence between interest and major (and work type) were stronger predictors of academic (or job) performance than just levels of interest. Thus, these studies show that the fit between an individual and their environment is a stronger predictor of their academic performance and likelihood for retention.

University satisfaction and academic outcomes. In a structural equation model, Schmitt et al. (2008) found that the fit, satisfaction, and academic outcomes model proved to be a good fit of the data. Specifically, fit was shown to be a positive predictor of university satisfaction. Thus, students who experienced a sense of fit or match at the university (socially, academically, and physically) were more likely to report that they were satisfied with the university and what it had to offer. Additionally, research by Gilbreath, Kim, and Nichols (2011) also showed support for the positive relationship between perceived fit and university satisfaction. These researchers found that feelings of fit at the university were predictive of satisfaction with the university as well as overall psychological wellbeing. Gilbreath, Kim, and Nichols (2011) found that the more students perceived that the university's supplies fulfilled their needs the more satisfied they were. Further, once supplies from the university exceeded students' needs, both satisfaction and wellbeing increased. Finally, when both needs and the university's supplies are high satisfaction and wellbeing were high for participants, but when both needs of the students and supplies of the university were low, satisfaction and wellbeing was low. These findings suggest that when students believe that the university is able to supply them with resources to fulfill their needs, such as social interaction, challenging classes, and physical and emotional safety, students feel like they belong at the university and are more satisfied with it. As well, when the school meets a student's need, they are not only satisfied with the school but they also experience higher levels of overall wellbeing. Thus, a fit between students and university is important to facilitate an environment where students can efficiently engage in learning. Further, students who feel that they fit and belong at the university, those who are satisfied and experience overall improved wellbeing are more likely to succeed in terms of performance, attending class, and staying at the university. Schmitt et al. (2008) found that university satisfaction was positively related to GPA,

and negatively related to turnover from the university and absenteeism. This is consistent with earlier research by Starr, Betz, and Menne (1972) who found higher levels of satisfaction being related to decreased likelihood of dropping out of college. Research by Lohfink and Paulsen (2005) has also found that satisfaction is related to higher levels of student retention. Thus, as suggested, students who are satisfied with the university as well as those who believe they fit at the university, tend to be happier and healthier, and as a result experience greater potential for learning in the environment. This is reflected through their academic performance, attendance, and retention at the university. Finally, Tracey and Robbins (2006) found that university fit was a better predictor of both performance and persistent (time enrolled in college) above ACT scores. Thus, applying this concept to the model, it is hypothesized that students who are from the working class experience more interdependent motives for attending college, resulting in a cultural mismatch, less feelings of fit at the university, and lower levels of university satisfaction. This then results in decrease academic performance, decreased retention, and increased absenteeism.

The Current Study

As the research that has been reviewed suggests, students' academic performance is related to their socioeconomic status (Richardson, Abraham, & Bond, 2012; Robbins et al., 2004; Sirin, 2005). To explain this relationship, cultural mismatch theory researchers argue that because students from the working class have interdependent motives for attending college that do not match the independent values established by many universities, they experience decreased academic performance (Stephens, Fryberg, & Markus, 2012). It is purposed that one reason this may occur is because experiencing a cultural mismatch results in students' feeling less fit with

the university. Other researchers have shown that students' SES significantly predicts feelings of university fit (Ostrove & Long, 2007) and feelings of fit have a positive relationship with university satisfaction (Gilbreath, Kim, Nichols, 2011; Schmitt et al., 2008), academic outcomes (Pittman & Richmond, 2007; Schmitt et al., 2008), and academic self-efficacy (McMahon & Weinsman, 2009; Wessell, Ryan, & Oswald, 2008). Additionally, university satisfaction has also been shown to be positively related to academic self-efficacy (McMahon & Weinsman, 2009; Wessell, Ryan, & Oswald, 2008) and student grades (Schmitt et al., 2008; Tracey & Robbins, 2004), student retention (Lohfink & Paulsen, 2005, Schmitt et al., 2008; Starr, Betz, & Menne, 1972), absenteeism (Schmitt et al., 2008) and academic self-efficacy (McMahon & Weinsman, 2009; Wessell, Ryan, & Oswald, 2008). Finally, much research has shown that there is a moderate to large relationship between academic self-efficacy and performance (Multon, Brown, & Lent, 1991; Richardson, Abraham, & Bard, 2012; Robbins et al., 2004), that academic self-efficacy is a strong predictor college GPA (Richardson, Abraham, & Bard, 2012; Robbins et al., 2004), and that there is a moderate relationship between self-efficacy and retention (Multon, Brown, & Lent, 1991; Richardson, Abraham, & Bard, 2012). From these research studies and theoretical implications, I propose a structural equation model (figure 1 and figure 2) to test the relationship between student class and academic outcomes of grades, intention to be retained, and absenteeism. The proposed model, intends to explain the relationships among the constructs of social class, interdependent and independent motives, university fit, university satisfaction, academic self-efficacy, grades, retention, and absenteeism through the 18 hypotheses described below:

Table 1:

Hypotheses

Hypothesis Number	Relationship Hypothesized	Illustrated in Figure
1	The full model, including all variables and relationships will provide a good model fit.	Figure 2
2	Student's social class will be positively related to independent motives for attending college.	Figure 2, Straight Arrow Labeled 2
3	Student's social class will be negatively related to interdependent motives for attending college.	Figure 2, Straight Arrow Labeled 3
4	Independent and interdependent motives for attending college will be related to one another.	Figure 2, Curved Arrow Labeled 4
5	Independent motives for attending college will be positively related to perceptions of academic fit.	Figure 2, Straight Arrow Labeled 5
6	Interdependent motives for attending college will be negatively related to perceptions of academic fit.	Figure 2, Straight Arrow Labeled 6
7	Perceptions of academic fit will be positively related to feelings of university satisfaction.	Figure 3, Straight Arrow Labeled 7
8	Perceptions of academic fit will be positively related to academic self-efficacy.	Figure 2, Straight Arrow Labeled 8.
9	Feelings of university satisfaction will be positively related to academic self-efficacy.	Figure 2, Straight Arrow Labeled 9.
10	The relationship between perceptions of academic fit and academic self-efficacy will be mediated by feelings of university satisfaction.	Figure 3
11	Feelings of university satisfaction will be positively related to student grades.	Figure 2, Straight Arrow Labeled 10
12	Feelings of university satisfaction will be positively related to student intention to be retained.	Figure 2, Straight Arrow Labeled 11

Table Continues

Table 1:

Continued

Hypothesis Number	Relationship Hypothesized	Illustrated in Figure
13	Feelings of university satisfaction will be negatively related to absenteeism.	Figure 2, Straight Arrow Labeled 12
14	Academic self-efficacy will be positively related to student grades.	Figure 2, Straight Arrow Labeled 13
15	Academic self-efficacy will be positively related to student intention to be retained.	Figure 2, Straight Arrow Labeled 14
16	Academic self-efficacy will be negatively related to absenteeism.	Figure 2, Straight Arrow Labeled 15
17	The relationship between feelings of university satisfaction and student grades will be mediated by academic self-efficacy.	Figure 4
18	The relationship between feelings of university satisfaction and student intention to be retained will be mediated by academic self-efficacy.	Figure 5
19	The relationship between feelings of university satisfaction and absenteeism will be mediated by academic self-efficacy.	Figure 6

CHAPTER 3

METHOD

Participants

Five-hundred twenty five students from a Midwestern University completed the study. A statistical power analysis indicated that in order to detect a small effect (.15) between any two latent constructs or latent construct and outcome (y) variable at the $p = .05$ and have medium power (.80) in the model proposed, 289 participants would be needed. Thus the current sample allows for ample opportunity to detect any significant relationships that may exist. Participants either completed the study for required research participation as part of the introduction to psychology pool (N = 83), for extra-credit points from freshmen orientation courses (N = 238), or for extra credit in upper level psychology courses (N = 204). A final sample of 500 participants was used for data analyses, including only students who consented to provide their cumulative grade point average and those who were not graduating in the semester in which the data were being collected.

The sample consisted of 41% males (204) and 56% females (280) with 16 participants not reporting their gender. The majority of the sample was freshmen students (60.6%), with 9.6% sophomores, 15.6% juniors, and 14% seniors. Participants' ages ranged between 18 years (33.2%) and 31 years (0.2%), with a mean age of 18.5 years. Also, regarding race/ethnicity, most participants reported being White/Caucasian American (53.6%), while 34.4% reported being Black/African American, 6.2% Hispanic/Mexican/Latino, 1.6% Asian or Asian Indian, and 2.8% Bi or Multi-Ethnic. Finally, a wide range of annual family incomes were reported, indicating that students belonged to each of the social class categories. Of those who reported

family income, 16.6% reported an annual family income less than $30,000, while 22.2% reported an income between 30,000 and $50,000. Also, 29.6% of respondents reported an income between $50,000 and $100,000, while 16.4% reported an income greater than $100,000. Some participants reported not knowing their families annual income (15.2%).

Measures

Academic Performance As indicated in the procedure, participants were requested to provide consent for the researcher to obtain their Fall 2012semester grade point average from the institutional research office. Participants were also asked to self-report their GPA (for upper level students) and the GPA they expected to earn. Students' GPA attained from the office of institutional research was used as the outcome variable in the model.

University Commitment/Retention (Davidson, Beck, & Milligan, 2009) This is a 4 item measure designed to assess University Commitment, a subcomponent of the College Persistence Questionnaire. These 4 items were used to measure each participant's intention to return to the university or be retained. Participants responded to items such as *"How likely is it that you will earn a degree from here, How much thought have you given to stopping your education here, perhaps transferring to another college, going to work, or leaving for other reasons* (reverse scored)" on a Likert type scale from 1 – Very Little to 7 – A very large amount. Komarraju, Nadler, Tincher, and Doerflein (2011) found this measure to have good internal consistency for a sample similar to the one as proposed in this study, Cronbach's internal consistency alpha of .84. As well, Davidson, Beck, and Milligan (2009) reported that this measure was the largest predictor of actual retention rates, above gender, ethnicity, entrance scores, academic integration, and social integration, thus establishing validity for this scale as a measure of intention to be

retained at the university. In the current sample, this measure showed good internal consistency as well, with a Cronbach's internal consistency alpha value of .84. Since this measure showed good reliability in the current sample, an average aggregate score was used as an outcome variable in the model.

Attendance Though a behavioral measure of attendance is preferred, with the chosen sampling method it was not possible to obtain permission and access the actual attendance of each participant. As a result, participants' attendance behaviors were measured by self-reported absences, along with self-reported expectations for future absences. As well, students provided estimates of the number of classes that they missed due to avoidable reasons (such as oversleeping) and for unavoidable reasons (such as illness) over the semester. This method of obtaining a measure of absentee behavior is similar to that of Schmitt and colleagues (2008). Since participants completed the survey in the last 2 weeks of the semester however, only the item asking them to estimate the number of classes they had missed upto the current point in the semester was used in this study.

Socioeconomic Status Measure (Steven Dollinger, personal communication, September 3, 2012) Six items were used to measure the socioeconomic status of participants. This measure asked participants to provide information about how well off they were growing up, how difficult it is for them/their family to pay for college, the social class of the neighborhood that they grew up in, the social class and education level of their primary and secondary caregivers, . Responses for these items varied by question but were all in a multiple choice format with higher scores indicating higher social class/socioeconomic status. In a personal communication with Dr. Stephen Dollinger (September 3, 2012) he reported that this measure (after scores are

standardized) had a Cronbach's internal consistency alpha in the high .6 to .8 range, and an average correlation with self-report family income, r = .6. In a pretest (N = 56) this 6 item measure showed a Cronbach's internal consistency of .63 and in the current study it showed a Cronbach's internal consistency of .57. As well, in this pretest sample, a standardized average aggregate score was calculated and showed a significant relationship with self-reported family income, r = .63, providing support for the validity of this measure. In the current study, this measure had a significant positive relationship with self-reported family income, r = .57, indicating support for the validity of the measure.

Student Dependency Style Measure (Stephens et al., 2012) This 12-item scale was used to measure students' independent motives for attending college (*Expand my knowledge of the world, Become an independent thinker*) and interdependent motives for attending college (*Help my family out after I'm done with college, Show that people with my background can do well*). Previous research on this measure indicates that it consists of 2 factors, an interdependent motives factor (6 items) and an independent motives factor (6 items). Stephens and colleagues (2012) do not report the internal consistency for either factor, however, they do show the measure has support for validity as their research showed that interdependent motives had a significant negative relationship with students' academic performance while students' independent motives had a significant positive relationship with academic performance. In the current study the measure was modified by having students indicate the importance of each of the 12 items in attending college from 1- Not at all important to 7 – Very Important. A pretest (N = 56) showed a Cronbach's internal consistency alpha of .86 (independent motives) and .71 (interdependent motives) using the modified version of the scale. Similarly, in the current

sample, these measures showed Cronbach's internal consistency alphas of .87 (independent motives) and .83 (interdependent motives) using the modified version of the scale.

Academic Fit Measures (Schmitt et al., 2008) This 6 item questionnaire was used to measure each participant's feelings of fit with academics at this university. Students responded to items such as "*I feel that my academic goals and needs are met by the faculty at this school, The courses available at this school match my interests."* on a Likert type scale ranging from 1 – Strongly Disagree to 5 – Strongly Agree. Schmitt and colleagues (2008) reported a Cronbach's internal consistency alpha of .75 for this measure in their sample. Further, Schmitt et al. (2008) have shown support for the validity of this measure, such that this measure of fit was positively related to measures of satisfaction and significantly predicted GPA. Two additional items were added to this measure in order to measure the degree to which a participant feels socially connected (*I feel strongly connected with other faculty, students, or staff on this campus*) or a social fit (*I feel I have a lot in common with other students here*) with the university. These items were modified from the Social Integration sub-component of Davidson, Beck, and Milligan's (2009) College Persistence Questionnaire. Students responded to these items on the same Likert type scale as the other items. This measure showed a Cronbach's internal consistency alpha of .81 in the current study.

Academic Satisfaction Measure (Schmitt et al., 2008) This 5 item questionnaire was used to measure each participant's satisfaction with the university. Students responded to items such as *"All in all, I am satisfied with the education I can get in this school, I'm satisfied with the extent to which attending this school will have a positive effect on my future career"* on a Likert type scale ranging from 1 – Strongly Disagree to 5 – Strongly Agree. Schmitt and colleagues (2008)

reported a Cronbach's internal alpha of .81 for this measure in their sample. Validity for the measure was also established by Schmitt et al., (2008) such that this measure of satisfaction was significantly correlated to perceptions of fit, and significantly related to GPA. In order to ensure that participants' feelings of satisfaction were completely captured, three additional items were added to this questionnaire. These items were used by Bean and Bradley (1986) and showed a Cronbach's internal consistency alpha of .88 in their sample. Participants were asked to respond to each item *"I find real enjoyment in being a student, I consider being a student rather unpleasant* (reverse scored), *I definitely dislike being a student* (reverse scored)*"* on a Likert type scale ranging from 1 – Strongly Disagree to 5 – Strongly Agree. This scale showed a Cronbach's internal consistency alpha of .85 in the current sample.

Academic Self-Efficacy Scale (Chemers, Hu, & Garcia, 2001) The Academic Self-Efficacy Scale is a set of 8 items that measures students' beliefs about their ability to perform well in the domain of academics of school. Students responded to the eight items such as, "*I know how to schedule my time to accomplish my tasks, I usually do very well in school and at academic tasks*" on a Likert type scale from 1-Very Untrue to 7 – Very True. Chemers and colleagues (2001) reported a Cronbach's internal consistency alpha of .81 in their sample. Additionally, Sutton, Phillips, Lehnert, Bartle, and Yokomizo (2011) reported a Cronbach's internal Consistency alpha of .83 in their sample. The current sample shows a Cronbach's internal consistency alpha of .86. Chemers, Hu, and Garcia, 2001 as well as Sutton et al., 2011 show results that support the validity of this measure. Both sets of researchers show the academic self-efficacy scale to be a significant predictor of academic performance or GPA.

Demographic/Other Variables All participants were asked to report their gender, ethnicity, age, academic class status, academic major, international student status, and self-reported ACT score.

Additionally, students were asked to estimate their annual family income, by combining both parents' income and choosing a range that best fits their estimation as a pseudo validity check for the socioeconomic status questionnaire discussed above.

Participants were asked three qualitative questions. First, participants were asked, "*How much do you feel like you fit at this university? Explain why you feel this way."* Next, participants were asked *"What programs and resources does this university offer that helps you feel like you fit here?"* Finally, participants were asked *"What programs and other resources could this university offer and do to help you feel like you fit here?*

Procedure

All participants either completed the survey online using Lime Survey (N = 276) or in-class using a paper and pencil version (N = 224). In addition, participants were given an informed consent form that requested their agreement, either by signing (when in paper form) or by typing in their first name, last name, and dawgtag number (in the electronic version). Students were also asked to choose an "I AGREE" or "I DO NOT AGREE" option or to sign and print their name on a separate line in order to provide consent to access their academic records.. After providing consent, participants provided their student identification number which was used to access their GPA from institutional research. The institutional research office then returned only their GPA and a unique identifier, to preserve confidentiality.

CHAPTER 4

RESULTS

A descriptive analysis including means, standard deviations, minimums and maximums of latent constructs, and outcome variables (GPA, Intention for Retention, and Absences) is provided in Table 2. An examination of the variables in the data set shows that nearly all measures are negatively skewed (besides the SES measure), with the independent and interdependent motives variables showing the largest negative skewness. As well, the independent, interdependent, and class absences variables are largely leptokurtic, while the satisfaction and GPA variables show to be slightly leptokurtic distributions as well. A correlation matrix displaying the associations between these variables is also provided in Table 3. Finally, Tables 4 -6 provide correlation matrices depicting the associations between all items included in the structural model.

A Two-Step Approach to Data Analysis

A two-step approach as suggested by Anderson and Gerbing (1988) was used to analyze the data. First, the overall fit of the measurement model was tested, as shown in figure 1. After establishing adequate fit for the measurement model, the structural model was tested. Finally, mediation analyses were completed to test hypotheses 9, 16, 17, and 18. The process of determining model fit and testing for mediation is outlined below.

Determining Model Fit

When using structural equation modeling there are several indicators which may be used to determine the adequacy of fit of the model to the data. The most standard measure of fit that is reported is the model chi-square statistic/value (Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999). This statistic compares the sample covariance matrix to the fitted covariance

matrix. For this measure of fit, it is expected that the chi-square value is not significant, indicating the sample covariance matrix is not significantly different from the fitted covariance matrix. The use of this statistic has been challenged however, because of the assumptions regarding data normality and its reliance on sample size. As discussed by Hooper, Coughlan, and Mullen (2008), though this statistic is often reported, researchers often seek "alternative indices to asses model fit."(p.54). Hu and Bentler (1999) offer a "2 index presentation strategy" to assess the fit of a model, using either the Comparative Fit Index (CFI) and Standardized Root Mean squared Residual (SRMR) or the Root Mean Square Error of Approximation (RMSEA) and SRMR (p. 1).

The CFI is an incremental or comparative or relative fit index that compares the Chi-Square value of the model to the Chi-Square term of the null model, while taking into account sample size. Hu and Bentler (1999) indicate a CFI $\geq$ .95 is indicative of good fit. Both the SRMR and RMSEA (along with the Model chi-square discussed above) are absolute fit indices, which determine "how well an prior model fits the sample data" (Hooper, Couglhan, & Mullen, 2008, p. 53). Essentially these statistics determine which model has a better fit, not by comparing the proposed model to a baseline model but by measuring how well the model fits compared to no model at all (Hooper, Couglhan, & Mullen, 2008). The SRMR is the "square root of the difference between the standardized residuals of the sample covariance matrix and the hypothesized covariance model" (Hooper, Coughlan, & Mullen, 2008, p.54). A value for the SRMR $\leq$. 10 has been shown to be acceptable for model fit (Hu & Bentler, 1999). Finally, the RMSEA "tells us how well, the model, with unknown but optimally chosen parameter estimates would fit the population covariance matrix" (Hooper, Couglhan, & Mullen, 2008, p. 54). Though there is much discussion of a cutoff value or indicator of good fit of the model for this statistic,

Hu and Bentler (1999) suggest a value for the RMSEA ≤ .06 with the 90% confidence interval containing .06, while Hoper, Coughlan, and Mullen (2008) report a value for the RMSEA ≤ .07 as a general consensus for good model fit.

For the current study, model fit was assessed by both of the two indexed presentation strategies suggested by Hu and Bentler (1999). Thus, for each model a value for CFI ≥ .95 and SRMR ≤ .10 or a value for RMSEA ≤- .06 and SRMR ≤. 10, was considered indicative of good model fit. Finally, to assess the significance of a relationship between any two latent constructs or latent construct and outcome variable, *t*-values were assessed using a critical value t ≥ 1.96.

Testing for Mediation

To test hypotheses 9, 16, 17, and 18, a nested model comparison using change in model chi-square ($\Delta \chi 2$) value tests was used (Weston & Gore, 2006). To use this method of testing for mediation, the relationship between the predictor and outcome was set to equal zero. In doing this, each parameter set to equal zero created one additional degree of freedom in the model. Setting a parameter to zero essentially forces the relationship from the predictor to the outcome/s to work through the mediating variable (See Figures 1-4). The chi-square value for the non-mediated model (the model with the relationship/s between predictor and outcome/s allowed to be estimated) is then subtracted from the chi-square value for the mediated model (the model with the relationship/s between predictor and outcome /s forced to equal zero), resulting in a change in chi-square value. This value was then compared to a chi-square critical value table, using the change in degrees of freedom to establish the critical value. The null hypothesis for these analyses was that removing the parameter/s between a predictor and outcome variable/s, forcing the predictor to work through the mediating variable, would not significantly reduce the

model fit of the data. Thus, if the change in chi-squared value was positive and significant, mediation had occurred, as this indicated that the mediated model was a significantly better fit of the data. As well, a non-significant change in chi-squared value also indicated significant mediation, as the model with the predictor/s to outcome/s parameter/s being estimated was no better fit than the model without the predictor/s to outcome/s parameter/s being estimated, thus the more parsimonious model was used. If however, the change in chi-square statistic was a negative value and significant, mediation did not occur. This result indicates the mediated model is a significantly worse fit than the non-mediated model.

It is important to note that this process was done sequentially to test the hypotheses 16-18. Initially only one parameter, Satisfaction to one outcome (GPA, Intention for Retention, Absences) was forced to zero at a time. Next, two parameters were forced to zero, Satisfaction to two outcomes (GPA and Intention for Retention, GPA and Absences, Intention for Retention and Absences), and finally all three parameters were set to zero, Satisfaction to GPA, Intention for Retention, and Absences. By using this method, the true mediation of each relationship was able to be tested, as only removing one or two parameters might have allowed for the predictor variable (satisfaction) to account for significantly more variance in another outcome variable, due to the restriction of other relationships. However, by removing these parameters in a planned sequential manner, comparisons were made at each step to better determine the correct relationship between latent constructs and outcome variables.

Measurement Model

Prior to testing any hypotheses, the measurement model was tested to determine the reliability of indicators as a measurement of their latent construct. To do this each indicator was

forced to load on to only the proposed latent construct and the measurement error of each construct was allowed to correlate with one another, as shown in figure 1. Overall the measurement model showed borderline good fit of the data, $\chi^2(df = 804) = 2582.42$, $p < .001$; CFI = 0.92; SRMR = 0.06; RMSEA = 0.067; RMSEA 90% CI = 0.064 – 0.069. This model is considered borderline good fit for the data as it does not meet the stringent values established by Hu and Bentler (1999); however, using the cutoff value of RMSEA ≤ .07 established by Hooper, Couglhan, and Mullen (2008) this model would be a good fit for the data. As a result, this model is an adequate or borderline good fit of the data. In an attempt to modify the measurement model and improve its fit for the data, a potentially poor loading item was removed from the analyses. Results indicated however, removing this item served no function, as it did not improve the measurement model but made it somewhat worse, $\chi^2(df = 764) = 2516.66$, $p < .001$; CFI = 0.92; SRMR = 0.06; RMSEA = 0.068; RMSEA 90% CI = 0.0645– 0.07. Since the measurement model was not improved by dropping problematic indicators, and because when testing each relationship from indicator to latent construct, it was shown that each relationship was significant (see Figure 1), the current model was retained. With support for the measurement model, the next step was to test the structural model.

Structural Model

To test hypothesis one, that the full structural model (Figure 2) would be a good fit of the data, a structural model was used. The full hypothesized structural model was a borderline good fit of the data, $\chi^2(df = 764) = 2516.66$, $p < .001$; CFI = 0.92; SRMR = 0.06; RMSEA = 0.068; RMSEA 90% CI = 0.063 - 0.069. This is partial support for hypothesis one. The next step was to test hypotheses 2 through 9 and 11 – 15, all of which test direct relationships between latent

constructs and outcome variables. To test these hypotheses, a *t*-test was used, examining the *t*-value obtained to a critical *t*-value ≥ 1.96. These results are presented in Table 7.

Table 7:

Test of hypotheses 2 - 9 and 11 - 16

Hypothesis Number	**Relationship Hypothesized**	***Statistic***
2	Student's social class will be positively related to independent motives for attending college.	t = -0.49, *ns*
3	Student's social class will be negatively related to interdependent motives for attending college.	t = -5.60, $p < .05$
4	Independent and interdependent motives for attending college will be related to one another.	r = .36, $p < .05$
5	Independent motives for attending college will be positively related to perceptions of academic fit.	t = 5.29, $p < .05$
6	Interdependent motives for attending college will be negatively related to perceptions of academic fit.	t = 1.71, *ns*
7	Perceptions of academic fit will be positively related to feelings of university satisfaction.	t = 13.06, $p < .05$
8	Perceptions of academic fit will be positively related to academic self-efficacy.	t = 1.10, *ns*
9	Feelings of university satisfaction will be positively related to academic self-efficacy.	t = 8.72, $p < .05$
11	Feelings of university satisfaction will be positively related to student grade point average.	t = 0.87, *ns*
12	Feelings of university satisfaction will be positively related to student intention to be retained.	t = 12.02, $p < .05$
13	Feelings of university satisfaction will be negatively related to absenteeism.	t = -4.29, $p < .05$

Table 7 Continued:

Test of hypotheses 2 - 9 and 11 - 16

Hypothesis Number	**Relationship Hypothesized**	***Statistic***
14	Academic self-efficacy will be positively related to student grade point average.	$t = 7.21$, $p < .05$
15	Academic self-efficacy will be positively related to student intention to be retained.	$t = -1.32$, *ns*
16	Academic self-efficacy will be negatively related to absenteeism.	$t = -0.75$, *ns*

As displayed in Table 7, student's social class did have a significant negative relationship with interdependent motives but no significant relationship with independent motives. On the contrary, while students independent motives for attending college was positively related to feelings of fit with the university, students' interdependent motives did not have a significant relationship with feelings of fit. There was however, a significant positive correlation between independent and interdependent motives for attending college. Next, university fit was significantly related to university satisfaction, but was not significantly related to academic self-efficacy. University satisfaction did however, have a significant positive relationship with academic self-efficacy. Finally, the relationships between university satisfaction and academic self-efficacy with the outcomes of GPA, intention for retention, and absences from class were tested. University satisfaction was significantly related to intention for retention (positively) and absences from class (negatively) but had no significant relationship with students' grade point average. Academic self-efficacy, however, was not significantly related to intention for retention

or absences from class, but had a significant positive relationship with students' grade point averages.The final set of analyses were done to test the mediations hypothesized (10, and17-19). For conceptual purposes, hypotheses 17 – 19 was tested first, then hypothesis 10. The procedure outlined above was used to test the hypotheses that the relationship between university satisfaction and outcomes (gpa, intention for retention, absences) was mediated by academic self-efficacy. The results of these analyses are presented in Table 8.

Table 8:

Mediation Test for hypothesis 10, 17, 18, and 19.

Hypothesis	**Mediation Tested**	***Statistic***
17	University satisfaction to GPA	$\Delta \chi 2 = 0.16$, $\Delta df = 1$, *ns*
18	University satisfaction to Retention	$\Delta \chi 2 = -191.43$, $\Delta df = 1$, $p < .05$
19	University satisfaction to Absences	$\Delta \chi 2 = -17.23$, $\Delta df = 1$, $p < .05$
17&18	University satisfaction to GPA and Retention	$\Delta \chi 2 = -191.58$, $\Delta df = 2$, $p < .05$
17&19	University satisfaction to GPA and Absences	$\Delta \chi 2 = -216.92$, $\Delta df = 2$, $p < .05$
18&19	University satisfaction to Retention and Absences	$\Delta \chi 2 = -18.01$, $\Delta df = 2$, $p < .05$
17-19	University satisfaction to GPA, Retention, and Absences	$\Delta \chi 2 = -216.95$, $\Delta df = 3$, $p < .05$
10	Perception of Fit to Academic Self-Efficacy	$\Delta \chi 2 = 0.88$, $\Delta df = 1$, *ns*

Note: A non-significant test indicates mediation has occurred while a significant negative $\Delta \chi 2$ value indicates mediation has not occurred.

Both hypotheses 10 and 17 are supported, as shown in Table 8. A non-significant change in the chi-square test indicated that the relationship between university fit and academic self-efficacy is mediated by university satisfaction. As well, the relationship between university satisfaction and students' GPA is mediated by academic self-efficacy. Academic self-efficacy however, did not mediate the relationship between university satisfaction and intention to be retained, nor did academic self-efficacy mediate the relationship between university satisfaction and student absences.

After testing all hypotheses, a final model was created, to test if the relationship between academic self-efficacy and intention to be retained and student absences was important for the model. Since these models are nested within the full model, changes in chi-square analysis were used. The analyses indicate that removing the relationship from university satisfaction to GPA and from academic self-efficacy to intention to be retained from the model was not a good fit of the data, $\Delta \chi 2 = -4.96$ $\Delta df = 1$, $p < .05$. Also, removing from the model, the relationship from university satisfaction to GPA as well as the relationships from academic self-efficacy to intention to be retained and to absences was not a good fit of the data, $\Delta \chi 2 = -7.34$ $\Delta df = 2$, $p < .05$. However, removing from the model the relationship from university satisfaction to GPA and from academic self-efficacy to absences resulted in a poor fit of the data, $\Delta \chi 2 = -2.19$ $\Delta df = 1$, *ns.* For the sake of parsimony within the model, the best overall model for this data does not include the relationship between perceptions of fit and academic self-efficacy, nor does it include the relationship between university satisfaction and GPA, or the relationship between academic self-efficacy and student absences, as shown in Figure 7.

Qualitative Analyses

Participants' responses to qualitative questions were coded into major themes until saturation was reached. Four hundred and seventy six responses were provided to the question, "How much do you feel like you fit at this university?" Of those responses, 79.7% responded they felt they fit at the university in some manner, while 20.3% responded they did not feel as though they fit at the university, as shown in Table 9. Of those who were classified as respondents who felt that they did fit at the university, their explanation of why resulted in 474 coded responses. The major themes emerging from these responses were that students felt they fit at the university because of friendships they had developed or relationships with classmates (21.3%), as shown in Table 10. As well, students reported feeling a sense of fit with the university due to fit with a major or classes (15.4%) and because they found others who they were similar to (14.8%). The participants who responded that they did not feel as though they fit at the university provided 85 coded responses, the major theme of which was a lack of similarity with others at the university (18.8%). Also shown in Table 11, issues related to race and diversity (14.1%) and a perceived lack of an educational focus of other students (12.9%) were also major contributors to students' lack of feelings that they fit in at the university.

Participants also responded to questions regarding what programs and other resources the university offers that help them feel that they fit, and what other programs and resources could be offered to help them feel that they fit. Participants' responses elicited 590 coded comments, regarding what programs and resources helped them feel like they fit at the university, as shown in Table 12. The major themes that promoted students to feel that they fit at the university was involvement in registered student organizations (26.1%), the major or program of study they

choose (17.6%), and academic support programs that are available to them (11.5%). Finally, participants' comments regarding programs and resources that would be useful to promoting feelings of fit with the university provided 168 coded comments. As shown in Table 13, students felt that there should be more or better registered student organizations (24.4%), more or difference classes and degree programs (19.6%), and more multicultural and events that promote inclusiveness on campus (9.5%). Interestingly, students also reported a desire for a program designed to unite the student body (7.7%) and a new student success program to promote a successful transition from high school or community college to the university (6.5%).

CHAPTER 5

DISCUSSION

The results of this study provide an interesting insight into understanding factors which are related to students' academic performance. The model provides an overall adequate fit for the data and supports the initial aim of the study, establishing and understanding how students' social class is related to their academic success. This study shows that a student's social class has a significant negative relationship with having interdependent motives for attending college. Students' who come from a lower social class are more likely to be attending college to help provide for their family, represent their community, or provide for their future family. A student attending college for interdependent reasons is not focused on success for personal reasons but is more likely to be interested in building relationships with others. This emphasis on relationships and connectedness may be indicated in the students' behavior and expectations, as it would be expected that these students would have a stronger desire to build relationships with peers and show greater reliance on structure and detailed instructions to succeed in the classroom and in the university environment. Thus, these students are more likely to seek advisors who mentor them in decisions regarding scheduling classes, benefit from group projects and study sessions, and need specific, detailed instructions and expectation statements for classes, in order for them to succeed. Interestingly, social class was not significantly related to independent motives for attending college. In the current sample, there was no relationship between students' social class and the desire to attend college to learn new material, explore the world, or to be unique and different from others. These students' are likely to engage in discussion with professors and teaching assistants and seek out their help, and are more likely to be interested in working alone

on class material. These students' desire, or are at least capable of navigating, the process of registering for classes on their own, and making decisions regardless of the structure provided.

The findings from the current study are partially supported by Stephens et al. (2012) who report that students with lower SES were more likely to endorse interdependent motives for attending college. However, Stephens and colleagues (2012) also reported that students with higher SES were more likely to endorse independent motives for attending college, a relationship that was not significant in the current study. One possible reason for this unique relationship is the modification of the questionnaire used to measure motives for attending college in the current study. The items used in the current study are the same as the items used by Stephens and colleagues (2012), however the response options are different. Stephens and colleagues (2012) asked participants to either endorse each item as a reason for attending college, or to mark it as not a reason for attending college. After doing so, the sum of the endorsed independent motive items was compared to the sum of the endorsed interdependent motive items, in order to determine a student's dependency type (interdependent or independent). The by-product of this measure is a student as having either independent or interdependent motives for attending college. In the current study however, a Likert type scale was used, asking each student to indicate the importance of each item for attending college. The result of this measurement style was that each student had both independent and interdependent motives for attending college. As well, these scores were found to be significantly positively correlated, indicating that it may not be that an individual is either independent or interdependent, but that they may be highly interdependent and independent, low on both motives, or high on one type of motives and low on the other. Considering the relationships between social class and motives for attending college, the significant positive relationship between independent and interdependent motives for

attending college is unique. Thus, the measurement of students motives which acknowledged that students may not be only independent or only interdependent, but may be some combination of high or low on both dimensions, may have, in part, resulted in the non-significant relationship between social class and independent motives. Nonetheless, as the further relationships are discussed, the relationship between interdependent motives and social class, as well as the lack of relationship with independent motives and social class, will be shown to be important and will offer one explanation for why social class has been shown to have a positive relationship with academic success (Richardson, Abrahams, Bond, 2012; Robbins et al., 2004; Sirin, 2005).

The results of this study implicate that it is important to investigate the relationships that are associated with (or maybe more importantly not associated with) social class. This study found support for the hypothesis that students who reported more independent motives for attending college would report greater perceptions of fit with the university. These results also partially support the cultural mismatch theory proposed by Stephens, Fryberg, and Markus (2012) in explaining how students' self-construal may influence their academic success. Along with Stephens and colleagues (2012), Stephens, Fryberg, and Markus (2012) suggest that when students endorse a more independent self-construal and motivation for attending college, they will experience fit and comfort within the university, as their research suggests universities expect and value students to have independent motives. This portion of the cultural mismatch theory is supported, as students' independent motives for attending college had a significant positive relationship with perceptions of fit at the university. It is interesting, that the second portion of cultural mismatch theory was only partially supported, as it is hypothesized that students' who endorse a more interdependent self-construal experience poor academic success, in part because they experience a lack of fit and discomfort at the university. Though in the

current study interdependent motives did not have a significant negative relationship with perceptions of fit at the university, they did not have a significant relationship with fit at all. These results suggest partial support for cultural mismatch theory, as the model does indicate that fit has a significant relationship with performance, through satisfaction and academic self-efficacy, as will be discussed. Contrary to the findings by Stephens, Fryberg, and Markus (2012) who argue that an interdependent self-construal will result in a lack of fit, in in the current study, there was no relationship for interdependent motives with feelings of fit. Thus, there was no evidence showing a vital link between interdependent motives and successful academic performance. Said differently, for students of a lower social class, if they have high interdependent motives for attending college, which is likely as indicated by the significant negative relationship, they may or may not report feeling a significant fit with the university. This perception of fit however, is vital for success, as further analyses indicated. Individuals who report stronger independent motives for attending college, which is not associated with any social class, however do show a positive relationship with perceptions of fit and the benefits of that perception.

As mentioned above, the relationship between fit and student satisfaction was significant and positive. This relationship is well supported by previous literature in the subfield of organizational psychology, and by research by Schmitt and colleagues (2008) who applied the P-O fit literature to academics. In their study, Schmitt and colleagues (2008) report that students' perceptions of fit are significantly related to their feelings of satisfaction, a result replicated in the current study. These findings suggest that students who are attending colleges for more independent reasons (such as to be unique and showing they have the ability to succeed) are more likely to feel as they fit at the university and thus enjoy the university more. This is because

the university operates on the assumption that students are young adults and capable of thinking for themselves and making choices and decisions on their own. University procedures expect students to know what they want and to navigate the mechanisms within the university independently and to ask for help, if needed. Hence, students who prefer to operate independently are more likely to feel a sense of fit or good match with the university environment. Considering the importance of this relationship with social class, the results again show that interdependent motives, a variable associated with low social class, is not important in feeling fit and satisfaction.

The relationship between students' perceptions of fit and their feelings of satisfaction is important however, as the feelings of satisfaction with the university showed several significant and important relationships in the model. University satisfaction mediated the relationship between perception of fit and academic self-efficacy, indicating that perceptions of fit at the university influence academic self-efficacy through the relationship it has with university satisfaction. Said differently, these results provide the link between perceptions of fit and academic self-efficacy to be dependent upon feelings of satisfaction with the university. Students who reported more feelings of fit with the university also reported greater feelings of satisfaction with the university and those with greater feelings of university satisfaction also reported higher levels of academic self-efficacy. These results are in line with the propositions of Bandura (2001). In his theoretical explanation of the purpose and benefit of self-efficacy, Bandura (2001), proposed that humans are interested in doing things that are satisfying. Thus, the results of this study work to confirm this statement and the results of others (Wessell, Ryan & Oswald, 2008) who report a significant relationship between feelings of satisfaction and academic self-efficacy,

as this study shows that those students' who are more satisfied with the university also report higher levels of academic self-efficacy.

The results of this study and the adequate model fit of the data also indicate the significant positive relationship between academic self-efficacy and academic performance, specifically grade point average. Three large meta-analyses done by Multon, Brown, and Lent (1991), Robbins et al. (2004), and Richardson, Abraham, and Bond (2012) all report a moderate to large relationship between students' academic-self efficacy and grades. The current study supports these findings, as students' feelings of satisfaction were not a significant predictor of their grade point average; however academic self-efficacy had a large positive significant relationship with grade point average. Interestingly, though the afore mentioned meta analyses all reported at least a small positive relationship between academic self-efficacy and retention, in the current study, the relationship between academic self-efficacy and retention was not significant. However, it is important to note that removing the relationship between academic self-efficacy and intention to be retained from the model did significantly reduce the model fit of the data, implying that though the relationship was not significant, it was important.

Finally, an interesting contribution of this study is the relationship found between students' feelings of university satisfaction and their intention to remain at the university and their attendance behavior. Students' feelings of university satisfaction significantly predicted intention to be retained (positively) and attendance behavior (number of absences, negatively), supporting the hypothesized relationships. These results fall in line with previous research by Schmitt et al. (2008) who showed positive relationships between satisfaction and both retention and attendance, as well as research by Lohfink and Paulsen (2005) and Gilbreath, Kim, and

Nichols (2011) who both showed positive relationships between satisfaction and retention. The novelty of these relationships however, emerge from the mediation tests, which show that academic self-efficacy does not mediate the relationship between satisfaction and either of these outcomes. However, though the relationship between academic self-efficacy and intention to be retained was important for this model to hold, the relationship between academic self-efficacy and attendance behavior was not. These results suggest that while academic self-efficacy significantly predicts grade point average and is important for understanding retention, it is not necessarily an important factor in understanding students' class attendance behavior. Students' feelings of satisfaction however, are a significantly important variable in understanding students' class attendance behavior and retention, but not necessarily in understanding their academic performance. Students who feel happy and content with their experiences on campus and the services they receive are more likely to feel more committed about remaining at the university.

Conceptualizing and summarizing the study as a whole, the results of this model and of this study provide several important pieces of information. First, students' social class is significantly related to the endorsement of an interdependent self-construal and thus interdependent motives for attending college. These motives for attending college however are not significantly related to perceptions of fit at the university. The endorsement of an independent self-construal and independent motives for attending college is positively related to perceptions of fit at the university. Additionally, it is these students who are more satisfied with the university, which is related to stronger intentions to be retained, fewer absences or better class attendance behavior, and higher levels of academic-self efficacy. Finally, these students, who are more independent, feeling a greater sense of fit and feeing more satisfied, and who have stronger beliefs in their ability to succeed in academics, are also the students performing at a

higher level in terms of grade, are coming to class, and are intending to remain at the university. There are many implications of this study, as well as limitations, and suggestions for future research directions, all of which are discussed in the following sections.

Implications

The results of this study provide several important considerations and implications, especially for higher education institutions. These results, in part, further support literature theorizing systemic oppression of the working class. Working class students are generally those students who are endorsing interdependent motives for attending college (Stephens et al., 2012). However, this study shows, that interdependent motives are not related to perceptions of fit at the university in this study, thus are not related to academic outcomes. However, independent motives for attending college, which has previously been shown to be a characteristic endorsed more by middle and upper class students (Stephens et al., 2012), did show a significant positive relationship with fit and thus positive academic outcomes. While there may be debate regarding whether the current study supports cultural mismatch theory due to the lack of significant relationships between social class and independent motives or between interdependent motives and perceptions of fit, this study does show that those individuals who endorse independent motives are successful in the university. These findings highlight the need for higher education institutions to consider the messages students are receiving about who they are and why they are at college, and to restructure the message communicated to students and the learning environment of the institution so that it values students with interdependent self-construals and interdependent motives. What this study should not do however, is to provide results that are used as yet another means for oppressing working class students, by making attempts to change

the student and not the institutional structure. As shown in the qualitative data, students who are looking for ways to fit at the university seek resources that support an interdependent orientation, not ways to become more independent or to show their independence. These students are commenting on their desire to have programs or groups that unite students from different groups and unify the campus. As well, students are asking for programming that will connect them with others that have similar academic and social interests, including peers as well as faculty and staff. Thus, the results of this study imply a need for universities to re-think their structure and values and modify them to better suit the needs of students, as this is likely to promote students' sense of fit and success.

As theorized and established in prior research by Markus and Kityama, (1991), Stephens, Fryberg, and Markus (2012), and Stephens and colleagues (2012), our self-construal is in part developed by the environment in which we are raised, thus it is, in part, a byproduct of our social class. The findings of the current study provide a numeric and statistical context for understanding how institutions facilitate systemic oppression, through their focus on and valuing of students brought up in the middle and upper class, who endorse an independent self-construal. Critical race theory, applied to the domain of education, has been developed and discussed by many social justice theorists, as a lens to view the nature of systemic oppression in the education system. It is within this frame that Gloria Ladson-Billings and William Tate (1995) discuss the tenets of critical race theory as applied to education. The premise of critical race theory is a focus on a broad perspective of economic, social, historical, and self-interest issues that are factors in forming the relationships of race, racism, and power. This movement is one focused on action and the desire to transform these relationships to move towards equality. In the domain of education, many critical race theorists focus on understanding issues such as hierarchy in

schools, the curriculum that is used, the history that is taught, as well as achievement testing, along with many other controversial topics. In their paper, Gloria Ladson-Billings and William Tate (1995) highlight that racism is the norm in the United States and that as a society the US bases the norms of issues related to property, not humans, from which we can understand inequality. The current study supports these theorists' arguments, as they provide a framework for understanding the importance of transformation within the higher education institution.

One important change that can be recommended for higher education institutions is to consider the messages communicated to students about the value of interdependence. Stephens et al. (2012) highlight results from their study indicating higher education administrators expect and value independent values. If however, one thinks about much of the work done by students in higher education, there are several instances when students are expected to work collaboratively with others on class assignments or group projects. Many classes expect students to work together, interdependently, on group discussions, projects or papers. Further, within the classroom, many professors send mixed messages to students about the value of being independent thinkers. For instance, sometimes students might be punished for challenging professors or not simply accepting what is being taught in the class. As can be seen, these accounts reduce the validity of emphasizing the importance of an independent self-construal and bring to question why such a strong focus is placed on these motives as interdependence, collectiveness, and collaboration are just as, if not more, valuable for students.

To consider potential structural changes at the university, institutions should consider the programming and resources offered to students at the university. The importance of integrating students in to the university, both socially and academically, has been shown to be related to

student retention and performance (Davidson, Beck, & Milligan, 2009; Komarraju, Tincher, Nadler, Doerflein, 2011). Interestingly, the qualitative data indicate that students' believe there were ample organizations to participate in on campus, however they still desire programs that are focused on their specific major or future occupation. As well, students reported a desire to feel more connected, both to one another and faculty and staff. Also, students who reported feeling a sense of fit at the university most commonly indicated this was true because of social integration with the university, further supporting the want and need for the university to unite students on campus. This desire for unity and closeness with others highlights potential power differences and oppression experienced by certain students, yet again highlighting the need for a restructuring of the institution to focus on connectedness, collaboration, and interdependent relationships.

Limitations

Just as with any study, limitations do exist in this study as well. Efforts were made to gather as much behavioral data as possible, however the design and procedure for data collection did not allow for actual retention or attendance behavior to be collected. The reliance on self-reported intention for remaining at the university has been shown to be the best predictor of actual retention (Davidson, Beck, & Milligan, 2009), however tracking students' enrollment in future semesters would be the optimal measure of retention. As well, self-reported attendance behavior has been shown to have a significant positive relationship to actual attendance behavior (Gump, 2006), however the best possible measurement of attendance behavior would be using actual attendance recorded by the students' professors. Unfortunately, not all professors track attendance, thus self-report was used. Additionally, the measure of social class or socioeconomic

status did not meet the standard reliability criteria (.7), thus future studies should consider other options for attaining this data. It should also be noted that although not all classes met the same number of days each week, each class from which the sample was drawn did meet at least twice a week, with some classes meeting three times a week. It may also be important to note a possible influence of recent news items publicizing racial and other crimes that were reported at the time of data collection. Due to these reports, participants' concerns regarding segregation or safety may have been inflated in the qualitative responses. Finally, in this study, student perceptions of fit and university satisfaction were focused on academics. That is, to measure fit and satisfaction, the measures used asked questions regarding the extent to which students believed that the university was meeting their desire for majors, intellectual growth, classes, or desire for information from a professor. This was similar for the satisfaction measure. In the open-ended portion of data collection, students focused much effort on discussion of fit with the university in a more social aspect. Students seemed to focus on feelings of connectedness with others, either friends and roommates, or professors and classmates. A future model measuring both feelings of perceived academic and social fit, as well as academic and social satisfaction may serve as a better model for understanding these relationships.

Future Research

Cross and Madson (1997) and Markus and Kitayma (1991) have further investigated the development of self-construal and provide a compelling argument that gender stereotypes and socialization also provide a major influence on an individual's development of self-construal. Future researchers should investigate the role of gender and social class in predicting students' independent and interdependent motives for attending college. Also, one's ethnicity may be

related to differences in the development of self-construal (Markus and Kitayama, 1991) and social class is certainly related, as non-white individuals were nearly 3 times as likely to be in poverty than white individuals (National Center for Education Statistics, 2009). These findings again support the need to further investigate model fit for different ethnicities, potentially providing further clarification and illustration of the need for institutions to restructure for the sake of reducing power differences and the oppression of marginalized groups. Finally, as suggested in the qualitative analyses, future researchers should consider both perceptions of academic and social fit and satisfaction, as both these models may provide a better explanation of students' actual fit and satisfaction as well as provide a clearer examination of factors important to student grades, intention for retention, and class attendance behavior.

Table 2:

Number of Items, Minimum, Maximum, Mean, and Standard Deviation of latent constructs and important outcomes variables.

Variable	**Items**	**Min**	**Max**	**Mean**	**SD**	**SS**	**SE**	**KS**	**KE**
Social Class	6	-1.38	1.74	.001	0.55	.02	.11	-.22	.22
Independent	6	1.00	7.00	6.00	0.92	-1.26	.11	2.87	.22
Interdependent	6	1.17	7.00	5.77	1.14	-1.09	.11	1.71	.22
Fit	8	1.00	5.00	3.74	0.69	-.50	.11	.08	.22
Satisfaction	8	1.13	5.00	3.96	0.72	-.73	.11	.56	.22
Academic Self-Efficacy	8	1.88	7.00	5.41	0.98	-.53	.11	.21	.22
Grade Point Average	1	0.14	4.00	2.76	0.83	-.81	.12	.62	.23
Intention to Be Retained	4	1.00	5.00	3.87	0.99	-.91	.11	.21	.22
Absences	1	0.00	40.0	6.49	5.79	1.81	.11	4.52	.22

*Note: SS = Skewness Statistic, SE = Skewness Standard Error, KS = Kurtosis Statistic, KE = Kurtosis Standard Error

Table 3:

Correlation matrix among latent constructs and outcome variables

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Social Class	1.00							
2. Independent	-.01	1.00						
3. Interdependent	-.17**	.32**	1.00					
4. Fit	.07	.26**	.16**	1.00				
5. Satisfaction	-.05	.31**	.21**	.65**	1.00			
6. Academic Self-Efficacy	.03	.26**	.15**	.40**	.45**	1.00		
7. Grade Point Average	.06	-.01	-.10*	.18**	.23**	.38**	1.00	
8. Intention to Be Retained	.06	.07	.03	.51**	.51**	.25**	.27**	1.00
9. Absences	-.08	-.05	-.11*	-.17**	-.24**	-.18**	-.33**	-.20**

*$p < .05$, **$p < .01$

Table 4:

Correlations between Social Class, Independent, Interdependent, and Fit Items

Items	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
1. SES1	1.0																								
2. SES2	.36	1.0																							
3. SES3	.51	.37	1.0																						
4. SES4	.45	.33	.53	1.0																					
5. SES5	.04	-.01	-.01	.00	1.0																				
6. SES6	-.08	-.12	-.15	-.07	.10	1.0																			
7. IND1	.05	-.03	-.07	-.04	.02	.06	1.0																		
8. IND2	.03	.02	-.04	-.01	.05	.05	.59	1.0																	
9. IND3	-.02	.02	.00	.05	.05	.07	.51	.61	1.0																
10. IND4	-.03	-.02	-.02	.02	.03	.04	.44	.50	.61	1.0															
11. IND5	-.01	.00	-.01	.02	.03	-.01	.41	.46	.62	.60	1.0														
12. IND6	-.09	-.05	-.07	-.03	-.03	.05	.69	.60	.50	.47	.48	1.0													
13. INT1	-.22	-.11	-.18	-.22	.07	.12	.15	.17	.16	.16	.10	.15	1.0												
14. INT2	-.18	-.05	-.15	-.17	.00	.10	.12	.24	.15	.28	.18	.22	.53	1.0											
15. INT3	-.09	.00	-.04	-.07	.04	.06	.13	.24	.20	.22	.21	.22	.52	.60	1.0										
16. INT4	-.23	-.11	-.20	-.23	.04	.12	.13	.20	.16	.25	.22	.21	.43	.55	.56	1.0									
17. INT5	-.12	-.07	-.14	-.13	.05	.11	.24	.31	.15	.30	.22	.31	.35	.61	.41	.53	1.0								
18. INT6	-.09	-.10	-.08	-.15	-.01	.01	.08	.10	.09	.18	.05	.06	.34	.36	.34	.35	.35	1.0							

Table 4 Continued:

Correlations between Social Class, Independent, Interdependent, and Fit Items

Items	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
19. FIT1	.00	.08	.14	.02	.00	-.06	.13	.17	.13	.19	.20	.18	.03	.12	.11	.03	.10	.13	1.0						
20. FIT2	.12	.11	.15	.06	-.06	-.11	.13	.15	.09	.17	.14	.18	.02	.11	.06	.06	.12	.06	.43	1.0					
21. FIT3	.01	.05	.04	.00	-.09	-.05	.00	.05	.07	.06	.09	.06	-.01	.02	.00	-.03	.03	.02	.29	.21	1.0				
22. FIT4	.01	-.03	.06	.03	.00	.00	.06	.11	.13	.14	.10	.08	.05	.09	.03	.08	.15	.11	.39	.34	.28	1.0			
23. FIT5	-.02	.08	.03	.02	-.04	-.10	.15	.18	.17	.14	.14	.18	.01	.07	.06	-.03	.14	.18	.52	.35	.26	.35	1.0		
24. FIT6	.00	.08	.07	.03	-.02	-.06	.15	.16	.17	.20	.18	.18	.04	.05	.08	.03	.10	.06	.37	.28	.38	.35	.48	1.0	
25. FIT7	.03	.04	.11	.03	.06	-.06	.09	.16	.10	.14	.12	.18	.06	.17	.13	.11	.22	.15	.37	.34	.23	.24	.48	.43	1.0
26. FIT8	.11	.11	.16	.13	-.08	-.07	.09	.15	.15	.26	.14	.15	.06	.15	.13	.07	.12	.19	.36	.44	.17	.21	.38	.34	.55

Table 5:

Correlations between Satisfaction, Academic Self-Efficacy, Grade Point Average, Intention for Retention, and Class Absence Items

Items	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**
27. SAT1	1.0																	
28. SAT2	.51	1.0																
29. SAT3	.64	.42	1.0															
30. SAT4	.60	.53	.59	1.0														
31. SAT5	.55	.36	.65	.54	1.0													
32. SAT6	.39	.35	.38	.36	.45	1.0												
33. SAT7	.27	.24	.23	.25	.33	.58	1.0											
34. SAT8	.32	.27	.25	.25	.32	.60	.75	1.0										
35. ASE1	.19	.15	.23	.28	.25	.30	.16	.17	1.0									
36. ASE	.15	.09	.23	.27	.20	.23	.14	.19	.50	1.0								
37. ASE3	.14	.18	.14	.23	.18	.24	.18	.19	.45	.57	1.0							
38. ASE	.09	.10	.12	.18	.15	.13	.09	.08	.38	.39	.42	1.0						
39. ASE	.17	.14	.25	.27	.30	.32	.17	.20	.54	.49	.45	.41	1.0					
40. ASE	.18	.19	.24	.30	.32	.34	.20	.20	.49	.46	.50	.44	.77	1.0				
41. ASE	.44	.41	.38	.44	.39	.53	.37	.38	.38	.33	.39	.28	.46	.44	1.0			

Table 5 Continued:

Correlations between Satisfaction, Academic Self-Efficacy, Grade Point Average, Intention for Retention, and Class Absence Items

Items	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**
42. ASE	.21	.22	.26	.28	.28	.30	.21	.22	.40	.40	.39	.39	.58	.58	.35	1.0		
42. ASE	.21	.22	.26	.28	.28	.30	.21	.22	.40	.40	.39	.39	.58	.58	.35	1.0		
43. GPA	.12	.08	.11	.13	.14	.20	.22	.25	.28	.21	.32	.20	.33	.39	.16	.32	1.0	
44. RET	.54	.29	.44	.37	.39	.33	.28	.27	.20	.18	.19	.03	.14	.13	.37	.21	.27	1.0
45. ABS	-.18	-.12	-.16	-.17	-.24	-.19	-.16	-.17	-.25	-.05	-.04	-.01	-.24	-.20	-.16	-.14	-.33	-.20

Table 6:

Correlations between Social Class, Independent, Interdependent, and Fit Items with Satisfaction, Academic Self-Efficacy, Grade Point Average, Intention for Retention , and Class Absence Items

Items	**SES1**	**SES2**	**SES3**	**SES4**	**SES5**	**SES6**	**IND1**	**IND2**	**IND3**	**IND4**	**IND5**	**IND6**	**INT1**	**INT2**	**INT3**	**INT4**	**INT5**	**INT6**	**FIT1**	**FIT2**	**FIT3**	**FIT4**	**FIT5**	**FIT6**	**FIT7**	**FIT8**
SAT1	-.02	.08	.01	-.02	.01	-.07	.14	.24	.20	.19	.14	.15	.05	.17	.05	.06	.17	.13	.51	.24	.27	.28	.49	.35	.39	.37
SAT2	-.05	.00	-.03	.00	.01	-.08	.19	.20	.19	.14	.18	.19	.08	.08	.01	.05	.11	.05	.30	.22	.23	.16	.36	.31	.32	.27
SAT3	-.05	.07	-.04	-.01	.00	-.08	.10	.11	.12	.11	.10	.11	.06	.13	.09	.11	.18	.26	.40	.25	.21	.33	.48	.31	.32	.37
SAT4	-.10	.03	.01	-.01	-.03	-.05	.12	.16	.13	.18	.19	.17	.07	.15	.12	.09	.12	.15	.45	.32	.30	.22	.44	.43	.33	.35
SAT5	-.08	.03	-.04	-.08	-.02	-.06	.13	.11	.11	.13	.16	.11	.06	.11	.11	.10	.16	.26	.39	.23	.23	.25	.45	.28	.30	.29
SAT6	-.07	.00	.01	-.04	.01	.01	.28	.27	.25	.26	.24	.26	.12	.22	.13	.19	.23	.19	.35	.28	.24	.25	.34	.38	.38	.32
SAT7	-.08	.01	.00	-.03	-.07	.00	.16	.17	.16	.15	.17	.16	.00	.06	.05	.07	.12	.10	.32	.23	.26	.19	.30	.28	.22	.20
SAT8	-.03	.03	.01	.04	-.06	-.03	.18	.19	.20	.20	.19	.17	.04	.09	.07	.04	.14	.15	.32	.24	.22	.20	.31	.27	.23	.20
ASE1	.02	.02	.03	.06	-.08	-.06	.10	.18	.06	.15	.10	.12	.00	.20	.15	.16	.11	.08	.25	.27	.13	.18	.21	.21	.20	.16
ASE2	.03	.02	-.01	.03	.00	.04	.08	.10	.13	.11	.11	.10	-.01	.10	.16	.10	.11	.03	.17	.22	.10	.19	.14	.19	.13	.10
ASE3	.04	.11	.04	.07	-.03	-.07	.09	.09	.08	.10	.09	.09	-.10	-.04	-.01	-.07	.07	-.03	.20	.17	.17	.17	.20	.29	.14	.07
ASE4	.00	.03	.05	.09	.01	-.03	.06	.09	.07	.12	.06	.14	.00	.05	.05	.04	.07	-.01	.18	.14	.09	.10	.14	.25	.08	.04
ASE5	-.02	.01	-.06	.00	.07	.08	.18	.24	.16	.17	.15	.19	.09	.19	.24	.12	.14	.08	.20	.17	.13	.09	.17	.19	.21	.12
ASE6	-.02	.05	.00	.00	-.05	.04	.19	.18	.16	.16	.15	.22	.04	.13	.15	.06	.10	.07	.25	.15	.15	.18	.19	.23	.15	.09
ASE7	-.06	.05	-.02	.01	.06	.00	.25	.28	.20	.22	.21	.22	.12	.16	.12	.09	.18	.12	.42	.28	.33	.28	.41	.40	.36	.25
ASE8	.02	.03	.00	-.01	-.03	.01	.20	.16	.14	.15	.14	.20	.07	.08	.16	.11	.09	.14	.24	.22	.11	.16	.18	.22	.17	.18

Table 6 Continued:

Correlations between Social Class, Independent, Interdependent, and Fit Items with Satisfaction, Academic Self-Efficacy, Grade Point Average, Intention for Retention , and Class Absence Items

Items	**SES1**	**SES2**	**SES3**	**SES4**	**SES5**	**SES6**	**IND1**	**IND2**	**IND3**	**IND4**	**IND5**	**IND6**	**INT1**	**INT2**	**INT3**	**INT4**	**INT5**	**INT6**	**FIT1**	**FIT2**	**FIT3**	**FIT4**	**FIT5**	**FIT6**	**FIT7**	**FIT8**
GPA	.09	.15	.13	.08	-.08	-.18	.01	-.01	-.05	-.04	.04	.01	-.19	-.06	-.04	-.15	.00	-.01	.18	.11	.09	.09	.17	.21	.09	.02
RET	.06	.18	.11	.01	-.02	-.14	.03	.05	.02	.09	.07	.05	-.01	.04	.00	-.04	.09	.07	.37	.35	.30	.27	.38	.30	.32	.39
ABS	-.07	-.08	-.10	-.02	.03	-.01	-.08	-.08	.05	.00	-.03	-.06	-.01	-.08	-.08	-.08	-.12	-.11	-.18	-.10	-.13	-.09	-.14	-.11	-.13	-.03

Table 9:

Responses to Qualitative Question 1a: How much do you feel like you fit at this university?

Theme	**Representative Quote**	**Percent**
Fit	*Yes, I feel as if I fit at this university because…*	79.7
Do Not Fit	*I do not feel that I fit at this university because…*	20.3

Note: 467 responses were able to be coded.

Table 10:

Responses to Qualitative Question 1b: Why do you fit at this university?

Theme	**Representative Quote**	**Percent**
Friends & Classmates	*I have made many friends in my major and in my social life.*	21.3
Major and Classes	*I fit at this university because the architecture program fits me well.*	15.4
Similarity with Others	*I fit in because even though I'm around a lot of different people we share a lot of the same interests.*	14.8
Race and Diversity	*I believe I do because everyone has a spot with this being such a diverse university*	9.9
Faculty and Staff Support	*Students, professors, faculty, and all the staff seem to get along and strive for success.*	9.5
Activities	*I feel that I fit because I have joined multiple RSOs and I'm very involved on campus.*	6.5
Comfortable Campus	*I feel comfortable here, it is very welcoming here. Since being here I've felt wanted.*	6.1
Satisfaction with Environment	*I really like the outdoors, so the whole nature aspect about the school I love.*	5.9
Education Focus	*From an academic standpoint I feel that I fit in this school. I love the courses and research available here*	5.7
Local or Legacy Student	*Yes, first of all I grew up in this area. I know a lot of students that also are from here who share my interests. My mother is an alumnus here and I like the area.*	2.3
"Other"		2.5

Note: Percentages are calculated from 474 coded responses left by individuals who responded that they "Fit" at the university

Table 11:

Responses to Qualitative Question 1c: Why do you feel that you do not fit at this university?

Theme	**Representative Quote**	**Percent**
Friends & Classmates	*I have a hard time meeting people with the same values as me.*	8.2
Major and Classes	*No, the courses I am taking have nothing to with my major.*	9.4
Similarity with Others	*Socially, I feel like most students do not share the same values and life experiences as I do.*	18.8
Race and Diversity	*I do not fit in at all, because this college is very segregated.*	14.1
Faculty and Staff Support	*Many of the instructors don't make it a priority to relate to their students.*	5.9
Activities	*Socially, no, because Carbondale is known for being a party town.*	7.1
Uncomfortable Campus	*I feel uncomfortable and out of place. The university is unsafe, according to crime rates.*	2.4
Dissatisfaction with Environment	*I don't really think I fit in because this is a different environment from what I'm use to*	7.1
Education Focus	*I wish I knew more people who really value knowledge and focus on their pursuit of a degree.*	12.9
Difficulty Getting Involved	*I feel like because I have an undecided major there is nothing I "belong" to. I am also not involved in any RSO's because it wasn't easy for me to find one I was interested in.*	4.7
"Other"		9.5

Note: Percentages are calculated from 85 coded responses left by individuals who responded that they "Did Not Fit" at the university.

Table 12:

Responses to Qualitative Question 2: What programs and resources does this university offer that helps you feel like you fit here?

Theme	Representative Quote	Percent
University College Classes	*The University College Class*	1.2
Greek Life	*The Greek life made me make a lot of friends.*	4.1
Recreation Center & Sports	*I have met a lot of friends at the student recreation center and through playing intramural sports or attending sporting events.*	10.5
Student Center	*The student center is a great place to meet others and see the SIU pride.*	1.5
Academic Support (Writing Center, Tutoring, Study Sessions)	*SIU offers so many resources such as the Writing Center, Free Tutoring, Study Session, and office hours with Teachers and their assistants.*	11.5
Registered Student Organizations, Student Programs, Clubs	*I really feel that joining the psychology club, attending programs for students, and being involved in other clubs helps me fit in.*	26.1
Major or Program of Study	*The radio/television department lets me work towards being an audio engineer.*	17.6
Research & Internship Opportunities	*There are tons of research programs and internships to help me succeed.*	4.1
Career Services, CDRC, and Career Counseling	*Career Development and Resource Clinic, the Counseling Center, both help me fit in and be successful*	3.7
Saluki Cares	*The Saluki Cares program where the school help students cope with depression, family loss, and other issues to make sure they do well is a big help.*	0.8

Table Continues

Table 12 Continued:

Responses to Qualitative Question 2: What programs and resources does this university offer that helps you feel like you fit here?

Theme	**Representative Quote**	**Percent**
Library	*The library is awesome.*	3.7
Health Center	*The student health center helped me with my knee problems and helped keep me in school.*	1.9
Disability & Student Support Services	*Disability Support Services help me to learn in the classroom and succeed.*	0.7
Saluki First Year	*I think that Saluki First-year is really helpful to freshman.*	0.5
Black Student Support Programs	*Programs like the Black Male Roundtable and Black Male initiative are helpful. I can meet other students like me and focus on succeeding in college.*	1.5
Residence Halls, Living Learning Communities	*The LLCs are also helpful because you live with people of your same major*	2.4
Student Success Programs (CAS, Achieve, Honors)	*The honors program is very helpful to let me stand out from other. The CAS program offers a second chance to incoming students that didn't do so well in high school*	3.9
Other		4.2

Note: Percentages are calculated from 590 coded responses.

Table 13:

Responses to Qualitative Question 3: What programs and other resources could this university offer and do to help you feel that you fit here?

Theme	Representative Quote	Percent
Small Group Activities	*More services that are one on one and promote smaller closer connections.*	4.8
Changes in Electives, Classes, or Degree Programs	*More interesting electives. An interior design program. A course with more focus on students planning on going on to PhD, M.D, or law degrees.*	19.6
More Peer Mentors and Tutoring	*It would be nice if they had mentors for first year students to meet with and help them along the way or more tutoring for all classes.*	5.4
Book and Laptop Rentals	*Book and laptop rentals.*	1.2
A Program to Unite Students	*There needs to be more of a Holistic influence around here, like a program that brings students together.*	7.7
More Structure for Success	*More guidance and a better academic advising system.*	1.8
More Study Abroad Opportunities	*More study abroad programs that focus on specific fields or careers.*	1.8
More or Different Registered Student Organizations	*A choir for those not majoring in music. More RSO's for outdoors like spelunking. An RSO focused on video games.*	24.4
More Research Opportunities	*More research opportunities for freshmen.*	1.8
Multicultural and Other Events and Activities that Promote Inclusiveness	*Sports for those with disabilities. Offer more inclusion events for students. More multi-cultural events. Create a program that brings about unity for students that are of different races, so that as students and faculty we can all come together*	9.5

Table Continues

Continued Table 13:

Responses to Qualitative Question 3: What programs and other resources could this university offer and do to help you feel that you fit here?

Theme	**Representative Quote**	**Percent**
Social Events	*More activities for the students like dances and cookouts.*	4.8
Major Specific Groups	*Maybe a program where students can meet faculty and staff from their college. Having more events with people specific to my major.*	6.5
Better Greek Life	*A larger and better Greek Life.*	1.8
Student Involvement in Decisions	*They should include the opinions of students more before making decisions.*	1.2
New Student Success Program	*I think an Introductory Course that expands upon college life and the importance of making connections your first year should be mandatory. This may help make the transition from high or community college to the university better because it is a big change*	6.5
Other		1.2

Note: Percentages are calculated from 168 coded responses.

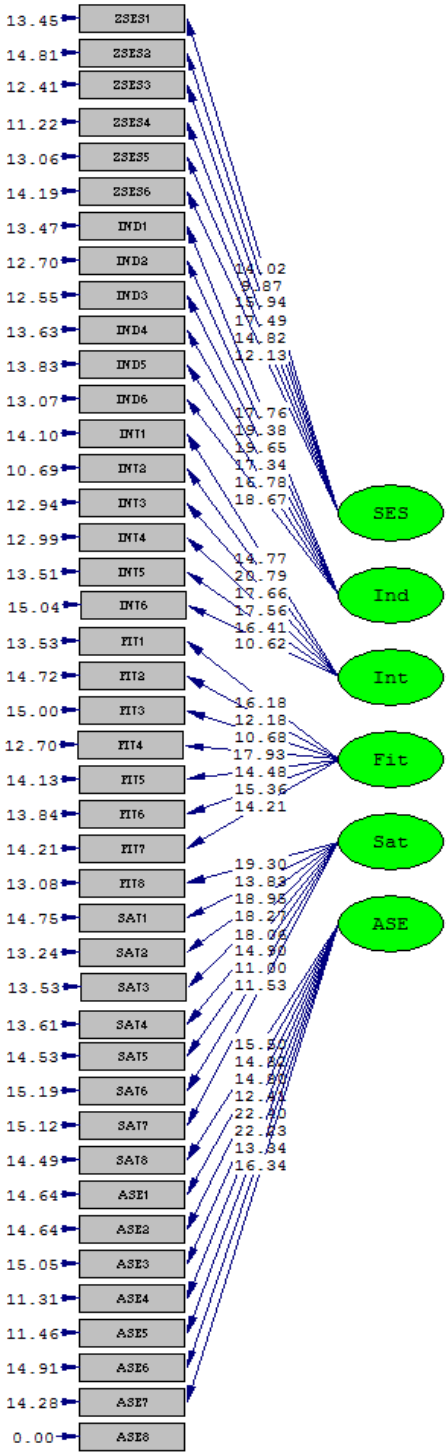

Figure 1: Hypothesized measurement model. Note numerical values shown are *t*-values.

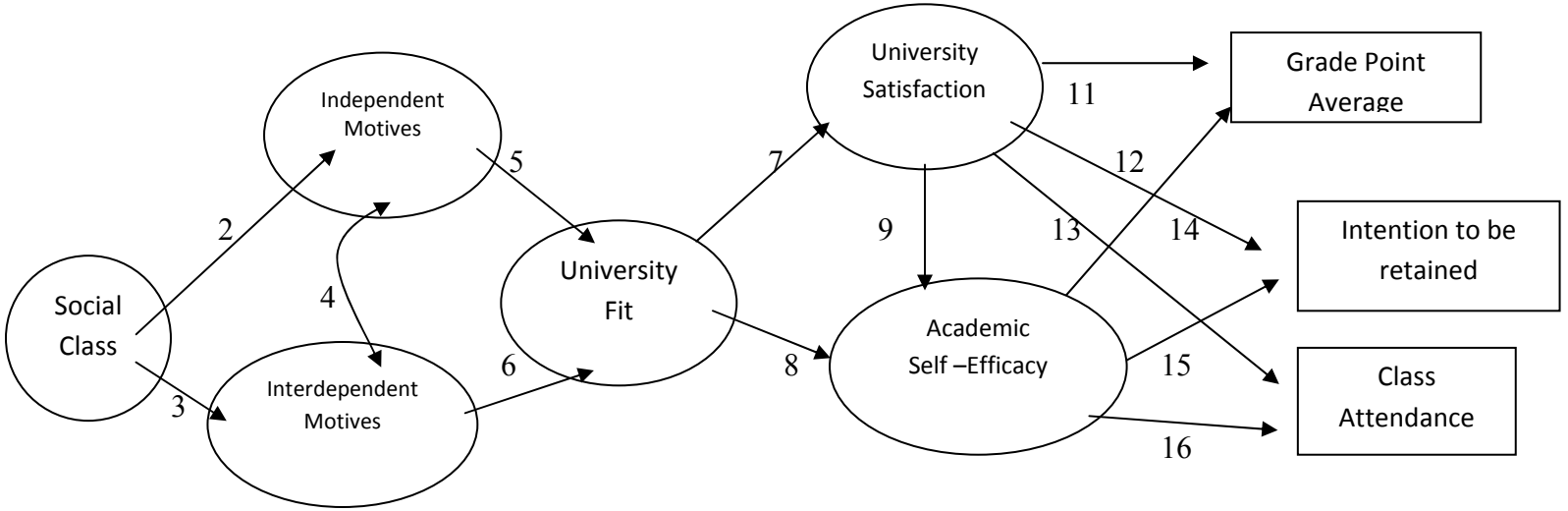

Figure 2: Full model including direct hypothesized relationships.

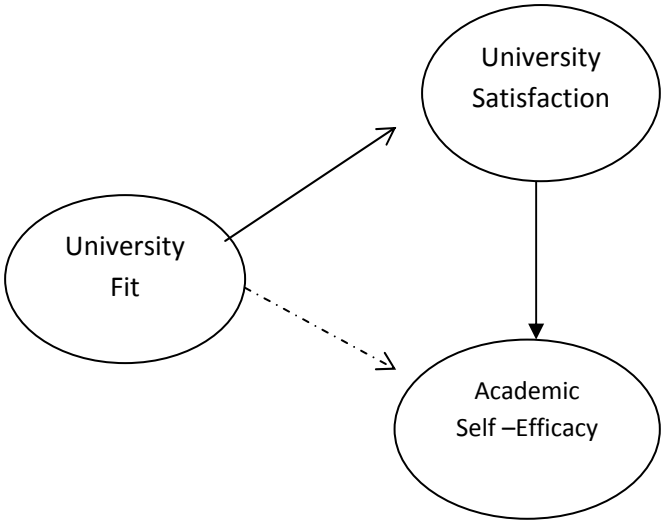

Figure 3: The hypothesized mediation of the relationship between university fit and academic self-efficacy by university satisfaction. Note that the solid lines indicate significant relationships while the dashed or dotted line indicates a relationship that is no longer significant after including all variables in the model.

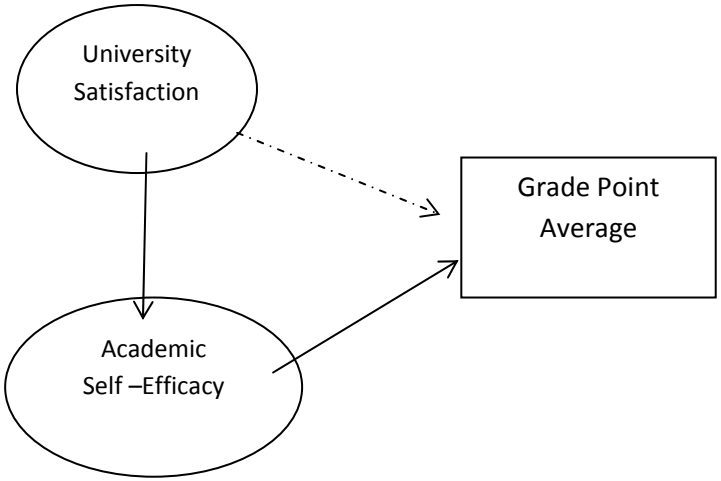

Figure 4: The hypothesized mediation of the relationship between university satisfaction and student's grades by academic self-efficacy. Note that the solid lines indicate significant relationships while the dashed or dotted line indicates a relationship that is no longer significant after including all variables in the model.

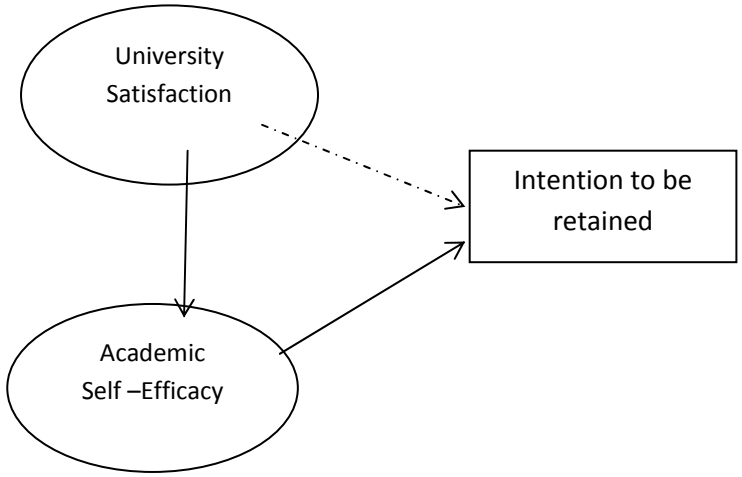

Figure 5: The hypothesized mediation of the relationship between university satisfaction and student intention to be retained by academic self-efficacy. Note that the solid lines indicate significant relationships while the dashed or dotted line indicates a relationship that is no longer significant after including all variables in the model.

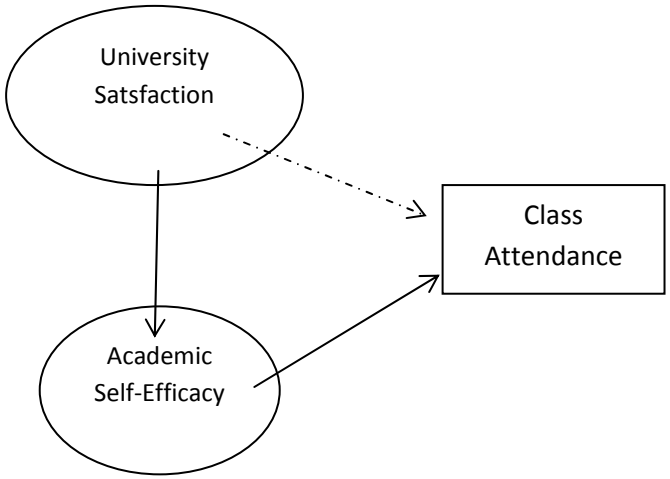

Figure 6: The hypothesized mediation of the relationship between university satisfaction and student's attendance by academic self-efficacy. Note that the solid lines indicate significant relationships while the dashed or dotted line indicates a relationship that is no longer significant after including all variables in the model.

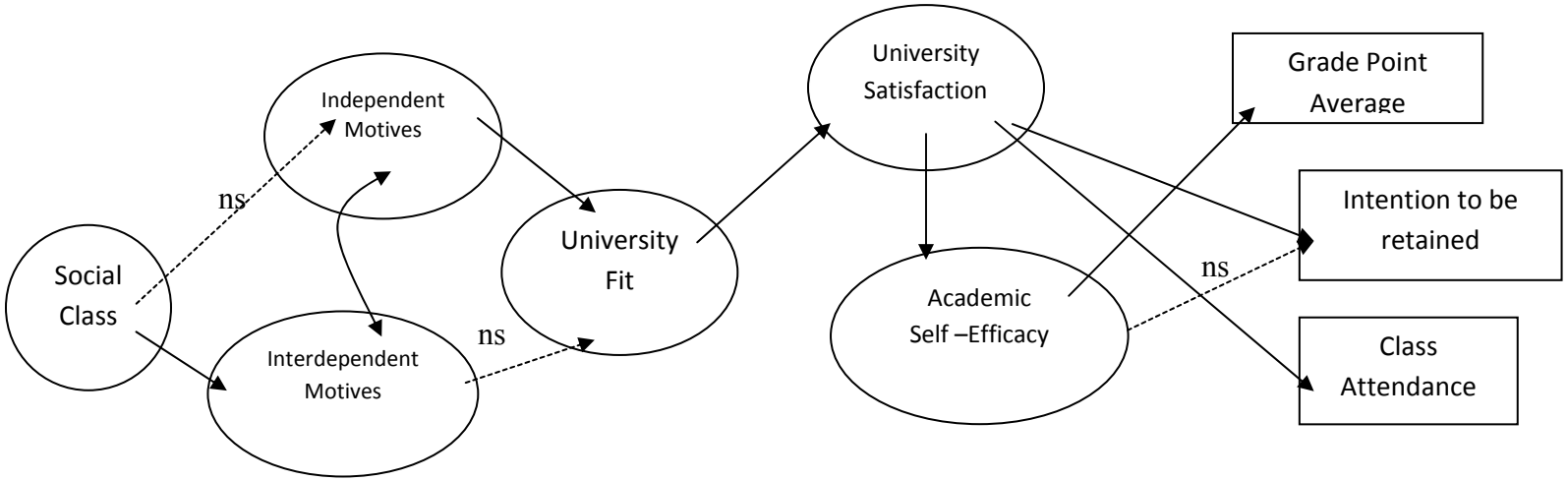

Figure 7: Final model.

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APPENDICES

Appendix A

Socioeconomic Status/Social Class

For each of the following questions, please read the question and then circle the response that best fits you.

1. How well-off was your family during the years in which you grew up?

   A. We did not always have enough to get by
   B. We had just enough to get by
   C. We had more than enough to get by
   D. We had a lot more than enough to get by

2. Taking into account loans, scholarships, employment, and help from parents (or spouse), how difficult has it been for you to pay for your college education?

   A. It has been a major struggle and constant worry
   B. It has been manageable but required some sacrifices
   C. It has not been a worry for me or my family

3. How would you describe the neighborhood in which you spent most of your growing up years?

   A. Lower Class
   B. Lower-Middle Class
   C. Middle Class
   D. Upper-Middle Class
   E. Upper Class

4. How would your parents describe their work or occupational status? (If parents have multiple jobs or different parents have different job levels, select the highest of those.)

   A. Working class or “blue collar”
   B. Middle class or "white collar"
   C. Upper-middle class or "professional"

5. What is your primary caregiver's (mother, father, grandparent, aunt, uncle, or whoever took care of you while growing up) highest level of education?

   A. Don't Know
   B. Some school but did not complete high school
   C. High school graduate or GED
   D. Some college credits
   E. Associate's degree
   F. Bachelor's degree
   G. Master's degree
   H. Doctorate (including MD, JD, PhD etc.)

6. What is your secondary caregiver's (mother, father, grandparent, aunt, uncle, or whoever took care of you wile growing up) highest level of education?

   A. Don't Know
   B. Some school but did not complete high school
   C. High school graduate or GED
   D. Some college credits
   E. Associate's degree
   F. Bachelor's degree
   G. Master's degree
   H. Doctorate (including MD, JD, PhD etc.)
   I. I did not have a secondary caregiver

7. Estimated annual family income: Would you estimate your family's income per year to be (combining mother and father if both work):

   A. less than $30,000 per year
   B. between $30,000 and $50,000
   C. between $50,000 and $100,000
   D. over $100,000 per year
   E. I have no idea

8. List all the individuals living in your house when you were growing up:

_____

_____

Appendix B

Independent and Interdependent Measures

There are many reasons why people choose to go to college. Please read the following list and mark each of the following items as **1- NOT AT ALL IMPORTANT to 7-VERY IMPORTANT** reason for you in attending college.	*Not At All Important*			*Neither Not Important Nor*			*Very Important*
1. Expand my knowledge of the world	1	2	3	4	5	6	7
2. Become an independent thinker	1	2	3	4	5	6	7
3. Explore new interests	1	2	3	4	5	6	7
4. Explore my potential in many domains	1	2	3	4	5	6	7
5. Learn more about my interests	1	2	3	4	5	6	7
6. Expand my understanding of the world	1	2	3	4	5	6	7
7. Help my family out after I'm done with college	1	2	3	4	5	6	7
8. Be a role model for people in my community	1	2	3	4	5	6	7
9. Bring honor to my family	1	2	3	4	5	6	7
10. Show that people with my background can do well	1	2	3	4	5	6	7
11. Give back to my community	1	2	3	4	5	6	7
12. Provide a better life for my own children	1	2	3	4	5	6	7

Appendix C

University Fit

Thinking about your time at this university, read the following items and circle the response that best describes your experiences from 1- STRONGLY DISAGREE TO 5 – STRONGLY AGREE.	*Strongly Disagree*		*Neither Disagree or*		*Strongly Agree*
1. The courses available at this school match my interests.	1	2	3	4	5
2. I know other students here whose academic interests match my own.	1	2	3	4	5
3. My current courses are not really what I would like to be doing.	1	2	3	4	5
4. All things considered, my current major suits me.	1	2	3	4	5
5. I feel that my academic goals and needs are met by the faculty at this school	1	2	3	4	5
6. I am able to use my talents, skills, and competencies in my current courses.	1	2	3	4	5
7. I feel strongly connected with other faculty, students, or staff on this campus.	1	2	3	4	5
8. I have a lot in common with other students here.	1	2	3	4	5

Appendix D

University Satisfaction

Thinking about your time at this university, read the following items and circle the response that best describes your experiences from **1- STRONGLY DISAGREE TO 5 – STRONGLY AGREE.**	Strongly Disagree		Neither Disagree or		Strongly Agree
1. All in all, I am satisfied with the education I can get in this school.	1	2	3	4	5
2. I'm satisfied with the intelligence of my teachers.	1	2	3	4	5
3. I'm satisfied with the extent to which my education will be useful for getting future employment	1	2	3	4	5
4. I'm happy with the amount I learn in my classes.	1	2	3	4	5
5. I'm satisfied with the extent to which attending school with have a positive effect on my future career.	1	2	3	4	5
6. I find real enjoyment in being a student.	1	2	3	4	5
7. I consider being a student rather unpleasant.	1	2	3	4	5
8. I definitely dislike being a student.	1	2	3	4	5

Appendix E

Academic Self-Efficacy Scale

Read each item carefully. Using the scale from 1 VERY UNRUE TO 7 VERY TRUE, please select the number that best describes YOU and circle that number.	*Very Untrue*			*Neither Untrue Or*			*Very true*
1. I know how to schedule my time to accomplish my tasks.	1	2	3	4	5	6	7
2. I know how to take notes.	1	2	3	4	5	6	7
3. I know how to study to perform well on tests.	1	2	3	4	5	6	7
4. I am good at research and writing papers.	1	2	3	4	5	6	7
5. I am a very good student	1	2	3	4	5	6	7
6. I usually do very well in school and at academic tasks.	1	2	3	4	5	6	7
7. I find my university academic work interesting and absorbing.	1	2	3	4	5	6	7
8. I am very capable of succeeding at the university.	1	2	3	4	5	6	7

Appendix F

University Commitment/Retention

1. How likely is it that you will earn a degree from here?

1	2	3	4	5
Very little amount	Little	Neutral	A large amount	A very large little

2. How confident are you that this is the right university for you?

1	2	3	4	5
Very little amount	Little	Neutral	A large amount	A very large little

3. How likely is it that you will re-enroll here next semester?

1	2	3	4	5
Very little amount	Little	Neutral	A large amount	A very large little

4. How much thought have you given to stopping your education here, perhaps transferring to another college, going to work, or leaving for another reason?

1	2	3	4	5
Very little amount	Little	Neutral	A large amount	A very large little

Appendix G

Absenteeism Variables

Please answer the following questions while thinking about all of the courses you are enrolled in during the current semester.

1. How many days of class do have you **not attend** (for all of your courses) so far this semester?

2. How many days of class do you expect you will **not attend** (for all of your courses) during the rest of the semester?

For example: If you have already missed 4 days of class because you were sick, and you expect you may miss 3 more for other reasons, you would respond I missed 7 days of class.

2. How many times this semester have you missed class for avoidable reasons (such as oversleeping)? _____

3. How many times this semester have you missed class for unavoidable reasons (such as being sick)? _____

Appendix H

Grade Point Average

1. What is your **current grade point average? _____ (***If you are a first semester student, skip this question)*

2. What do you think your grade point average will be at the end of this semester? _____

Appendix I

Demographics

Please provide the following information about yourself:

1. **Gender**:_____
2. **Year of Study**:___ Freshman___ Sophomore ___ Junior ___ Senior
3. **Age**: ___ years
4. **Race/Ethnicity**: _____
5. What is your **Major/s?:_____**
6. Are you a first generation college student? *Yes* or *No (Please circle)*
7. Are you an international student at SIU? *Yes* or *No (Please circle)*
8. For what class are you completing this research?

Course:_____

Section:_____

Professor:_____

9. Are you graduating this semester? *Yes* or *No (Please circle)*

Appendix J

Informed Consent Form

Dear Participant,

This Informed Consent needs to be read and signed by you if you wish to participate in this research study to obtain your research credit points. The research study examines the relationship between the various demographic and other factors that motivate students to attend college and predict their academic performance. Participation in this research study should take 60 minutes to complete.

As students, you represent a sample of the population being researched. Participation is voluntary. You will partially fulfill your research participation requirement for PSYC 102 by participating. If you choose not to participate in this study you can participate in other studies offered by the psychology department, or write summaries of research articles, or design a study on suggested topics.

When participating in this study, every possible effort will be made to maintain the anonymity and confidentiality of your responses. No names or identification numbers will be connected to the survey you fill out. If at any time during your participation, you experience any discomfort and wish to withdraw from the study, you may do so without penalty.

If you have any questions about this study, contact:

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Please sign and return this Informed Consent form and note that the completion and return of this survey indicates voluntary consent to participate in this study.

_____

Name(print) Signature Date

These researchers would like to access your grade point average from the university records office. In no way will this influence your standing at the university and all efforts will be made for this process to be confidential. If you are consenting to provide access to your records please print, sign, and date below.

_____

Name(print) Signature Date

_____

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

Appendix K

Debriefing Form

Dear Participant,

Thank you very much for participating in this study. This study seeks to understand how students' socioeconomic status / social class predicts why they attend college, their class attendance, their grades, and commitment to the university. The results of this study will help provide a clearer picture of the various factors that are related to their performance. To gain more information about this study you could read the following articles:

Schmitt, N., Oswald, F. L., Friede, A., Imus, A., & Merritt, S. (2008). Perceived fit with an academic environment: Attitudinal and behavioral outcomes. *Journal of Vocational Behavior, 72,* 317-335.

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012, March 5). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology*.

If you have any questions about this study or if you feel any discomfort from this study please contact either of the following individuals:

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Thesis:
Autonomy Support: Moderating Stereotype Threat in African American Students
Major Professor: Meera Komarraju, Ph. D.

Dissertation:
The influence of social class on academic outcomes: A structural equation model examining the relationships between student dependency style, student-academic environment fit, and satisfaction on academic outcomes.
Major Professor: Meera Komarraju, Ph. D.