PROFILES OF ACADEMIC COMMITMENT

by

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ABSTRACT

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Tinto (1993) found that only 15-25% of students who dropped out of college did so due to academic failure, while the reasons for leaving among the remaining group of students who dropped out were unknown. This suggests that the majority of students who drop out of college are likely doing so for reasons other than academic struggles. Researchers have suggested that individuals who are committed to their major are more likely to obtain a bachelor’s degree (Bowling, Beehr, & Lepisto, 2006; Den Hartog & Belschak, 2007; Duffy, Dik, & Steger, 2011; Goulet & Singh, 2002; Landrum & Mulcock, 2007), indicating that academic major commitment is a highly important aspect of academic persistence. The purpose of the current study was to investigate commitment profile types of undergraduate students and relationships between these profiles and important academic outcomes (e.g., persistence, mental health). Results revealed a seven profile solution with each group relating uniquely to important outcomes for college students (i.e., retention, mental health, performance, and adjustment). Particularly, it was found that those with a mid-level or flat profile (i.e., mid-level reports of commitment) reported greater intention to quit school, higher mental health problems and poorer adjustment. However, those with high affective and university commitment reported decreased intention of quitting, lower mental health concerns, better adjustment, and higher GPA. Other profile relationships and implications of these results are discussed.
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CHAPTER I

INTRODUCTION

There are many benefits that can be derived from the completion of a bachelor’s degree. One of these benefits relates to lifetime monetary earnings. Individuals who graduate with a bachelor’s degree can expect to earn about 2.1 million dollars over their career, which is essentially double what someone without a bachelor’s degree will likely earn (Day & Newburger, 2002). In 2013, those who completed a bachelor’s degree made, on average, $380 more weekly than those who only completed some college (Bureau of Labor Statistics, 2014). Another beneficial aspect of a college degree is the decreased rates of unemployment. According to the Bureau of Labor Statistics (2014), unemployment rates for those who have a bachelor’s degree are only 4%, which is much lower than those who only complete some college, but do not obtain a degree (7%), those who have only a high school diploma (7.5%), and those who have less than a high school diploma (11%). Thus, given the multiple benefits of obtaining a college degree, in the higher education literature, there has been a great emphasis on the importance on understanding factors that affect college student persistence until degree completion (Graunke & Woosely, 2005; Okun, Goegan, & Mitric, 2009; Tinto, 2006).

Tinto’s (1975) model of college persistence suggests that there are many factors that contribute to a student’s decision to remain in school or leave. Tinto suggests that factors such as family background, individual attributes, academic integration, and social integration, all affect one’s goal and institutional commitment, which in turn influences a student’s decision to persist (i.e. remain in school or dropout). Further, Tinto (1993) found that only 15-25% of students who drop out of college did so based on academic
failure, while the reasons for leaving among the remaining group of students were unknown, indicating that the majority of students who drop out of school are likely doing so for reasons other than academic struggles. One of these reasons may be related to a lack of specific career goals. Hull-Banks and colleagues (2005) discuss and identify the importance of career goals in academic persistence. When examining a sample of 401 undergraduate freshmen, they found that students who reported having job-related goals were more likely to make decisions relating to continued academic persistence when compared to students who reported unknown goals. Arguably, a primary goal in higher education is to identify an academic major of interest as one works towards earning a degree. The literature on college student persistence provides evidence to support this notion. Researchers have suggested that individuals who are committed to their major are more likely to obtain a bachelor’s degree (Bowling, Beehr, & Lepisto, 2006; Den Hartog & Belschak, 2007; Duffy, Dik, & Steger, 2011; Goulet & Singh, 2002; Landrum & Mulcock, 2007), indicating that academic major commitment is a highly important aspect of academic persistence. Therefore, developing a greater understanding of major commitment may provide crucial insight into the influence this construct has on overall persistence decisions in light of the importance of attaining a college degree.

There are several previous studies that have found a positive relationship between major commitment and persistence (Landrum & Mulcock, 2007; Cooke, Sims, & Peyrefitte, 1995; Womack, 2013), however; many of these studies have not provided a cohesive investigation of this relationship due to inappropriate assessment of the construct of commitment as one-dimensional despite evidence that the construct of commitment is multi-faceted (Meyer & Allen, 1991). The dearth of research
investigating academic major commitment as a multi-faceted construct also excludes any research examining profile-level data, or examining commitment from a person-centered approach. Examining major commitment in a novel fashion (i.e., using profile analysis) may provide further insight into the relationship between major commitment and college persistence, as well as, into the construct of major commitment. Previous research has shown that some forms of major commitment are significant predictors of intention to quit school, while another is not (Womack, 2013). Therefore, examining this construct at the profile level may give insight into the types of students who are more likely to experience negative outcomes, such as mental health problems or dropping out of college. To address the limitations of the current body of literature on major commitment the goals of the following study are to examine profile level data focused on students’ levels of commitment and investigate the relationship between these profiles and outcomes relevant to higher education.

Commitment

Historically, scholarship on commitment has focused on commitment one has to his or her career or vocation. Early definitions of career commitment suggested that commitment was influenced by both attitudinal and behavioral components (Mowday, Porter, & Steers, 1982; Reichers, 1985; Scholl 1981; Staw 1977). Attitudinal commitment refers to individuals’ thoughts and perceptions about their relationship with an organization for which they work, while behavioral commitment refers to individuals’ behaviors, or behavioral intentions, that demonstrate commitment to a particular course of action (e.g., maintain employment within an organization; Mowday et al., 1982). The separation of these aspects of commitment led to several different definitions of
commitment such as “the relative strength of an individual’s identification with and involvement in a particular organization” (Mowday et al., 1982, p. 27) or “profit assessed with continued participation and ‘cost’ associated with leaving” (Kanter, 1968, p. 504).

Blau (1985, p. 280) broadly defined career commitment as “one’s attitude toward one’s profession or vocation.” Meyer and Allen (1991) argued that commitment to one’s employer or job could be conceptualized using three components (affective, continuance, and normative commitment; discussed in greater detail below) of the overall construct to best represent commitment. For the purposes of the current study, major commitment is conceptualized based on the highly related construct of career commitment, and can be broadly defined as one’s attitude toward his or her academic major. However, this construct will be further examined based on Meyer and Allen’s (1991) three-component model.

Based on the assumption that commitment was both related to individuals’ thoughts and feelings about their job, as well as perceptions related to the costs of staying or remaining in a job, initially, Meyer and Allen (1984) suggested commitment was characterized by two forms, representing affective (i.e., emotional attachment) and continuance commitment (i.e., perceived costs of leaving an organization). Personal fulfillment was identified as the main process by which affective commitment developed (Meyer & Allen, 1997). Meyer and Allen (1997) summarized research that suggests certain work experiences (i.e., supportiveness, justice, importance the organization puts on an employees’ contributions) are particularly fulfilling for employees and contribute to perceptions of feeling committed to one’s job. Further, literature suggests that continuance commitment is developed given individuals’ investment in their job and a
lack of other employment options that affect individuals’ assessment of the costs associated with leaving (Meyer & Allen, 1997).

However, in their later work, Allen and Meyer (1990) revised their conceptualization of the construct by including a third component, normative commitment or the perceived obligation to remain with an organization. Up to this point in time there was only one very brief (i.e., three item) measure of obligation-based commitment (Allen & Meyer, 1990). Thus, Meyer, Allen, and Smith (1993) created a measure of commitment to capture their three proposed forms of commitment that reflected affective, perceived costs, and obligations as the bases of commitment. Investigating this measure, that incorporated all of the aforementioned themes, Allen and Meyer (1990) determined that their three-component model appropriately captured each of these three separate components, thus underscoring the importance of including an obligation-based form of commitment. In later works Meyer and Allen (1991), stated that affective and normative commitment are translated into behavior through the idea of reciprocity. However, until normative commitment was introduced, there was no distinction between reciprocity by desire and reciprocity by obligation, therefore, providing further support for the inclusion of this component. Further, it is thought that unique personal experiences contribute to the development of normative commitment. Meyer and Allen (1997) suggested that normative commitment was developed based on pre- and post- entry socialization experiences that an individual is exposed to during their acculturation to his/her organization. Thus, the finalized model was comprised of affective (AC), continuance (CC), and normative commitment (NC). Meyer and Allen (1991) argued that these three forms represented a different psychological state or
mindset; therefore, all were necessary to examine and measure in order to have a comprehensive understanding of commitment.

Research utilizing Meyer and Allen’s (1991) three-component model of commitment identified important patterns regarding other variables related to commitment. While each form of commitment reflects a unique aspect of individuals’ relationship to their career, the separation of these forms of commitment is important, as each form has been shown to relate differently to other desirable job related behaviors (See for example Cohen, 1999; Meyer, Allen, & Smith, 1993). For instance, affective commitment (AC) and normative commitment (NC) have been found to be positively related to on the job behaviors (e.g., attendance, performance) and increased employee health and well being, while continuance commitment (CC) has been found to have negative or non-significant relationships with these variables (Meyer and Allen, 1991, 1993). When examining intentions to quit one’s job, AC, CC, and NC have been found to relate negatively to turnover or turnover intentions (Meyer & Allen, 1991; 1993).

However, in more recent literature there has been some inconsistency in findings regarding the relationship between CC and intention to quit one’s job. Some studies have identified a weak or inconsistent relationship between CC and intention to quit (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Meyer and colleagues (2002) suggest that CC “presumably develops as individuals make investments that would be lost by discontinuing a course of action” (i.e., leaving an organization, p. 42). They further suggest that weak relationships found with CC and intention to quit one’s job may be due to the notion that particular investments are highly personal. Another issue that may relate to the inconsistency of these relationships is the way in which costs associated with
leaving (i.e., a factor contributing to CC) is currently measured. Meyer et al. (2002) proposes that a better way to examine these costs that contribute to the overall measurement of CC may be to look at employee’s perceptions of alternative employment prospects.

Major Commitment

While the three-component conceptualization of commitment has traditionally been used to specify commitment to ones’ career and/or occupation, others have since used similar measures and conceptualizations to examine the analogous construct of major commitment (Chang, 2009; Womack, 2013). For the current study, AC refers to the feelings of commitment that one has to an academic major, while CC refers to the perceived cost of leaving a major, and NC refers to an individual’s perceived obligation to remain in a major (Chang, 2009; Womack, 2013).

Although the separation of each of these forms is important, it is additionally important to examine the relationship that AC, CC, and NC have to one another. On the one hand, examining the contribution of these three forms to one’s academic major commitment is important as each of these forms relate uniquely to various outcome variables (Brkich, Jeffs, & Carless, 2002; Meyer, Allen, & Smith, 1993). For example, Womack (2013) found that affective commitment and continuance commitment were significantly related to intentions of remaining in college, albeit in differing directions, while normative commitment was not significantly related to intentions to remain in school.

On the other hand, the separation of these forms may have detracted from understanding how these three forms relate to each other and other variables; therefore, a
more nuanced understanding at the profile-level may provide a more complete perspective of the overall construct. Meyer and Allen (1999) stated that while people experience these areas of commitment to differing degrees it is important to investigate how “the various forms of commitment might interact to influence behavior” (p. 1). Further, Meyer, Stanly, and Vandenberg (2013) suggest deviating from the traditionally used variable-focused analyses (e.g., regression) in favor of person-centered analytical strategies (e.g., latent profile analysis) to examine how these differences may combine to influence certain outcomes.

Furthermore, Meyer et al. (2013a) outlined some of the benefits when using a person-centered approach. For instance, a person-centered approach accommodates complex combinations of multiple variables, identifies subgroups within a sample, and allows for group differences to be examined. This approach also combines each participant’s preferences on differing factors (e.g., different forms of commitment) for a complete examination of the individual’s inclinations regarding certain variables. Further, Meyer et al. (2013a) suggested that utilizing this analytical method could provide additional insight into “phenomenon of interest” (i.e., commitment). Other researchers have also supported the use of person-centered approaches given these benefits (Marsh Lüdke, Trautwein, & Morin, 2009; Wang & Hanges, 2011; Zyphur, 2009). Utilizing a person-centered analysis has some practical benefits as well. Using evidence from Zyphur (2009) that suggested that people have a tendency to think in terms of groups or types of people, Meyer et al. (2013a) suggests that creating a profile of commitment would be consistent with the way in which people typically process information, thus making it easier for people (e.g., university staff, researchers) to understand some of the
complex patterns demonstrated in the commitment literature. Meyer et al. (2013a) further suggested that the identification of profiles might help in decreasing the possibility of using simple, incorrect categorizations (e.g., AC is good, while CC is bad).

University Commitment

Furthermore, commitment to one’s university (UC) may play an important role in understanding the construct of commitment in an academic context. Previous research has found that organizational commitment —one’s commitment to the organization for which they work— is related to career commitment in particular (Bowling et al., 2006; Den Hartog & Belschak, 2007; Duffy et al., 2011; Goulet & Singh, 2002), meaning that commitment to one’s specific organization is indicative of one’s commitment to his or her overall career. Within the major commitment literature, the concept of organizational commitment is adjusted to represent the commitment one feels to the institution or university he or she attends. Previous research suggests that commitment to the university one attends has a positive relationship with commitment to one’s academic major; therefore, as commitment to one’s institution increases, so does his or her commitment to the major he or she has chosen to pursue (Graunke & Woosley, 2005; Womack, 2013). Accordingly, university commitment will likely be a crucial component to consider when examining commitment at the profile level. As this is a different level of commitment (i.e., university versus major), unique relationship patterns with the three forms of major commitment may be seen, which would likely provide further essential information regarding the construct of major commitment.
Using a Profile-Level Approach to Examine Major Commitment

As previously noted, the literature on major commitment has some limitations, including a lack of research that furthers understanding the complex relationships between the three forms of commitment. Person-centered analyses allow researchers to use a practical approach to analyzing data. Further, this analytical process allows for intricate arrangements of several variables, identifies subgroups within a sample while treating group membership as a variable, and treats individual participants in a holistic fashion. Specifically, the use of profile analysis in examining major commitment could provide a unique view of the construct by examining different forms of commitment in relation to each other. The information is beneficial in that it allows researchers to examine unobserved relationships, which can be inferred from observed relationships across variables, to get a more comprehensive understanding of how different groups of individuals, grouped by similar profiles, may be related to certain outcomes.

Research on clinical measures (e.g., measures of psychopathology) that have used profile-level data as it relates to different outcomes illustrates the benefit of this approach. For instance, Kerr and Muehlenkamp (2010) utilized the Personality Assessment Inventory (PAI; Morey, 1991) to investigate psychopathological features associated with non-suicidal self-injury (NSSI) in female college students. Researchers examined these potential features in women with and without a history of NSSI by comparing the PAI profiles of these two groups of women. Results indicated that women with a history of self-injury had a profile characterized by higher rates of depression, anxiety, borderline features, suicidality, and some psychotic features. Furthermore, self-injurers had higher scores on the thought disorder, psychotic experiences, and hyper
vigilance subscales. Ultimately, investigating this issue using profile level data was beneficial because it provided a richer picture of the individuals with NSSI to help with classification and likely diagnosis and treatment.

One method of examining data at the profile level is through latent profile analysis. Latent profile analysis (LPA; Goodman, 1974; Lazarsfield & Henry, 1968) is a statistical procedure that classifies participants into specific groups based on unobserved relationships in participant response patterns. This form of analysis can be conceptualized similarly to cluster analysis, but is instead focused on latent traits rather than on observed relationships as in cluster analysis. Additionally, this analysis can also be exploratory or confirmatory in nature, unlike cluster analyses which is limited to exploratory analysis. LPA assumes the relationships between items can be explained by several unobserved sub-groups (i.e., latent groups). For example, Meyer et al. (2013a) identified six latent profiles of organizational commitment (i.e., uncommitted, continuance commitment-dominant, all low-mid, all mid, affective commitment-dominant, affective/normative commitment-dominant) when examining commitment and related outcomes (e.g., well-being, intention to stay) in military persons.

One of the primary goals of LPA is to create a parsimonious model (i.e. smallest number of profiles) that explains the differences in observed response patterns of a sample, similar to cluster analysis, except that groups are formed based on shared latent traits rather than observed relationships. Goodness-of-fit models with varying numbers of groups are used to identify the appropriate number of groups when using LPA to determine the most parsimonious model and reduce the probably of creating profile groups that capitalize on sample-specific characteristics. Furthermore, the ability to
examine model fit indices to evaluate the fit of the model, and comparison between models, presents an advantage over cluster analysis that does not allow for examining model fit due to its exploratory nature (Nylund, Asparouhov, & Muthen, 2007). Further, this form of analysis allows researchers to investigate relationships between group membership (i.e. different profile groups) and other variables (e.g., demographic and personality variables; Geiser, 2012).

While LPA is a commonly used statistical analysis in some areas of research (i.e., substance use; Chiauzzi, DasMahapatra, & Black, 2013, Bohnert et al., 2014, Carlson et al., 2014), it is less commonly used in career literature. However, there have been some studies which used LPA to examine career related outcomes. For example, Gerber, Wittekind, Grote, and Staffelbach (2009) used LPA to examine various career orientations. In this study, the researchers used exploratory and confirmatory LPA to identify four profiles (i.e., traditional/promotion, traditional/loyalty, independent, and disengaged) of career orientation in a sample of employees. The different profiles provided more in-depth information regarding career orientation and certain variables such as, age, gender, education level, career success, job satisfaction, intentions to quit, and commitment. The results of this study indicate that those who had the highest intention of quitting were the independent career oriented employees; characterized by a focus on upward mobility, career self-management, and high employability. Those with traditional career orientations, typified by a focus on loyalty, commitment, and job security, low employability, and high job satisfaction, reported the highest affective commitment and lowest intentions of quitting. Overall, the results of this study demonstrate the benefits of using LPA in providing a more thorough examination of
constructs relevant to career development. Profile analyses have also been used to examine academic development outcomes within a student population. For example, in one study of German secondary school students, the researchers identified five different profiles of academic self-concept (ASC) to examine the relationship between ASC and academic related outcomes (Marsh et al., 2009). While the aforementioned studies were utilized in areas that fall under the overarching category of career literature, no research has used LPA to examine academic major commitment or persistence. The use of this specific analysis can provide useful information on major commitment by creating profiles based on the different forms commitment to provide a more thorough understanding of the relations between major commitment and college outcomes.

The current study aims to examine commitment profiles of undergraduate students using LPA. As previously mentioned, the different forms of major commitment have been found to relate differently to various outcome variables. Womack (2013) found that affective commitment was significantly, positively related to intentions to remain in college, while continuance commitment was significantly, negatively related to intentions, and normative commitment was not significantly related to intentions. Since these forms of commitment related differently to intentions to stay in college, it would be expected that different profiles of these forms of commitment would likely relate differently to various outcome variables.

Furthermore, it may be important to include commitment to one’s university when examining overall commitment profiles of undergraduate students as previous research identified that university commitment was significantly correlated with two of the three forms (i.e., affective and normative commitment), and significantly negatively
related to intention of quitting college (Womack, 2013). Furthermore, research by Bean (1980) found that institutional/university commitment, was the largest predictor of college dropout for both men and women. These previous findings indicate that university commitment may also be related to overall understanding of commitment in undergraduate students. The purpose of the current study is to examine commitment profile configurations as they relate to reported intention to quit school in addition to other important outcomes related to student success in college (i.e., mental health outcomes, adjustment, and academic performance).

Outcome Variables

*Persistence decisions*

The relationship between college persistence and major commitment has been established in the literature (Landrum & Mulcock, 2007; Cooke et al., 1995; Womack, 2013), supporting a positive relationship between major commitment and persistence. For instance, in a study of psychology undergraduate students, it was found that those who reported being more committed to psychology were more likely to stay in that major and obtain a bachelor’s degree in psychology (Landrum & Mulcock, 2007). However, researchers have identified differences in the relationship between these three forms of commitment and persistence. For example, Cooke et al. (1995) found a positive relationship between affective commitment and persistence only in a sample of graduate students. As there is sufficient evidence to support the division of commitment into the three forms (i.e., affective, continuance, normative), the current literature would likely benefit from further investigation regarding the unique influence of the three forms of commitment to persistence decisions.
New research using profile-level data on commitment has offered more detailed understanding between commitment and intentions to stay in one’s organization that inform the expected relations between major commitment and college persistence decisions. Meyer, Kam, Goldenberg, and Bremner (2013b) examined military commitment by subjecting the three components of commitment to LPA. The analysis of this sample resulted in the following six profiles: 1) uncommitted: low scores on all three components, 2) continuance commitment-dominant: high continuance commitment score, with low affective commitment and normative commitment scores, 3) all low-mid: all scores were in the low-to-middle range with affective commitment being slightly higher, 4) all mid: all scores were in the middle range with affective commitment being slightly higher, 5) affective commitment-dominant: affective commitment scores were the highest, followed by normative and then continuance commitment, and 6) affective/normative commitment-dominant: high scores on affective and normative commitment and midlevel scores on continuance commitment. Using these six commitment profiles, Meyer et al. (2013b) found that the high affective and high affective/high normative commitment profiles were most related to positive outcomes (i.e., intention to stay in the military, greater well-being) whereas the high continuance commitment profile was most related to least favorable outcomes (i.e., more likely to be on the job search, higher anxiety and depression). While this research was based on commitment to the military, it provides important insights about the potential relations between the forms of commitment and possible outcomes related to different commitment profiles. It is expected that examining major commitment at the profile
level can provide similar insight into the specific configurations of commitment that relate to lowered persistence intentions in college.

**Mental health**

Commitment has been associated with mental health outcomes in various settings (Glazer & Beehr, 2005; Glazer, 2008; Lambert, 2013; Meyer et al., 2013b). For example, a study of nurses found that well-being was significantly, positively correlated with commitment (Brunetto et al., 2013). Further, research in samples of police officers has found similar relations (Brunetto, Teo, Shacklock, & Farr Wharton, 2012). Based on their review of the literature, Meyer and Maltin (2010) concluded that affective commitment has a positive relationship with well-being while continuance commitment has a more variable, but generally negative, relationship with well-being. Less is known about the relationship of normative commitment and well-being.

Furthermore, mental health outcomes are important to consider when examining the college student population as college students are increasingly reporting more severe mental health concerns (Gallagher, Sysko, & Zhang, 2001). Therefore, the literature regarding various prominent mental health concerns in college students (i.e., depression, anxiety, and stress) and their relationship with affective, continuance, and normative commitment is examined.

**Depression, anxiety, and stress**

A recent survey indicated that about one-third of college students experienced anxiety or stress that negatively impacted their academic performance (American College Health Association Spring, 2006). Investigating the relationship between these mental health concerns and academic major commitment is of particular importance as these
mental health issues have been associated with negative academic and occupational outcomes (Glazer, 2005; Keyes et al., 2012; Lambert, 2013; Meyer, 2013b; Meyer et al., 2002).

Previous studies have found differing relationships between mental health outcomes and the three forms of commitment. However, none of this research has focused specifically on commitment and mental health in student samples; therefore, in attempts to gather a comprehensive understanding of this relationship, the literature on employed workers is reviewed. Meyer et al. (2013b) found that commitment profiles characterized by higher reported levels of continuance commitment were related to higher levels of depression and anxiety, whereas, higher levels of affective and normative commitment were related to increased reports of well-being in a sample of military employees. Additionally, Glazer (2005) found that affective commitment was significantly, negatively correlated with anxiety, while continuance commitment was significantly, positively correlated with anxiety in an overall sample of various countries, one of which was the United States.

More research has examined the relationship between commitment and stress specifically. Meyer et al. (2002) found in a meta-analytical review of the literature that affective commitment was negatively correlated with employee stress while continuance commitment was positively correlated with stress. The authors stated that correlations between normative commitment and stress were not measured, as there were too few studies with results regarding this relationship. More recently, in a study examining occupational stressors (i.e., repetitiveness, family-work conflict, role conflict, dangerousness of job, role ambiguity) experienced by correctional officers in regards to
work, it was found that affective commitment had a significant, negative relationship with all stressors, while continuance commitment had a positive relationship with each stressor (Lambert, 2013). Overall, the observed relationships between the forms of commitment and mental health outcomes demonstrate a pattern such that affective commitment is negatively associated with depression, anxiety, and stress, while continuance commitment is positively associated with these mental health outcomes. Since these relationships are clearly demonstrated in the literature on workers, it is likely that similar relationships will be seen in the student population; however, further investigation in this relationship is warranted.

While the previous research primarily relies on correlational analyses to support the varying relationships between the forms of commitment and mental health, profile-level research can provide further insight into how differing levels of commitment relate to mental health outcomes. For example, although previous research does not suggest a consistent, significant relationship between normative commitment and mental health outcomes, Meyer et al. (2013b) found that normative commitment has been found to correlate negatively to depression and anxiety for commitment profiles that also include high affective commitment. Further assessment of academic major commitment at the profile level is necessary in order to establish a thorough understanding of the impact these varying degrees of commitment have on the mental health of college students.

**Academic and social adjustment**

Adjustment to college life and associated academic demands can be difficult for many individuals beginning college; however, some theories suggest that this adjustment is a crucial factor in the decision to remain in school. Tinto’s (1975) model of college
persistence, referred to as the Student Integration Model, suggests that many factors (e.g., individual traits, social integration) influence a student’s decision to persist in or quit school. According to Tinto (1975), feeling integrated into the culture of college (i.e., adjusting to and interacting with the novel culture of college) is the central reason why some students persist in college, while others drop out. More specifically, Tinto’s model suggests that matching a student’s motivation to their academic ability and a student’s integration in to the academic and social culture of the university that they choose to attend results in two types of commitment: commitment to an educational goal and commitment to stay at one’s university (Cabrera, Nora, & Castaneda, 1993). The Student Integration Model has been subjected to much research over the years with support for predicting college persistence (Pascarella & Terenzini, 1979; 1980).

Related to the construct of integration, other researchers have suggested that one of the factors that highly influences students’ decision to persist or dropout is social adjustment, or developing a sense of belonging (Bean, 2005; Pascarella & Terenzini, 2005). For instance, Gerdes and Mallinckrodt (1994) found in a six-year longitudinal study that an important factor in attrition rates was social and emotional adjustment, such that those who reported greater social and emotional adjustment were more likely to persist in school. More recent literature provides current evidence of the relationship between adjustment and persistence. For example, in a recent meta-analytic review of adjustment to college using the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1989), Credé and Niehorster (2012) determined that adjustment to college is predictive of important student outcomes, notably persistence.
As this integration or adjustment process has been theorized as central to student success (i.e., persistence), it is important to capture how adjustment may be related to commitment in the current study. Some research indicates that commitment is predictive of academic adjustment. Chartrand, Camp, and McFadden (1992) found that student commitment was a predictor of academic adjustment, more so than self-efficacy, in a sample of psychology students demonstrating a positive relationship between these variables. Examining adjustment as an outcome of major commitment profiles may provide further insight into factors that may help students successfully adjust to the strenuous academic and social expectations of college. As the aforementioned research implies, integration or adjustment to college has implications for students and, therefore, warrants inclusion in research concerned with college outcomes. Specifically, further investigation into how commitment may relate to adjustment would likely provide further information on the overall relationship between adjustment and persistence.

Performance

Grade point average (GPA) is a commonly examined predictor of academic success. For example, researchers investigating factors that predict first-year academic success found that high school GPA was the most significant predictor for first-year college GPA (Ting & Robinson, 1998). Further, the literature demonstrates a consistent relationship between academic performance and persistence rates such that those who have higher academic achievement (i.e., higher GPAs) have greater persistence rates regardless of a variety of factors including, but not limited to, type of major, type of school (e.g., community college or university), or ethnicity (Kirby & Sharpe, 2001; McGrath & Braunstein, 1997; Feldman, 1994; Hagedorn, Maxwell, & Hampton, 2001).
Academic performance, as measured by GPA, has consistently been observed in the literature to be positively related to persistence, thus, examining this construct as it relates to commitment is important.

However, literature regarding the relationship between GPA and commitment is inconclusive. This lack of significant findings may be due methodological issues. For example, Love (2013) found no significant relationships between affective, continuance, and normative commitment and student GPA. In this study, although not statistically significant, normative and continuance commitment were negatively correlated with GPA, while affective continuance was positively correlated with GPA. However, the author of this study used a modified and shortened version of Meyer and colleagues (1993) commitment measure, which may have resulted in an inaccurate assessment of these relationships. Further, although Wessel, Ryan, and Oswald (2008) did not find a significant relationship between GPA and any of the three forms of commitment, the same pattern of positive and negative correlations between the forms of commitment and GPA (i.e., positive correlations between affective commitment and GPA, negative correlation between continuance and normative commitment and GPA) were replicated. The current review of the literature identified non-significant results regarding the relationship between commitment and GPA, although the same relationships were found across studies. It may be that examining these relationships separately across the three forms of commitment diffused any potential relations between commitment and GPA, thus examining commitment on the profile level may prove to show how patterns of commitment differentially relate to GPA while no single form of commitment may.
The Current Study

Based on previous career literature, having a greater understanding of the construct of commitment is important as it has crucial implications for intentions to remain within an organization or job (Meyer & Allen, 1991, 1993; Goulet & Singh, 2002). Given the many benefits of attaining a college degree (Day & Newburger, 2002; Pascarella, Terenzini, Feldman, 2005), much research has been directed at fully understanding the mechanisms that affect students’ decisions to remain in school (e.g. Seidman, 2012). Moreover, research suggests that major commitment may be an important construct to further understanding on this issue, but methodological issues have limited this area of research.

Furthermore, as Meyer et al. (2013a) note, investigating this construct using profile analysis can provide informative data based on a participants’ differing levels of various forms of commitment (i.e., affective, continuance, normative, organizational). Profile-level data provides unique information that can identify subgroups of individuals. Based on profile-level analysis of career commitment, Meyer et al. (2013b) identified six latent profiles of organizational commitment (i.e., uncommitted, continuance commitment-dominant, all low-mid, all mid, affective commitment-dominant, affective/normative commitment-dominant) when examining commitment and related outcomes (e.g., well-being, intention to stay) in military persons. It is likely that the current study’s analyses will identify six profiles similar to those produced by Meyer et al. (2013b); however, the current study is exploratory in nature given that LPA has yet to be used when examining major commitment. The formation of these subgroups will then allow for examination of potential differences in relation to outcomes (e.g. persistence...
intentions, mental health, academic adjustment, and performance) based on different patterns of endorsement across the forms of commitment.

Previous literature suggests that commitment has a positive relationship with persistence, academic and social adjustment, and a negative relationship with mental health outcomes (i.e., depression, anxiety, and stress) (Meyer & Allen, 1991, 1993; Meyer et al., 2013b; Glazer, 2005; Bean, 2005; Chartrand et al., 1992; Pascarella & Terenzini, 2005). Further, the body of literature documents inconsistent results regarding the relationship between commitment and academic performance (Love, 2013; Wessel et al., 2008). The current study aimed to examine the construct of academic major commitment utilizing LPA as well as investigating the relationship between the identified groups and outcomes related to student success (i.e., persistence, mental health outcomes, academic adjustment, and academic performance). Based on the review of previous literature, the following hypotheses were examined:

*Hypothesis 1*: LPA will reveal multiple subgroups/profiles with differing levels of each of the areas of commitment (e.g. affective, continuance, normative, and university).

*Hypothesis 1a*: One of the identified groups will be defined by high AC, NC, UC and low CC.

*Hypothesis 1b*: Another one of the observed groups will be characterized by high CC.

*Hypothesis 1c*: One of the observed groups will be representative of a mid-level report of all forms of commitment, thus creating a flat profile.
Hypothesis 2: The profile with higher AC, NC, and UC and lower CC will be related to lower intentions of quitting school, lower reported mental health difficulties, better adjustment, and higher GPAs.

Hypothesis 3: The profile categorized by higher CC will relate to more negative outcomes (i.e., higher mental health concerns, lower GPAs, lower adjustment, and greater thoughts of quitting school).

Hypothesis 4: The mid-level/flat profile group will not relate significantly to reported mental health, performance, adjustment, or intentions of quitting school.
CHAPTER II

METHODOLOGY

Participants

Participants for the current study were undergraduate students enrolled at a southeastern university. Data was collected from students via SONA, an online research study system, using a web-based survey service (Qualtrics). A final sample size of 500 students was obtained as researchers suggest that a sample of 500 participants will consistently identify the correct model when using LPA (Nylund, Asparouhov, & Muthen, 2007). Participants were compensated for their participation by receiving credit for their academic coursework. Efforts were made to obtain a wide distribution of majors to ensure variability among the academic background of those participating in the study (e.g., targeted recruitment, soliciting from instructors). The most highly represented major was psychology (18%, n = 90), followed closely by nursing (14.4%, n = 72); however, a wide range of majors were represented (e.g., speech pathology, biology, math, criminal justice, special education). The final sample was comprised of 37.8% males and 62.2% females. The majority of the sample was comprised of participants who identified as White or European American (61.4%, n = 307), while the remaining sample was comprised of 33.4% (n = 167) Black or African American, 1.6% (n = 8) Multicultural, 1.4% (n = 7) Hispanic/Latino, 1% (n = 5) American Indian, 1% (n = 5) Asian American, and .2% (n = 1) Alaskan Native. The largest year in school group was comprised of freshman (32.8%, n = 164). Of the remaining participants, 26.2% (n = 131) reported being in their sophomore year, 20.2% (n = 102) reported being in their junior year, 14.4% (n = 72)
reported being in their senior year, and 6% (n = 30) reported being in school for 5 or more years.

Measures

Major commitment

An adapted version of Meyer et al.’s (1993) three-component (i.e. affective, continuance, and normative) measure of career commitment was used to measure commitment to one’s academic major. This questionnaire has previously been successfully adapted for use with college students to examine academic major commitment (Chang, 2009; Wessel et al., 2008; Womack, 2013). Responses on this 18-item measure are rated on a 5-point scale ranging from strongly disagree (1) to strongly agree (5) where a high score indicates greater commitment. Confirmatory factor analysis of the original version demonstrated that each of the three scales was comprised of items that supported the overall construct of career commitment (Meyer et al., 1993). Womack (2013) found that the coefficient alphas were .88, .86, and .82 for affective, continuance and normative commitment scales, respectively, when modified to examine major commitment in a sample of college students. Reliability coefficients for the current sample were found to be .87, .87, and .79 for the affective, continuance, and normative commitment scales, respectively.

University commitment

The shortened version of the Organizational Commitment Questionnaire (OCQ; Mowday, Steers, & Porter, 1979) was adapted to measure university commitment (e.g. “I am willing to put in a great deal of effort beyond that normally expected in order to help my university be successful”). This nine-item measure is rated on a seven-point Likert
scale ranging from strongly disagree (1) to strongly agree (7) where a high score indicates greater commitment. Cohen (1996) found that the shortened OCQ was empirically distinct from other constructs such as, job involvement, career commitment, and work involvement, indicating evidence of discriminate validity. Internal reliability estimates have ranged from .88 to .98 (Jones, Scarpello, & Bergmann, 1999; Mowady et al., 1979). The coefficient alpha of the current sample was .92.

*Intention to quit school*

Intention to quit school, as a proxy for persistence, was measured by three items previously used by Schmitt et al. (2007). As there is a high correlation between intentions of quitting school and actual leaving behaviors, examining participants’ intention to quit provides appropriate data when investigating persistence. Previous research supports this notion. For instance, Bean (1982) found that intent to leave was the most important factor influencing school dropout in a sample of undergraduate students. Two of the three items were adapted from Eaton and Bean (1995), while the third was adapted from Griffeth and Hom (1988). The items are rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), where higher scores reflect greater intention of quitting school. The alpha coefficient for these three items was found to be .79 (Schmitt et al., 2007). The alpha of the current sample was .76.

*Mental health outcomes*

The Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995) is a 42-item instrument used to measure levels of depression, anxiety, and stress symptomology over the previous week. The DASS is rated on a four-point Likert scale ranging from did not apply to me at all (0) to applied to me very much; or most of the
time (3), where a high score indicates greater mental health concerns. Example items in this measure include “I found myself getting upset rather easily” and “I found that I was very irritable.” Factor analysis studies determined that DASS items could be reliably grouped into three separate scales: depression, anxiety, and stress (Lovibond & Lovibond, 1995). Evidence for concurrent validity was demonstrated by examining correlations between the scales and other depression and anxiety measures (Antony, Bieling, Cox, Enns, & Swinson, 1998). Coefficient alphas for the DASS scales have been found to range from .84 to .94 in a sample of clinical and nonclinical adults (Antony et al., 1998) and .81 to .88 in a sample of college students (Osman et al., 2012). Alphas for the current sample on the depression, anxiety, and stress subscales were .88, .84, and .91, respectively.

Adjustment

Pascarella and Terenzini’s (1980) measure was used to assess student’s perception of social and academic adjustment to college. The overall measure is comprised of five factors of student adjustment according to Tinto’s (1975) model including, Peer-Group Interactions, Interactions with Faculty, Faculty Concern for Student Development and Teaching, Academic and Intellectual Development, and Institutional and Goal Commitments. The Peer-Group Interactions subscale was used to assess social adjustment, while the Academic and Intellectual Development was used to assess academic adjustment. Both subscales are comprised of seven items rated on a 5-point Likert scale ranging from strongly disagree (5) to strongly agree (1). Scores for the current study were reverse coded so that higher total scores reflect higher adjustment. Pascarella and Terenzini (1980) found internal consistency to be .84 and .74 for the Peer-
Group Interactions and Academic and Intellectual Development scales, respectively. Additionally, Pascarella and Terenzini’s (1980) factor analysis demonstrated appropriate factor loadings on each subscale that were consistent with Tinto’s (1975) model. Additionally, discriminant analysis demonstrated the ability of this measure to differentiate between those who adjusted well and persisted in college versus those who would drop out. The alpha of the current sample was .80 and .76 for Peer Group Interaction and Academic Development subscales, respectively.

**Performance**

Academic performance was assessed via participant’s self-reported grade point average (GPA). GPA was collected through a demographic questionnaire, which includes other items regarding participants’ background (e.g. sex, age, ethnicity, major, year in school).

**Procedures**

Participants were recruited through an online database to solicit research participants. Course instructors were also contacted to recruit participants with efforts to obtain diversity among reported majors and increased male participation. Participants were directed to the study on Qualtrics and were presented with the survey once agreeing to the consent form. Measures were presented in a randomized fashion to prevent issues of fatigue. Individuals were compensated for their participation by receiving course (92.8% via SONA) or extra credit (7.2%).
Data Analysis

Initial data analyses

Prior to analyses, missing data were addressed. For cases in which there were limited missing data points (e.g., one or two missing points) linear trend at point was used to calculate the missing data point. In situations where the missing data was quite substantial (e.g., most of any given measure was missing), that particular case was eliminated from analyses. As suggested by Meade and Craig (2012), validity items (e.g. "For this questions, respond ‘Agree’") were collected to ensure participants were attending to item content. Participants who failed to answer either of these validity items correctly were eliminated from further analyses. A total of 127 participants were eliminated from primary analyses due to substantial missing data (n = 49) or failed validity items (n = 78).

An independent samples t-test was conducted to compare participants who had declared a major and those who had not. Results from this analysis suggested a significant difference between these groups on affective commitment (declared: \( \bar{x} = 34.64, SD = 6.53 \); non-declared: \( \bar{x} = 27.25, SD = 6.14 \)), \( t(718) = 7.82, p < .001 \); continuance commitment (declared: \( \bar{x} = 26.31, SD = 9.41 \); non-declared: \( \bar{x} = 21.00, SD = 8.53 \)), \( t(718) = 3.91, p < .001 \); and normative commitment (declared: \( \bar{x} = 26.48, SD = 7.82 \); non-declared \( \bar{x} = 23.00, SD = 7.21 \)), \( t(718) = 3.08, p < .01 \). Therefore, only participants who had declared their major were used in the final analyses, resulting in a total of 51 participants’ data being eliminated due to not having declared a major.

Following this reduction, the total number of participants (n = 669) was greater than the initially proposed sample size (n = 500). This sample was made up of 72% (n = 480) females and 28% (n = 189) males. In order to obtain the proposed number of
participants, as well as create a more even distribution of men and women, a random sample of women \((n = 311)\) from the total sample of data on women was obtained using random sampling procedures via SPSS. Data for the remaining female participants \((n = 169)\) was eliminated in future analyses. Thus, the final sample was comprised of 62% female \((n = 311)\) and 38% male \((n = 189)\) participants, for a total sample size of 500. Correlations between study variables are available in Table 1.
CHAPTER III

RESULTS

Latent profile analysis (LPA)

An exploratory LPA was conducted to examine the first hypothesis regarding the number and types of groups (i.e., profiles) using MPLUS (version 7, Muthén & Muthén, 2012). LPA was utilized to identify various groups of participants based on differing levels of each of the three forms of major commitment (i.e., affective, continuance, and normative) and university commitment to identify specific commitment profiles of undergraduate students. As this analysis was exploratory in nature, statistics were run for a number of different group number solutions (e.g., solutions of 2 to 9 groups).

Model fit indices were examined to determine the final number of groups to retain (Table 2). Research suggests that information criteria such as, Akaike’s information criterion (AIC; Akaike, 1987), Bayesian information criterion (BIC; Schwarz, 1978), adjusted BIC (aBIC; Sclove, 1987) are commonly used to compare the fit of the various LPA models (Gerber et al., 2009) with lower values being preferable. However, recent evidence suggests that the bootstrap likelihood ratio (BLRT) is the most preferred method of examining fit (Geiser, 2012; McLarnon, Carswell, & Schneider, 2014; Nylund et al., 2007). The BLRT provides information on the relative fit of the current solution with \( k \) number of groups compared to a \( k-1 \) solution, where a significant \( p \) value (< .05) suggests the \( k \) number of groups is preferable. Therefore, the BLRT was used in determining the appropriate number of groups to retain in the current study with a comparison of AIC, BIC, and aBIC values to follow-up.
A range of LPA solutions were conducted with a various number of groups ranging from 2 to 9. The BLRT suggested significant improvement in model fit in each group model as the number of groups increased from two to seven. However, the BLRT for an eight group model was not significant at the $p < .01$ level, indicating that the eight group solution was not a better representation of groups derived from the data set when compared to the seven-group solution. As the seven-group solution represented an improvement over the six-group solution, it appears that this was the most fitting model. In order to gather further verification of this solution, AIC, BIC, and aBIC values were examined. The AIC and aBIC values for the seven-group solution (AIC = 13761.64, aBIC = 13801.18) were lower than those of the six-group solution (AIC = 13774.2, aBIC = 13808.54) suggesting improved model fit over the six-group solution. However, the BIC values for the seven-group solution (BIC = 13921.80) were higher than the BIC values for the six-group solution (BIC = 13913.28). Taken together, this information provides additional evidence for a seven-group model, but the BIC values indicate the need for further verification. Posterior probabilities of the seven-group solution (Table 3) provide evidence that these groups are distinct given the high probability of categorization into one of these seven groups, as values closer to 1 are more desirable. Therefore, it was decided that a seven-group solution best fit the data and was used for further analyses.

Interpretation of the Seven Profiles

Means for each form of commitment across the seven groups as well as means and standard deviations for the total sample are included in Table 4. Means for each profile group were then averaged by dividing the total score by the number of items for
### Table 1

**Correlations Among Study Variables**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>11</th>
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<tbody>
<tr>
<td>1. AC</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CC  .13**</td>
<td>.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. NC  .30**</td>
<td>.43**</td>
<td>.79</td>
<td></td>
<td></td>
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<tr>
<td>4. UC  .38**</td>
<td>.00</td>
<td>.29**</td>
<td>.92</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>5. Social Adjustment</td>
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<td>.03</td>
<td>.17**</td>
<td>.40**</td>
<td>.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Academic Adjustment</td>
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<td>.08</td>
<td>.28**</td>
<td>.61**</td>
<td>.43**</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
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<td>7. GPA</td>
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<td>.05</td>
<td>.02</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. DASS-D -.24**</td>
<td>.07</td>
<td>.03</td>
<td>-.26**</td>
<td>-.25**</td>
<td>-.23**</td>
<td>-.04</td>
<td>.88</td>
<td></td>
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<td>9. DASS-A -.22**</td>
<td>.03</td>
<td>.07</td>
<td>-.15**</td>
<td>-.20**</td>
<td>-.18**</td>
<td>-.02</td>
<td>.70**</td>
<td>.84</td>
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<td>10. DASS-S -.13**</td>
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<td>-.18**</td>
<td>-.17**</td>
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<td>.75**</td>
<td>.91</td>
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<tr>
<td>11. ITQ -.17**</td>
<td>.12**</td>
<td>.04</td>
<td>-.33**</td>
<td>-.16**</td>
<td>-.18**</td>
<td>-.04</td>
<td>.17**</td>
<td>.15**</td>
<td>.14**</td>
<td>.76</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Coefficient alphas are listed in the diagonal. ** Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed). AC= Affective Commitment, CC = Continuance Commitment, NC = Normative Commitment, UC = University Commitment, DASS-D = DASS Depression subscale, DASS-A = DASS Anxiety subscale, DASS-S = DASS Stress subscale, ITQ = Intention to Quit, GPA = Grade Point Average
Table 2

*Fit Indices of LPA results for 2- to 9-Group Models*

<table>
<thead>
<tr>
<th>Number of Groups</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>Entropy</td>
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<td>0.796</td>
<td>0.809</td>
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<td>-6885.994</td>
<td>-6869.279</td>
<td>-6854.1</td>
<td>-6842.821</td>
<td>-6833.248</td>
<td>-6820.979</td>
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<tr>
<td>AIC</td>
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<td>13848.184</td>
<td>13817.988</td>
<td>13794.558</td>
<td>13774.199</td>
<td>13761.641</td>
<td>13752.497</td>
<td>13737.957</td>
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<tr>
<td>BIC</td>
<td>14018.521</td>
<td>13924.047</td>
<td>13914.924</td>
<td>13912.567</td>
<td>13913.282</td>
<td>13921.796</td>
<td>13933.725</td>
<td>13940.258</td>
</tr>
<tr>
<td>Adjusted BIC</td>
<td>13977.258</td>
<td>13866.914</td>
<td>13841.921</td>
<td>13823.693</td>
<td>13808.537</td>
<td>13801.182</td>
<td>13797.24</td>
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<tr>
<td>BLRT</td>
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<tr>
<td>BLRT p value</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.002</td>
<td>0.042</td>
<td>0.002</td>
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</table>

*Note:* AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion; BLRT = bootstrap likelihood test
that scale (e.g., divided by 6 for the AF, CC, and NO scales, and 9 for the UC scale) and were plotted in a line graph to aid interpretation of the profiles (Figure 1).

Table 3

*Average Posterior Probabilities of a Seven-Group Solution*

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
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<td>.00</td>
<td>.00</td>
<td>.00</td>
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<tr>
<td>7</td>
<td>.04</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.04</td>
<td>.70</td>
<td>.86</td>
</tr>
</tbody>
</table>

*Note:* Bold-faced values refer to average posterior probabilities for the group assignment. Probabilities are rounded.

Table 4

*Variable Means across Profile Groups*

<table>
<thead>
<tr>
<th></th>
<th>AF</th>
<th></th>
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<th></th>
<th>NO</th>
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*Note:* AF = Affective Commitment, CO = Continuance Commitment, NO = Normative Commitment, UC = University Commitment, M = mean, SE = standard error. Standard deviation for the total sample are in parentheses.
Figure 1. Group Means across Profile Groups.

Note: Scores are based on finding the average score for that scale, so that scores can be interpreted on the original scale of the measure below.

“1” if you strongly disagree with the statement
“2” if you disagree with the statement
“3” if you somewhat disagree with the statement
“4” if you neither agree nor disagree with the statement
“5” if you somewhat agree with the statement
“6” if you agree with the statement
“7” if you strongly agree with the statement

The first group was characterized by slightly above average continuance, affective, and normative commitment to their academic major and average university commitment, thus creating a mid-high level profile. This group was comprised of 20.9% of the sample. Overall, this group appeared to be primarily characterized by slightly above average levels of commitment to an academic major. The second profile was characterized by slightly below average affective commitment, slightly above average continuance commitment, and average normative and university commitment. This profile appeared to be representative of individuals mostly mid-range or average levels of most forms of commitment to their major or university. This group comprised 11.2% of
the sample. The third profile group was characterized by very low affective commitment, and low normative commitment. While all areas of commitment were below average, affective commitment was significantly lower than the others, indicating that this group was representative of individuals who likely do not like their current academic major. As continuance, normative, and university commitment were also below the average, this profile group was representative of a group of individuals who do not feel committed to either to their major or university. While this group was a small portion of the sample (1.6%), the high level of this group’s posterior probability (See Table 2) suggests that this is indeed a distinct group. The fourth group produced a mid-level or flat profile that was also characterized by low affective commitment, although not to the degree seen in profile three. This profile also had below average normative and university commitment, indicating that this group may be representative of individuals who do not feel committed to their major primarily due to dissatisfaction, but also to some degree, feeling as though they are not in the major they “ought” to be in. Additionally, these individuals do not feel committed to their university. However, continuance commitment was slightly below average, indicating that if individuals are persisting, it may only be because they feel like they do not have any other plausible alternatives. This group was comprised of 16.7% of the sample. The fifth group was characterized by average affective and university commitment and low continuance and normative commitment. These individuals may feel that there are other academic major alternatives available to them, hence the low continuance commitment, but also endorse low commitment due to a sense of obligation. However, this group appeared to be committed to their major because they moderately enjoy it, and endorse some commitment to the university. This group contains 11.2% of
the sample. The sixth group was comprised of individuals who report above average affective, continuance, normative, and university commitment, generating the highest profile overall among groups. This group appeared to be representative of individuals who are committed to their major, as well as committed to their university. As all areas of major commitment are high in this group, it may be that these individuals are committed because they really like their major, but also feel an obligation to continue in it as they have few other feasible alternatives. This was the largest group, containing 22.4% of the sample. The seventh and final group was characterized by above average affective and university commitment and below average continuance commitment, indicating that individuals in this group are committed to their major because they like it and not because they feel they do not have other options or alternatives. Additionally, these individuals feel committed to their university.

Reviewing hypotheses related to the expected profiles, Hypothesis 1a predicted that one of the resulting groups would be characterized by primarily high affective, normative, and university commitment and low continuance commitment. This hypothesis was partially supported. Group 7 was comprised of high affective and university commitment, average normative commitment, and low continuance commitment thus, representing a similar group to the original hypothesis albeit normative commitment was still below the sample’s average. Group 5 also mirrors this pattern; however, group 7 is a better overall fit for the hypothesis; therefore group 7 is used as a comparison to hypothesis 1a.

Hypothesis 1b predicted a group characterized by high continuance commitment and low levels of affective, normative, and university commitment. Again, this
hypothesis was partially supported. While a number of groups endorsed continuance commitment above the sample average (e.g., groups 1, 2, and 6), group 3 represented a closer match to the original hypothesized group as continuance commitment was the highest of the three forms of major commitment. However, university commitment was higher than continuance commitment in this group, counter to this hypothesis. Finally, Hypothesis 1c was confirmed as evidenced by the mid-level, flat profile seen in group 4.

Relationships between profile membership and outcome variables

After identifying the appropriate number of groups, or profiles, probability statistics were calculated to determine the likelihood of each participant’s membership into each one of the groups (Table 3). Group membership probability statistics (e.g. a continuous variable that is the probability of membership for each group/profile) are generated as part of LPA and can be used to determine group membership by assigning participants to the group with the highest probability of membership. Individual group membership probability statistics are analogous to factor loadings in exploratory factor analysis which allow the researcher to determine how likely individuals’ data is accounted for by each profile/group. For the current study, probability statistics were correlated with outcome variables (persistence intentions, mental health, academic adjustment, and performance) to identify the relationships between commitment profiles and outcome variables (Table 5).

Hypothesis 2 stated that participants in the group with higher affective, normative, and university commitment and lower continuance commitment would be related to lower intentions of quitting school, lower reported mental health difficulties, better adjustment, and higher GPAs. As previously stated, group 7 was the closest
representation of the hypothesized group; therefore, this group was used to assess Hypothesis 2. Probability of membership in profile group 7 (high affective and university commitment, low continuance commitment) had a significant, negative relationship with depression ($r = -.18, p < .01$), anxiety ($r = -.13, p < .01$), stress ($r = -.11, p < .05$), and intention of quitting school ($r = -.13, p < .01$), which was consistent with Hypothesis 2. Additionally, group 7 membership had a significant positive relationship with GPA ($r = .10, p < .05$), social adjustment ($r = .13, p < .01$), and academic adjustment ($r = .20, p < .01$), which was also consistent with the initial hypothesis, thus confirming Hypothesis 2. Further, group 5 had a similar pattern of results to group 7. This group also partially supported Hypothesis 2 in that group 5 probability (average affective commitment and low continuance commitment) had a significant, negative relationship with intention to quit school ($r = -.12, p < .01$), but was not significantly related to any other outcome variables.

Hypothesis 3 proposed that participants in the group defined by higher continuance commitment would relate to more negative outcomes (i.e., higher mental health concerns, lower GPAs, lower adjustment, and greater thoughts of quitting). Group 3 provided partial support for Hypothesis 3 as a significant negative relationship with social adjustment ($r = -.15, p < .01$) and academic adjustment ($r = -.14, p < .01$) was observed.
Table 5

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Note: **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed). DASS-D= DASS Depression subscale, DASS-A= DASS Anxiety subscale, DASS-S= DASS Stress subscale, ITQ=Intention to Quit, GPA=Grade Point Average
Finally, Hypothesis 4 proposed that the group characterized by similar levels of all forms of commitment (i.e., a “mid-level” profile) would not be significantly related to any of the examined outcome variables. As mentioned, Group 4 best fit this expected profile and thus was used to test Hypothesis 4. Group 4 membership was significantly, positively related to depression ($r = .20, p < .01$), anxiety ($r = .22, p < .01$), stress ($r = .10, p < .05$), and intention to quit ($r = .21, p < .01$). Further, this group had a significant, negative relationship with social ($r = -.21, p < .01$) and academic ($r = -.31, p < .01$) adjustment. This was contradictory to the original hypothesis, which predicted a lack of significant relationships with outcome variables. The observed relationships suggest that negative outcomes are most related to a mid-level or flat profile.

Additional group relationships outside of the proposed hypotheses are discussed below. Group 1 (i.e., mid-high level) membership was not significantly related to any of the examined outcome variables. The probability of group 2 (i.e., slightly below average affective commitment, slightly above average continuance commitment, and average normative and university commitment) membership had a positive, significant relationship with depressive symptoms ($r = .11, p < .05$). Group 6 membership (i.e., above average affective, continuance, normative, and university commitment) had a significant, negative relationship with anxiety ($r = -.10, p < .05$) and a significant, positive relationship with social adjustment ($r = .19, p < .01$) and academic adjustment ($r = .30, p < .01$).
CHAPTER IV
DISCUSSION

Meyer, Allen, and colleagues have investigated commitment using varying methodology to gain a greater understanding of the construct of commitment. In a study using latent profile analysis to investigate commitment profiles of military employees, Meyer et al. (2013b) discovered six profile groups (i.e., uncommitted, continuance commitment-dominant, all low-mid, all mid, affective commitment-dominant, affective/normative commitment-dominant). In the current study, latent profile analysis was used to investigate commitment profiles of undergraduate students. The analysis revealed seven profile groups. Among these groups, the majority are quite similar to the identified groups in Meyer et al.’s (2013b) study. One of the groups identified in Meyer et al.’s (2013b) study was described as uncommitted, meaning the profile revealed low levels of commitment across the forms. This is most similar to group 3, as all levels of commitment were below average, indicating an uncommitted profile. Interestingly, affective commitment was significantly lower than the rest in this group, potentially indicating a profile where individuals are uncommitted and they really do not like their current major. Meyer et al. (2013b) also described an all mid-level profile of commitment where all forms of commitment were roughly equal and endorsed as neither agree or disagree, which was consistent with profile group 4. Profiles 5 and 7 also closely mirror one of the observed profiles in Meyer et al.’s (2013b) study, as they identified an affective commitment dominant profile, which closely resembles groups 5 and 7 of the current study as these groups were characterized by higher levels of affective commitment when compared to the other forms of commitment.
While there were some similarities across the studies, there were several key differences as well. First of all, an additional form of commitment, university commitment, was included in the current study. As the results from the current study generated fairly similar results to Meyer et al. (2013b)’s study, it appears that the profiles of major commitment did not vary much by including university commitment. However, university commitment appeared to be the main differentiating factor between profiles 5 and 7. Affective commitment was dominant in both profiles, but in profile 7 university commitment was higher than average, while in profile 5 university commitment was below average, suggesting the differentiation between levels of university commitment resulted in the creation of separate profiles. However, when examining correlations among study variables (see Table 1), university commitment was found to have a significant, positive relationship with affective commitment \( (r = .38, p < .01) \) and normative commitment \( (r = .29, p < .01) \). The relationship between affective commitment and university commitment was the strongest amongst the various forms of commitment. This may suggest that the enjoyment aspect that is characteristic of affective commitment may also be characteristic of university commitment. While results suggested that university commitment was related to the other forms of commitment, it ultimately tended to be the lowest relative to the others, suggesting it is somewhat distinct.

Additionally, the current study did not reveal a profile characterized by high affective and normative commitment as was found in Meyer et al. (2013b). Groups 1, 2, and 6 from the current study were slightly different from Meyer et al.’s (2013b) results. Group 1 represented mid-high levels of commitment, while group 6 represented high levels of commitment. Finally, group 2 endorsed all forms of commitment, yet not as
highly as groups 1 or 6. These three profiles have a similar pattern where affective commitment was endorsed highest, followed by continuance, normative, and university commitment, but generally these profiles endorse each form of commitment very similarly. As these were not groups seen in Meyer et al.’s (2013b) study, these different profiles may indicate a difference among students versus military employees.

While there were some similarities across the seven profile groups, the overall nature of the groups represented distinct and unique profiles. For instance, while groups 1, 2, and 6 all represent profiles where the relative order of commitment from highest to lowest is affective commitment, continuance commitment, and normative commitment. However, when examining these profiles individually, distinct differences can be seen. Group 6 represented a high level of commitment across the forms, group 1 represented mid-high levels of commitment across the forms, and group 2 represented a mid-range level of commitment across the forms. Profile 3 is distinctly uncommitted and any commitment amongst these individuals is due to a lack of other options as continuance commitment was highest relative to affective or normative commitment. Profile 4 is generally neutral, flat profile, indicating neutral levels of commitment across the four forms examined. Moreover, this group reflects uncertainty about whether they are committed or not to their major and the university. Profile 5 and 7 are affective dominant, but these are differentiated by varying levels of university commitment. Specifically, those in group 7 reported higher university commitment.

Each of these profiles has a unique relationship to the examined outcome variables. Some groups relate to more positive outcomes, while others are related to more negative outcomes and may be representative of “at risk” students. The most
positive outcomes are related to profiles 7, 6, and 5. Profile 7 is significantly related to higher positive mental health outcomes (i.e., decreased depression, anxiety, and stress), higher social and academic adjustment, higher GPA, and lower intention to quit school. Profile 6 is related to high academic and social adjustment, as well as generally good mental health outcomes, while profile 5 is related to lower intention to quit school. While each of these profiles are similar in that they relate to positive outcomes, they differ on defining characteristics. It appears that the main difference between these profiles is that those in profile 6 report higher levels of commitment across each of the forms, while those in profile 7 and 5 report lower normative commitment and continuance commitment, with dominate affective commitment. Those in profile 7 appear to be the least “at risk” as they report a higher likelihood of better outcomes compared to the other profiles. While the pattern of profile 5 mirrors the pattern of profile 7 (i.e., high affective and university commitment and low normative and continuance commitment), it is only significantly related to decreased intention to quit. This relationship is also observed with profile 7, which is consistent with Meyers et al.’s (2013b) finding that individuals in the affective dominant group reported higher intention to stay and less likely to be searching for a job. However, this relationship represents a major difference when compared to profile 6, whose profile was only related to increased academic and social adjustment. Thus, it appears that the combination of lower normative and continuance commitment, is what most highly relates to decreased intention to quit school. Therefore, higher affective and university commitment and lower normative and continuance commitment likely relates to better overall outcomes of particular importance to college students (i.e., intention to remain in school) as was found for group 7. This relationship may be due to
increased personal enjoyment derived from pursuing a particular outcome in combination with decreased pursuit of an outcome due to external pressures, such as lack of alternatives or feeling as though one “ought” to pursue a particular major.

However, high overall commitment, when including higher normative and continuance commitment (as seen in profile 6), relates to increased adjustment, but is not related to intention to remain in school. Involvement in one’s academic major has been found to predict higher normative, continuance, and affective commitment (Womack, 2013). While involvement in activities would likely assist students in feeling more adjusted academically and socially, it may be that total immersion in major related activities increases one’s feeling of a lack of alternatives or the notion that they “ought” to be in a particular area. Therefore, it may be helpful for students to be encouraged to explore various academic areas before deciding to commit to one area, thus decreasing the normative and continuance aspects of one’s commitment and ultimately decreasing intention to quit school.

Interestingly, profiles 1 and 2 mirror the pattern of 6, as each has relatively similar pattern across each form of commitment. However, profiles 1 and 2 are not significantly related to any of the examined outcomes. This suggests that the profiles characterized by mid-level report of commitment do not relate to important outcomes for college students. This may be due to some feeling of ambiguity amongst students and possible tenuous commitment to their major or university.

Profile 3 represents low commitment overall, despite continuance commitment being relatively higher, but is only related to lower levels of social and academic adjustment. It may be that these students are not integrated into campus life or are not
feeling attached to their major and/or university, but are not experiencing other negative outcomes. More specifically, it appears that while these students are indifferent about school and academic work, they are not thinking about leaving college or reporting mental health issues. This may be because these students have not found their social niche or appropriate academic major, but are still expecting to find other, more fitting academic and/or social environments. Thus, individuals in this group would likely benefit from career counseling to identify such academic environments as well as environments that would support greater integration into the social aspects of school (e.g., participation in university events, clubs, or organizations).

Finally, individuals endorsing profile 4 are of greatest concern. These individuals report that they are unsure about all levels of commitment. They also report high mental health concerns, low adjustment, and high intention to quit school. Students in this profile are the most “at-risk” students. Researchers have shown that students experiencing mental health concerns are more likely to have negative outcomes. For instance, the American College Health Administration (2006) found that about one-third of students experienced anxiety or stress that negatively impacted their academic performance. Further support for this notion has been demonstrated across several studies examining student mental health and negative academic and occupational outcomes (Glazer, 2005; Keyes et al., 2012; Lambert, 2013; Meyer, 2013b; Meyer et al., 2002). Further, those who report poor adjustment are also at risk for negative academic outcomes. Tinto (1975) suggested that feeling integrated to college is the central reason why some students persist in college, while others drop out. More recently, researchers continue to find support for this assertion. In their meta-analysis, Credé and Niehorster (2012) found that
adjustment to college is predictive of important student outcomes, including intention to remain in school. Thus, as those in profile 4 are reporting poor mental health and low adjustment, it is not surprising that these individuals are also reporting high intention to quit school. Interventions that may be helpful for these students include career counseling and personal counseling. These interventions are discussed in greater detail below.

Implications

Meyer and Allen’s (1991) early research investigating commitment using the three forms (i.e., affective, continuance, and normative) suggested that examining each form of commitment was crucial as these forms measured separate, distinct areas of commitment. Previous research has implemented a variety of statistical analyses (e.g., correlation, regression) to investigate relationships between the forms of commitment; however, Meyer et al. (2013a) proposed utilizing a different analytical method, such as person-centered analyses (i.e., latent profile analysis) as a novel modality to increase understanding about commitment. Meyer et al. (2013a) outlines several benefits of using person centered analysis, including accommodating complex combinations of multiple variables, identifying subgroups in a sample, and examining group differences. Additionally, this analytical method combines an individual participant’s preferences across the forms of commitment to examine their overall profile of commitment versus examining each individual form of commitment. Further, Meyer et al. (2013a) proposed that an additional benefit of examining commitment using this type of analysis would be more consistent with the way people process information. As such, it may be easier for people (i.e., university staff, researchers) to understand how overall profiles of
commitment, as observed in the current study, relate to positive or negative outcomes. Therefore, the current study investigated how each of these separate forms, when examined on an individual level, interacted to create an overall profile representing varying levels of commitment in undergraduate students. Each of the profiles represented a different combination of the three forms of commitment, as well as university commitment, to create seven unique profile groups.

Furthermore, the novel methodology used in this study provided a new way of examining commitment to one’s academic major, a previously under-researched construct of academic major commitment. The results from this study also broaden the current understanding of the construct of major commitment. The current study expands on previously identified relationships by examining how these forms of commitment relate to each other, versus how each form individually relates to specific outcomes. Previous studies (Womack, 2013; Chang, 2009) have examined how each of these variables separately relates to outcomes (e.g., retention, involvement, satisfaction). However, the current study provides new insight into how the combination of these variables relates to important academic outcomes. Ultimately, these results provide valuable information related to student functioning in higher education. The information gained from this study can be beneficial in identifying early intervention strategies aimed at increasing positive outcomes and decreasing negative outcomes.

Prominent education researchers such as Bean (1980), Astin (1984), and Tinto (1975) suggest that university commitment is an important form of commitment as it relates to student retention. This notion was further supported by the results of the current study as university commitment was found to differentiate two of the profiles
(i.e., profile 5 and profile 7). The difference in these profiles suggests that higher university commitment related to better mental health, better adjustment, and higher GPA; therefore supporting previous research suggesting university commitment is an important aspect of the college student experience. Additionally, Major, Morganson, and Bolen (2013) found that factors that predicted organizational commitment in a sample of IT (information technology) professionals were opportunities for growth and development, while Haggins (2011) suggested that social support increased organizational commitment in a sample of nurses. There appear to be many factors that contribute to organizational commitment, and thus, it is expected that a similar amalgamation of factors may contribute to university commitment. Therefore, future researchers should investigate the specific aspects that result in increased university commitment so as to work to increase this form of commitment in conjunction with affective commitment amongst college students.

Of particular importance, is the identification of some groups (i.e., groups 3 and 4) as being at risk for negative outcomes (i.e., poor adjustment, higher intention of quitting school). Therefore, it may be useful to target these students to provide interventions to increase their career options as well as focus on mental health concerns. Group 4, in particular, being related to higher mental health issues, greater intention of quitting school, and poorer adjustment, may benefit from mental health interventions as a primary intervention. It is unclear if the mental health concerns precede the uncertain commitment or if these concerns are a result of academic uncertainty. Regardless, these concerns are a salient part of this group of students and should be addressed. The majority of universities offer counseling for students through an on campus counseling
center. However, research suggests that there are some barriers to students seeking help from these resources, which may be the case for the students identified in profile 4. Eisenberg, Downs, Golberstein, and Zivin (2009) found that college students’ own stigmatizing attitudes were significantly and negatively correlated with help seeking behaviors. Beauchemin (2014) found that integrative outreach programs would likely be helpful in reducing stigma and increasing awareness of mental health supports in a sample of college student athletes. Therefore, increasing outreach programming on university campuses may increase help seeking behavior for those that may be in need of mental health services.

Career interventions are likely necessary for students in group 4 and 3 as these students endorsed uncertainty about academic major commitment. Despite needing career services, data suggests these students may not be likely to seek career assistance. The National Association of Colleges and Education conducted a survey and found that less than half (43%) of students used their career services center (NACE, 2013). While a majority of students are not utilizing this resource, research suggests that college students would likely benefit from using career services as they have reported difficulties with career decision-making, high levels of distress, and low levels of psychological well-being (Fouad et al., 2006). As a component of career services is to help students identify and understand realistic options available to them, encouraging students to increase use of on campus career services may result in decreased continuance commitment, which may result in decreased intention to quit school and decreased mental health concerns. Results from a meta-analysis conducted by Whiston, Brecheisen, and Stephens (2003) indicate that interventions involving a counselor tend to produce better outcomes than
those that do not involve a counselor. Therefore, specific interventions that involve a
counselor (e.g., individual career counseling appointments, classes, outreach
programming) may be more beneficial for students.

Additionally, these “at-risk groups” had a negative relationship with social and
academic adjustment. Research suggests that those with greater adjustment are more
likely to persist in school (Credé & Niehorster, 2012; Gerdes & Mallinckrodt, 1994;
Tinto, 1975), therefore those who do not have as high levels of adjustment may be at risk
for dropping out. Researchers suggest that self-efficacy may be relevant to student’s
reported adjustment. For example, Ramos-Sánchez and Nichols (2007) found that self-
efficacy was related to better college adjustment. Further, Pritchard, Wilson, and
Yamnitz (2007) found that optimism and self-esteem are related to better outcomes in
college students. Optimism, self-esteem, and self-efficacy are all important
psychological constructs. Thus, it may be beneficial for university counseling centers to
offer outreach programming, groups, individual therapy, or classes focused on increasing
self-efficacy and optimism among college students who may not feel well-adjusted in
their environment. Furthermore, career interventions may also be useful in increasing
self-efficacy about career decisions, which may increase student’s motivation to complete
their degree (Lent, Brown, & Larkin, 1987; Lent, Brown, & Hackett, 1994; Peterson &
Delmas, 2001).

Limitations

While this study was exploratory in nature, there are some research limitations
that should be considered. For instance, the population sample utilized may represent
some issues with generalizability to other undergraduate students. The sample was a
conv
enience sample of undergraduate students from one Southeastern University. This university has low overall graduation rate with only 20.6% of students graduating in four years and only 44.5% graduating in six years (Mississippi Institutions of Higher Learning, 2013). Therefore, this university may not be representative of a typical undergraduate students’ level of commitment to education as graduation rates at this university fall below over 10% below the national average of 55.5% of students graduating after six years (National Center for Higher Education Management Systems, 2013). While this university is likely not representative of other schools, it is an ideal institution for this type of research, given the need to improve retention. In order to address generalizability in future research, it is suggested that future researchers use larger, national population sample drawn from a number of different post-secondary institutions. However, it is important to examine similar universities with below average retention rates, as these are the institutions in need.

Further, the study required students to report crucial information to study variables, such as GPA, rather than examining transcripts. This increased the possibility of error. While efforts were utilized to encourage students to provide the most accurate information possible (i.e., providing students with a link to their student account where they could access their current GPA), future researchers may consider requesting access to students’ transcripts thereby ensuring the use of the most updated and accurate information. Similarly, a self-report measure was used to assess student’s intention of quitting school rather than actual persistence rates, which may have affected the results. However, Bean (1982) found that intent to leave was the most essential factor influencing school dropout in a sample of undergraduate students. Accordingly, it is expected that
individuals who are thinking of leaving, are most at risk for actually dropping-out. Regardless, further researchers investigating academic commitment and persistence may want to employ a longitudinal approach, which would allow them to utilize actual persistence rates of participants, thus, providing further understanding in the relationship between academic commitment and persistence.

Finally, as these data were cross-sectional, it is not possible to determine cause and effect. Therefore, it may be that the outcomes examined actually preceded student’s commitment levels. For instance, it may be that poor adjustment and poor mental health created low commitment, especially given that a symptom of depression is indifference or apathy. This may contribute to the uncertainty that was characteristic of those in profile group 4. Future researchers may want to implement analytical methods that would allow for further examination of the directionality of these relationships.

Conclusions

Despite the aforementioned limitations, these results provide valuable insight into distinct profiles of commitment among undergraduate students, an under researched area in vocational literature. These results indicate the existence of several different groups of students, which vary based on differing levels of major and university commitment. Some groups represent a category of college students who feel highly committed to their major or very much enjoy their major. These groups tend to have the most positive outcomes (i.e., negative relationship with mental health concerns, lower intention to quit school, and higher adjustment). However, these results also identified some groups of students that may be at risk for negative outcomes (i.e., poor adjustment, intention to quit school, higher mental health concerns) given endorsement of uncertainty of their
commitment or low commitment. These students may benefit from interventions aimed at increasing understanding of career options and increasing important psychological factors (e.g., self-efficacy, self-esteem). Future research should focus efforts on identifying specific interventions (e.g., outreach programming, classes, individual therapy) that may target these at risk students and decrease the likelihood of negative outcomes. Additionally, research that replicates the existence of these profile groups and other outcomes related to each group is needed.
APPENDIX A

INSTITUTIONAL REVIEW BOARD NOTICE OF COMMITTEE ACTION

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Event Report Form".
- If approved, the maximum period of approval is limited to twelve months.
- Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 14100803
PROJECT TITLE: Profiles of Academic Commitment
PROJECT TYPE: New Project
RESEARCHER(S): Anna Womack
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Counseling Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 10/09/2014 to 10/08/2015

Lawrence A. Hosman, Ph.D.
Institutional Review Board
APPENDIX B

INFORMED CONSENT FORM

INSTITUTIONAL REVIEW BOARD
LONG FORM CONSENT

LONG FORM CONSENT PROCEDURES

This completed document must be signed by each consenting research participant.
- The Project Information and Research Description sections of this form should be completed by the Principal Investigator before submitting this form for IRB approval.
- Signed copies of the long form consent should be provided to all participants.

Today's date: October 2, 2014

<table>
<thead>
<tr>
<th>PROJECT INFORMATION</th>
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<tr>
<td>Project Title: Profiles of Academic Commitment</td>
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</table>

| Principal Investigator: Anna Womack, M.A. | Phone: 336-301-2016 | Email: anna.j.womack@eagles.usm.edu |
| College: Education and Psychology | Department: Counseling Psychology |

RESEARCH DESCRIPTION
1. **Purpose:**

You are invited to participate in a study measuring profiles of academic major commitment and related outcomes. You were selected as a possible participant because you are a current undergraduate college student. We ask that you read this form before agreeing to be in the study. The researchers conducting this study are Anna Womack, Doctoral student in Counseling Psychology, who is supervised by Dr. Melanie Leuty from the University of Southern Mississippi, Department of Psychology.

2. **Description of Study:**

The purpose of the current project is to examine commitment to college and the relationship between commitment and important outcomes. In order to examine the relationship between commitment and outcomes, it will be necessary for participants in this research to allow the researchers to access their university records pertaining to current enrollment status and GPA. Quality assurance checks will be used to make sure that participants are reading each question carefully and answering thoughtfully. Participants who do not pass these checks will NOT receive credit for completing the study.

3. **Benefits:**

You most likely will not experience any benefits. However, you may find that responding to questions about your preferences may increase your self-awareness.

4. **Risks:**

The risks associated with your participation are minimal. You may find that a few of the questions are sensitive in nature (e.g., questions about depression, stress, and anxiety), which may result in some distress. Also, some of the questions may be difficult to answer or you may find that you become fatigued when completing questions.

5. **Confidentiality:**

The records of this study will be kept private. After the study has been completed, a unique number will be assigned to your information. In any sort of report that might be published from this data, no information will be included that will make it possible to identify a participant. Research records will be stored securely on computer devices and only the researchers involved in this study will have access to the research records.

6. **Alternative Procedures:**

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Southern Mississippi or the Department of Psychology. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.
7. **Participant’s Assurance:**

This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations.

Any questions or concerns about rights as a research participant should be directed to the Chair of the IRB at 601-266-5997. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits.

Any questions about the research should be directed to the Principal Investigator using the contact information provided in Project Information Section above.

**CONSENT TO PARTICIPATE IN RESEARCH**
Participant's Name: __________

Consent is hereby given to participate in this research project. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to the Principal Investigator with the contact information provided above. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-5997.

I consent to participate in this study, in doing so I am agreeing that:
1. I am at least 18 years of age,
2. I am being asked to complete a set of questionnaires, which will take about 20-30 minutes and for which I will receive .5 SONA credit or extra credit in a participating course
3. I allow the researchers to access my enrollment status and GPA following completion of this survey and
4. All information I provide will be used for research purposes and will be kept confidential

I understand that my participation in this research is voluntary. If I decide to participate in the study, I may withdraw my consent and stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.

I have read and understand the information stated, am at least 18 years of age, and I willingly sign this consent form.

<table>
<thead>
<tr>
<th>Research Participant</th>
<th>Date</th>
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<td>____________________</td>
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<tr>
<th>Person Explaining the Study</th>
<th>Date</th>
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APPENDIX C

62
Please provide the following demographic information.

<table>
<thead>
<tr>
<th>Age:</th>
<th>Date of Birth:</th>
<th>Sex:</th>
<th>Race/Ethnicity:</th>
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<tbody>
<tr>
<td>______</td>
<td>______________</td>
<td>O Female</td>
<td>O Alaskan Native</td>
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<td>O Male</td>
<td>O Black or African American</td>
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<td>O Native Hawaiian</td>
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<td>O White or Caucasian</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>O Multicultural</td>
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</table>

Sexual Orientation:  
- O Straight  
- O Bisexual  
- O Gay/lesbian

Years in College:  
- O 1 (Freshman)  
- O 2 (Sophomore)  
- O 3 (Junior)  
- O 4 (Senior)  
- O 5+  
- O Graduate/Professional Student

Relationship Status:  
- O Single/Never Married  
- O In a committed relationship  
- O In a committed relationship AND living together  
- O Engaged/Married  
- O Divorced/Separate  
- O Widowed

What (if any) is your religious affiliation?  
_______________________________________________

Have you declared a major?  
- O Yes  
- O No

If yes, what is your declared major?  
_______________________________________________

If no, what majors are you considering?  
_______________________________________________

Please indicate the highest degree your parent(s) earned.

Parent 1  
- O Some High School  
- O High School Diploma/GED  
- O Some College  
- O Associates Degree  
- O Technical/Vocational Certificate  
- O Bachelors Degree  
- O Masters Degree  
- O Doctoral Degree  
- O Other:  

Parent 2  
- O Some High School  
- O High School Diploma/GED  
- O Some College  
- O Associates Degree  
- O Technical/Vocational Certificate  
- O Bachelors Degree  
- O Masters Degree  
- O Doctoral Degree  
- O Other:  

What is your current GPA?  
- O 0-1.0
Please estimate your family’s annual income.
$_____________________________ per year.

**MAJOR COMMITMENT**
Please read the following statements and consider your current major when responding to how much you agree or disagree with each of the following statements.

Fill in the corresponding blank with:
“1” if you strongly disagree with the statement
“2” if you disagree with the statement
“3” if you somewhat disagree with the statement
“4” if you neither agree nor disagree with the statement
“5” if you somewhat agree with the statement
“6” if you agree with the statement
“7” if you strongly agree with the statement

_____ My current major is important to my self-image.
_____ I regret having entered my current major.
_____ I am proud to be in my current major.
_____ I dislike being in my major.
_____ I do not identify with my major.
_____ I am enthusiastic about my major.
_____ I have put too much into my major to consider changing now.
_____ Changing majors now would be difficult for me to do.
_____ Too much of my life would be disrupted if I were to change my major.
_____ It would be costly for me to change my major.
_____ There are no pressures to keep me from changing my major.
_____ Changing majors now would require considerable personal sacrifice.
   I believe people who have been trained in a major have a responsibility to stay in
   that major for a reasonable period of time.
_____ I do not feel any obligation to remain in my major.
_____ I feel a responsibility to my major to continue it.
   Even if it were to my advantage, I do not feel that it would be right to leave my
   major now.
_____ I would feel guilty if I left my major.
_____ I am in my major because of a sense of loyalty to it.
UNIVERSITY COMMITMENT

Shortened Organizational Commitment Questionnaire

Please read the following statements and consider your current university when responding to each of the following statements.

Fill in the corresponding blank with:

“1” if you strongly disagree with the statement
“2” if you disagree with the statement
“3” if you somewhat disagree with the statement
“4” if you neither agree nor disagree with the statement
“5” if you somewhat agree with the statement
“6” if you agree with the statement
“7” if you strongly agree with the statement

1. ___ I am willing to put in a great deal of effort beyond that normally expected in order to help my university be successful.
2. ___ I talk up my university to my friends as a great university to attend.
3. ___ I would select almost any type of major in order to keep attending this university.
4. ___ I find that my values and the university’s values are very similar.
5. ___ I am proud to tell others that I attend this university.
6. ___ This university really inspires the very best in me in the way of performance.
7. ___ I am extremely glad that I chose this university to attend over others I was considering at the time I joined.
8. ___ I really care about the fate of this university.
9. ___ For me, this is the best of all possible universities to attend.

INTENTION TO QUIT

Please read the following statements and consider your current university when responding to how much you agree or disagree with each of the following statements.

Fill in the corresponding blank with:
1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

1. ___ I am certain that I will be enrolled in this school one year from today (reverse scored).
2. ___ I intend to remain in my major but leave this university 6 months from today.
3. ___ I intend to remain in my major but leave this university at the end of the year.

MENTAL HEALTH OUTCOMES
DASS-21

Please read each statement and circle a number 0, 1, 2 or 3, which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

0 = Did not apply to me at all
1 = Applied to me to some degree, or some of the time
2 = Applied to me to a considerable degree, or a good part of time
3 = Applied to me very much, or most of the time

1. I found myself getting upset by quite trivial things
2. I was aware of dryness of my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I just couldn't seem to get going
6. I tended to over-react to situations
7. I had a feeling of shakiness (e.g., legs going to give way)
8. I found it difficult to relax
9. I found myself in situations that made me so anxious I was most relieved when they ended
10. I felt that I had nothing to look forward to
11. I found myself getting upset rather easily
12. I felt that I was using a lot of nervous energy
13. I felt sad and depressed
14. I found myself getting impatient when I was delayed in any way (e.g., lifts, traffic lights, being kept waiting)
15. I had a feeling of faintness
16. I felt that I had lost interest in just about everything
17. I felt I wasn't worth much as a person
18. I felt that I was rather touchy
19. I perspired noticeably (e.g., hands sweaty) in the absence of high temperatures or physical exertion
20. I felt scared without any good reason
21. I felt that life wasn't worthwhile

ADJUSTMENT

Please read the following statements and consider your current university when responding to how much you agree or disagree with the following statements.
1 = Strongly Agree
2 = Agree
3 = Neither Agree nor Disagree
4 = Disagree
5 = Strongly Disagree

Social Adjustment: Peer-Group Interactions Scale
1. ___ Since coming to this university I have developed close personal relationships with other students.
2. ___ The student friendships I have developed at this university have been personally satisfying.
3. ___ My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.
4. ___ My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas.
5. ___ It has been difficult for me to meet and make friends with other students.
6. ___ Few of the students I know would be willing to listen to me and help me if I had a personal problem.
7. ___ Most students at this university have values and attitudes different from my own.

Academic Adjustment: Academic and Intellectual Development Scale
1. ___ I am satisfied with the extent of my intellectual development since enrolling in this university.
2. ___ My academic experience has had a positive influence on my intellectual growth and interested in ideas.
3. ___ I am satisfied with my academic experience at this university.
4. ___ Few of my courses this year have been intellectually stimulating.
5. ___ My interest in ideas and intellectual matters has increased since coming to this university.
6. ___ I am more likely to attend a cultural event (for example, a concert, lecture, or art show) now than I was before coming to this university.
7. ___ I have performed academically as well as I anticipated I would.
REFERENCES


Sage.


Sclove, L. (1987). Application of model-selection criteria to some problems in


