DIFFERENTIATION OF SELF AND EFFORTFUL CONTROL:
PREDICTORS OF NON-TRADITIONAL STUDENTS’
ADJUSTMENT TO COMMUNITY COLLEGE

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DIFFERENTIATION OF SELF AND EFFORTFUL CONTROL:
PREDICTORS OF NON-TRADITIONAL STUDENTS
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Dissertation

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ABSTRACT

The community college (CC) setting has become increasingly important in education; yet, graduation rates are low (20%) compared to 4-year colleges (69%). Researchers have focused on factors that predict college students’ retention and graduation. Measures of students’ academic, social, and personal-emotional adjustment to colleges have been found to better predictors of college success than entrance characteristics (Crede & Niehorster, 2012). This study builds on previous research by Skowron and Dendy (2004) that focused on relations between Bowen’s concept of differentiation-of-self, and effortful control, in a sample of adults; and by Skowron, Wester, and Azen (2004) that investigated relations between stress, differentiation-of-self, and personal adjustment to college. This study tested whether differentiation-of-self added incremental variance above the variance explained by effortful control to the prediction of students’ academic, social, and personal-emotional adjustment to CC in a sample of 119 non-traditional students at a CC in the Midwest section of the United States. The sample was 17.6% male, 79% female, and ages ranged from 18 to 63 years. Most participants were White (75.6%), with 15.1% identifying as Black or African American. Participants completed the Differentiation-of-Self-Short Form (DIS-SF; Drake, 2011), the Effortful Control Scale (ATQ-S-EC; Rothbart, Evans, & Ahadi, 2000), and the Student Adjustment to College Questionnaire (SACQ; Baker & Siryk, 1989).
Participants’ ATQ-S-EC scores significantly predicted SACQ social adjustment. Students’ DSI-SF (IP) scores significantly predicted SACQ personal-emotional adjustment scores. Suggestions for future research are given and implications for interventions by Marriage and Family Therapists (MFT’s) are also provided.
DEDICATION

To my three greatest loves- Luke, Lucy, and Jude. Always remember, “You are braver than you believe, you are stronger than you seem, and you are smarter than you think” (Geurs & Crocker, 1997).
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Thanks to my family and friends who have each played an integral role in shaping me to be the person I am today. I especially acknowledge my parents; they are the example from which I learned what unconditional love is. The love they share for one another, my brother, me and all whom they encounter has led me to my calling. I am forever grateful!

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To my dissertation chair, mentor, and cheerleader, Dr. Linda Perosa: This project would not have seen the success that it has without you. When we met 14 years ago, our connection was undeniable. Dr. Linda Perosa, you have taught me so many academic and life lessons; most poignantly that authentic, good people like you and Dr. Sandy Perosa exist in the world. I pray this is only the beginning of our adventure working together.
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CHAPTER I
INTRODUCTION

Statement of the Problem

How I chose my dissertation topic. Since completing my advancement to candidacy in a Ph.D. program in Marriage and Family Therapy (MFT), I have been working as a faculty member in the psychology department at a local community college. As an Assistant Professor teaching courses, advising students, and serving as an advisor for the student Honors Society, I have gotten to know students inside and outside of the classroom. Over the years, I have been struck by the hardships and stresses that many students face every day. Some students worry and feel anxious over every test and assignment they are given. Some are single parents with a child, and many are the first in their family to attend college. Fears about debt are a concern to them. Many have to work part-time or full-time to meet the cost of fees and books, even if they have some form of financial aid.

As I watched some of them in class struggling to deal with their anxiety or depression when they have not done as well on a test or on an assignment as they had hoped, or just from trying to keep up with their schoolwork and other demands in their life, I wondered about what I have learned from my MFT training that could possibly be helpful to them. I thought about Bowen’s Family Systems Model with its description of
the anxiety and strong emotional reactions that some adolescents and emerging adults experience when they leave home and transition to college or work. It is a theory that makes sense to me and seems to fit my observations of students in their everyday interactions with peers, faculty, and staff. The benefit of Bowen’s Family Systems Model is that it also provides useful interventions that can be adapted to the college setting by MFTs acting as consultants and/or counselors, on staff.

I decided then that I wanted to do a dissertation applying Bowen’s Family Systems Model to the student adjustment to college process. I began to read articles on that topic. I found that community colleges play a unique role in the American post high school education system because they attempt to serve the needs of many non-traditional students. I discovered that my students were typical of many of these students who come from minority backgrounds, live in poverty, are academically unprepared, and encounter overwhelming stress. I discovered that many authors agree that there is a need to identify factors related to their adjustment, retention, and success. I read articles by Elizabeth Skowron that excited me and could serve as a model for a future study. For instance, Skowron and Dendy (2004) showed that Bowen’s Family Systems Model concept of differentiation-of-self predicted effortful control or emotional regulation in adults; and, it also mediated between stress and students adjustment to college in another study (Skowron, Wester, & Azen, 2004). However, research is needed to specify more clearly and directly how differentiation-of-self relates to effortful control and college student adjustment. This dissertation is the result of my original questions and those early discoveries.
The problem and need for the study. The community college setting has become increasingly important in the field of education. The recession of 2008 to 2015 dramatically showed the role that 2-year community colleges can have for many students from different stages of life facing transitions. Some students continue their education directly after high school. Other students have completed 4-year college degrees, but cannot find a job in their desired field. Additionally, there are older workers who have lost their jobs and seek training in community colleges for jobs that may lead to stable employment in growing occupations (Martin, Galentino, & Townsend, 2014). In this time period, the number of students who attended 2-year colleges grew dramatically. For example, community colleges served 45% of all U.S. undergraduates in 2012 (Martin et al., 2014).

Community college students differ in many ways from undergraduate students at 4-year institutions. Community colleges enroll a higher percentage of academically underprepared students who require remedial coursework (Townsend & Twombly, 2007). In addition, community colleges enroll a higher percentage of low-income students than 4-year institutions (Horn & Nevill, 2006). Compared with all types of higher education institutions, community colleges enroll most students from the lowest socioeconomic quintile (Horn & Nevill, 2006). Community colleges also enroll larger percentages of non-White students than other types of colleges and universities. In 2014, over half of community college students were from non-White races (Martin et al., 2014). Another major difference between community college students and other college students is that community college students are more likely to work while attending classes and are much more likely to enroll in classes part-time due to work and home
responsibilities (Townsend & Twombly, 2007). The 2015 annual report of American College Testing, Inc. (ACT) showed that the mean first to second year retention rates were 54.9% for 2-year public colleges, and ranged up to 80.9% for private universities with undergraduate and graduate degrees. These figures suggest that a substantial number of students drop out of community colleges at the end of the first year in comparison to other educational institutions (ACT, 2015).

All of these factors are associated with students taking longer to complete a program of study and the fact that they are less likely to persist than 4-year college entrants (even after holding constant a variety of relevant personal, aspirational, academic, socioeconomic, and family background characteristics). Even among students with “high qualifications” for college, 69% who begin at a 4-year institution will graduate, compared with only 19% who begin at a community college (Martin et al., 2014). At the national level, 46% of community college students did not graduate within 6 years and the 3-year graduation rates for community college students averaged around 20% (Martin et al., 2014). Other research has shown that in 2009, close to 400 of the 1,132 community colleges had graduation rates less than 15% (Schneider & Yin, 2012). Estimates by economists indicate that decreasing the drop-out rate for community college students by half would create $5.3 billion in total taxpayer revenue by increasing the lifetime income of graduates (Schneider & Yin, 2012).

Therefore, researchers have focused attention on factors that predict college students’ retention and graduation. Research has shown that measures of students’ academic, social, and personal/emotional adjustment to colleges are better predictors of college success than high school grades and achievement test scores (Crede &
Niehorster, 2012). Further, in their meta-analytic review of research on student adjustment, Crede and Niehorster (2012) identified factors associated with the various domains of the multidimensional model on student adjustment to college. For example, the demographic characteristic of being a minority student was related to social adjustment. The big-five personality trait of Conscientiousness was positively related to academic adjustment; and self-esteem, self-efficacy, and locus of control were positively associated with overall adjustment. The strongest negative predictor of overall adjustment was stress (Crede & Niehorster, 2012).

Other research based on Lent and Brown’s performance/persistence model (2008) has applied more sophisticated statistical procedures to examine the complex ways that variables predict students’ adjustment to college. These studies have illuminated the influence of racial/ethnic cultural differences based on individualistic or collectivist values, personality traits, and emotional factors of extraversion and emotional stability, on the adjustment process (Sheu, Mejia, Rigali-Oiler, Prime, & Chong, 2016). Further, some studies have begun to investigate the effects of disruptions in effort regulation (i.e., the ability to focus on specific learning tasks) that hinder the academic success of students with PTSD symptomology in college (Boyaz, Granda, Baker, Tidwell, & Waite, 2016). In addition, Park, Edmundson, and Lee (2012) have examined relations between emotional regulation and levels of anxiety, depression, and stress that are associated with personal-emotional adjustment in students. These studies have begun to identify the effects of students cultural differences based on racial/ethnicity, and students emotional and cognitive functioning, on adjustment to college.
In contrast to the research on 4-year college students, the literature on community college students emphasizes models describing students’ entry characteristics and the kinds of programmatic interventions that promote student persistence. Tinto’s (1975) paper on the Interactionalist Model of Student Persistence, and his other work describing the conditions that community colleges must establish to foster student retention (Tinto, 2004), have guided program development and research. Research based on Tinto’s perspective has shown that successful students have clear goals, and strong motivation to succeed (Martin et al., 2014), and the support of caring and engaging faculty, and the availability of support services for tutoring and advising (Miller, 2015; Yoder, 2011).

Overall, very few studies in the literature concerning four-year and two-year colleges have looked at family systems models that are related to student adjustment to college. However, a line of research by Elizabeth Skowron and her colleagues has focused on Bowen’s Family Systems Model concept of differentiation-of-self in relation to college student adjustment. Differentiation-of-self is the key component of Bowen’s Family Systems Model related to personality. Differentiation-of-self refers to how a person functions intra-psychically and interpersonally in relationships. The internal psychological struggle for the individual revolves around developing the ability to separate feelings from thinking, and choosing between being guided by cognitions or by emotion in a situation. The interpersonal struggle for a person involves experiencing intimacy in relationships while also acting autonomously by expressing one’s needs, beliefs, and opinions through strong “I” statements with others (Bowen, 1978; Kerr & Bowen, 1988).
Skowron has conducted a series of studies on relationships between levels of differentiation-of-self and emotional regulation, in college students; and between differentiation-of-self and effortful control in young adults. Research by Skowron, Stanley, and Shapiro, (2009) found that college students with higher levels of self-differentiation-of-self had a stronger ability to express and regulate their emotions when they were under stress than lower differentiated students. Skowron, Wester, and Azen (2004) found that students’ differentiation-of-self scores mediated between academic and financial stress they experienced and their psychological adjustment to college.

In another study on differentiation-of-self, Skowron and Dendy (2004) utilized a measure of effortful control, rather than measures of emotional expression or self-regulation. Effortful control is defined as a person’s ability to actively modulate emotions. Individuals high in effortful control can engage in conscious control of their attention, emotions, and behavior. They can flexibly shift and focus attention, reduce negative emotions (such as fear and anger), or optimize positive emotions (such as interest and joy), and engage in adaptive behaviors or inhibit maladaptive behavioral responses (Rothbart, Evans, & Ahadi, 2000). Skowron and Dendy (2004) found that differentiation-of-self predicted effortful control, or the ability to regulate emotions, rather than to display unchecked emotional reactivity when under stress, in a sample of adults. Differentiation-of-self scores explained 19% of the variability in effortful control above attachment dimensions of anxiety and avoidance.

These studies link differentiation-of-self with students’ psychological adjustment to college, and differentiation-of-self with effortful control in adults. However, we do not know how differentiation-of-self relates to effortful control and to college student
adjustment. What is needed now is a study that looks at differentiation-of-self, effortful control, and a multidimensional measure of student adjustment to college, especially with non-traditional students in the community college setting. Crede and Niehorster (2012) concluded their review by pointing to the need to develop more incremental studies that show mediation between variables related to students’ adjustment to college, and research that helps colleges design and evaluate interventions that help students cope, study, and master the challenges they face. Marriage and Family Therapists (MFTs), trained in Bowen’s Family Systems Model, can provide a unique set of interventions to help students gain the ability to regulate their emotions in stressful situations so they can manage their time, focus on their studies, and resolve conflicts in interpersonal relationships.

**Purpose of the Study**

The purpose of this dissertation is to investigate relations between differentiation-of-self, effortful control, and adjustment to college in a study designed to answer the following question: “Does differentiation-of-self predict unique variance in college student adjustment above the amount of variance explained by effortful control?” In addition, the findings from this study can be used by college faculty, administrators, counselors, and MFTs to develop intervention programs to help students regulate their emotional reactions to stress and learn to problem solve situations related to financial burdens, academic concerns, time management, and conflicts with others. The measure used in this study could be given in undergraduate psychology classes on development to encourage students to discuss how their scores match their emotional reactions when under stress. The instruments also could be given in small group settings in counseling
or advising centers where students also learn coping strategies to handle stress. MFTs trained in Bowen’s Family Systems Model who are employed in community college settings are skilled in helping individuals and couples regulate their emotions and develop the use of “I” statements in relationships with faculty, friends, and dating partners. These are the skills necessary for navigating the challenges non-traditional students confront in academic settings, work environments, and relationships with important others in their lives.

**General Research Question**

Does differentiation-of-self predict unique variance in college student adjustment above the amount of variance explained by effortful control?

**Research Questions**

1. Are there significant differences in gender, age, and/or ethnicity/race on
   a. students’ differentiation-of-self scores on emotional reactivity (ER) and the ability to take “I” positions (IP) subscale scores on the Differentiation-of-Self - Short Form (DSI-SF);
   b. students’ effortful control scores on the ATQ-S-EC; and
   c. students’ academic adjustment, social adjustment, and personal-emotional adjustment to college scores on the SACQ?

2. Do effortful control (ATQ-S-EC) scores significantly relate to students’
   a. academic adjustment,
   b. social adjustment, and
   c. personal adjustment to college scores on the SACQ?
3. Do differentiation-of-self (DSI-SF) IP and ER scores provide incremental variance above the amount of variance explained by effortful control (ATQ-S-EC) scores on students’ (SACQ) scores on
   a. academic adjustment,
   b. social adjustment, and
   c. personal-emotional adjustment to college?

Definition of Important Terms

Non-traditional college students. In this study non-traditional college students can be any age, or gender, or race (including White), or ethnic group, who meet at least one of the following characteristics. The student may have delayed enrollment into college (e.g., to work, to join the military, etc.) rather than starting college right after high school; or has a college degree but is seeking re-training; the student can be attending on a part-time basis; be employed full-time; or the student can be “financially independent” in terms of financial aid; or have dependents other than a spouse (i.e., children), or the student may be a single parent; or the student may not have earned a high school diploma but may have earned a GED; or the student may have a disability. The student may be taking or have taken remedial courses; or the student may be the first in their family to attend college, or they may be a member of a minority racial/ethnic group; or they may have grown up in a family where English is spoken as a second language. The term non-traditional student includes White students who may not be members of a minority group but who meet one or more of the other factors described above.
Differentiation-of-self. Bowen’s Family Systems Model concept of differentiation-of-self refers to how a person functions intra-psychically and interpersonally in relationships with others. The intra-psychic struggle for the individual is based on the need to develop the ability to separate feelings from thinking, and to choose between being guided by intellect or by emotion in a situation. The interpersonal struggle for the person is based on the need to not only experience intimacy in relationships but also to remain autonomous and independent so that one can express one’s own needs, opinions, and beliefs (Bowen, 1978; Kerr & Bowen, 1988).

Effortful control. Effortful control is defined as the ability to actively modulate emotions. Individuals who are capable of self-regulation can engage in conscious effortful control of their attention, emotions and feelings, and behavior. They can flexibly shift and focus attention, reduce negative emotions such as fear and anger, or optimize positive emotions such as interest and joy, and engage in adaptive approach behaviors or inhibit maladaptive behavioral responses. While effortful control refers to voluntary, conscious control, arousal and emotion are considered more reactive. Effortful control, or self-regulation, is an important dimension of temperament since it enables an individual to suppress reactive tendencies, modulate emotions, and engage in purposeful behavior (Rothbart et al., 2000).

Adjustment to college. Adjustment to college is multidimensional and covers four broad categories: academic adjustment, social adjustment, personal-emotional adjustment, and institutional adjustment. Academic reflects the degree to which students have adjusted to their academic demands as reflected in their attitudes towards their course of study, their engagement with material, and the adequacy of their studying.
Social adjustment reflects the degree to which students have integrated themselves into the social structures of the residencies, are taking part in campus activities, and making friends. Personal-emotional adjustment reflects the degree to which students experience stress and anxiety. Institutional attachment refers to the degree to which students identify with and have become attached to the university community.

**Overview of the Remainder of the Study**

Although community colleges offer practical job related training leading to immediate employment for students, as well as opportunities for admission to educational programs at 4-year institutions, the graduation rates for non-traditional students are low (Martin et al., 2014). Research on factors predicting student retention and graduation demonstrate the potential contribution that Bowen’s Family Systems Model can make in helping students remain calm, cope with stress, concentrate on their studies, and maintain healthy relationships with others (Venum & Venum, 2013). The goal of this dissertation is to add to this body of knowledge by investigating relations between Bowen’s Family Systems Model concept of differentiation-of-self, effortful control, and academic, social, and personal-emotional adjust to college. Literature and research outcomes supporting the need for this study and the hypotheses that are tested are presented in Chapter II. Chapter III describes the methodological framework for this study. The general research design, participants, instruments, data collection procedures, and data analyses are described. Chapter IV includes the results of the data analyses. The summarized results include descriptive and inferential statistics. Finally, Chapter V includes a summary, conclusion, and discussion of the study results.
Chapter V also describes the limitations of the study and the contributions it makes to the MFT field. Recommendations for further research also are made.
CHAPTER II
REVIEW OF THE LITERATURE

The general focus of this dissertation is on the relationship between Murray Bowen’s Family Systems Model developmental concept of differentiation-of-self applied to non-traditional students’ adjustment to the community college environment. Graduation rates for this group of students are low (20%) compared to students who attend 4-year colleges (69%) (Martin et al., 2014). Research on student adjustment to college has shown that measures of students’ academic, social, and personal/emotional adjustment are better predictors of student retention and graduation than other kinds of variables, such as high school grades (Crede & Niehorster, 2012). The best negative predictor is the amount of stress that students experience (Crede & Niehorster, 2012).

Recent research has added to our understanding of the complex relationships among self-efficacy, emotional regulation, and personal individualistic values among White students versus intergroup collectivist perspectives among minority students that influence academic success and retention in 4-year colleges (Sheu, Mejia, Rigali-Oiler, Prime, & Chong, 2016). In comparison, the literature on students in 2-year colleges has focused more on conceptual papers describing the unique environment of open access community colleges (Bahr, 2013), models of student characteristics and the kinds of support programs that are necessary to foster student success (Tinto, 1975, 2004), and qualitative studies that identify the personal strengths of students who graduate.
Empirical studies have tended to look at entry characteristics of students predicting outcomes. Other themes in studies illustrate the supportive, programmatic interventions that help to reduce stress and lead to student success.

MFT researchers can add to our understanding of factors that can help non-traditional students in community colleges manage the high degree of stress they encounter at this life cycle transition stage. Bowen’s Family Systems Model emphasizes the negative role that stress, anxiety, and emotional reactivity play in our lives and provides a set of intervention strategies for MFTs that enhance emotional regulation and calm thinking in individuals. Skowron and her colleagues have focused on researching Bowen’s Family Systems Model concept of differentiation-of-self in relation to (a) effortful control in a sample of adults (Skowron & Dendy, 2004), and, (b) to student adjustment to college in a sample of students in emerging adulthood (Skowron, Wester, & Azen, 2004). Yet, a gap remains in our understanding of direct and incremental relations between differentiation-of-self, effortful control, and students adjustment to college variables. The review of literature in this chapter reviews the major studies and conceptual articles supporting each of these topics in greater detail and provides the rationale for the research hypotheses to be tested in this dissertation.

Research on Adjustment to College

Research on Student Adjustment in 4-year Educational Institutions

Entry into college presents students with many new challenges including greater academic demands than they had experienced in high school, and greater autonomy (Bahr, 2013). First-year students must navigate a new social environment, manage the separation from family and friends, and adapt to new responsibilities (e.g., managing
The 2015 annual report of American College Testing, Inc. (ACT) showed that the mean first to second year retention rates ranged from 54.9% for 2-year public universities to 70.1% for 4-year colleges. These figures indicate that the stress associated with the change from high school to college results in a large number of students who drop out at the end of the first year (ACT, 2015). Therefore, understanding the research illuminating factors associated with the transition to college experience is critical. The next two subsections describe the research on students’ adjustment to college broken down into the period from 1990 to 2011 and from 2012 to the present, based on differences in the outcome measures used and the types of research designs and statistical procedures employed.

**Research from 1990-2011.** Researchers in this period investigated a variety of predictors of students’ adjustment to college. Much of the research utilized the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1984) as the measure of student adjustment (Crede & Niehorster, 2012). Therefore, Crede and Niehorster (2012) conducted a meta-analytic review of the literature on adjustment using the SACQ in order to accomplish three goals. The first goal of the meta-analytic review was to identify the structure of students’ adjustment based on the SACQ. Their multidimensional model, based on the SACQ subscales, covered four broad categories: academic adjustment, social adjustment, personal-emotional adjustment, and institutional attachment. Academic adjustment reflects the degree to which students have adjusted to their academic demands as reflected in their attitudes towards their course of study, their engagement with material, and the adequacy of their studying. Social adjustment reflects the degree to which students have integrated themselves into
the social structures of the residencies, are taking part in campus activities, and making friends. Personal-emotional adjustment reflects the degree to which students experience stress and anxiety. Institutional attachment refers to the degree to which students identify with and have become attached to the university community.

Crede and Niehorster’s (2012) second goal for their meta-analytic review, was to analyze the relationship of adjustment to college constructs with antecedents and correlates used in studies. According to Crede and Niehorster, the research based on these studies centered on several key categories. These areas included demographic factors (e.g., McDonald & Vrana, 2007), personality affective states and traits (e.g., Puher, 2009), core self-evaluations such as self-efficacy (e.g., Brady-Amoon & Fuertes, 2011; Hackett, Betz, Casas, & Rocha-Singh, 1992; Ramos-Sanchez, & Nichols, 2007), coping styles (e.g., Jantzer, 2006), social support (e.g., Schneider & Ward, 2003), and relationships with parents (e.g., Schultheiss & Blustein, 1994).

In their preliminary overview of the research on demographic factors related to students’ adjustment to college, Crede and Niehorster (2012) stated that much of the research on demographics focused on the challenges faced by minority students. “Minority” was conceptualized in a variety of ways, including race, ethnicity, social class, first generation college students, age, and disability (Crede & Niehorster, 2012). Each group of students with minority demographic profiles generally were expected to have greater difficulty adjusting to the college environment because each group faced some level of prejudice and discrimination (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999. Further, Crede and Niehorster (2012) suggested that researchers
typically argued that the availability of social support from parents and friends would mediate between minority group membership and adjustment.

The following articles are examples of studies that highlight some of the issues that Crede and Niehorster (2012) described in the domain of demographics. McDonald and Vrana (2007) examined the effects of interracial social comfort on college adjustment for 45 Black and 82 White students at a predominantly White university in Richmond, Virginia. About 67% of undergraduates were White; 62% were female. Although research had shown that both positive social attitudes toward Whites and positive in-group attitudes toward Black students predicted college adjustment for Black students at predominately White institutions (PWIs), the relative contributions of these attitudes on adjustment needed to be clarified. Also, little research on the effect of racial attitudes on adjustment for White students at PWIs had been conducted.

Students responded to the Social Comfort Scale (SCS; Rollack & Vrana, 2005) and the SACQ (Baker & Siryk, 1984) as the measure of student adjustment. Multiple regression findings indicated that Black students reporting more comfort with Whites, regardless of their level of comfort with Blacks, experienced better college adjustment. In addition, more social comfort with Blacks enhanced adjustment for Black students reporting less comfort with Whites. For White students, more social comfort with White students and less social comfort with Black students were associated with better adjustment. However, in this study only full scale SACQ scores were used in analyses, not subscale scores. Consequently, the influence of social comfort on Black and White students’ academic, social, and emotional adjustment to college was not identified.
Other research found that in educational situations where students faced racial discrimination, students reported diminished academic self-concepts and lower academic self-efficacy. Cabrera, Nora, Terenzini, Pascarella, and Hagedorn (1999) examined the role that perceptions of prejudice and discrimination played in the adjustment process of 1,454 students (1,139 Whites and 315 African Americans) attending 4-year colleges. They found that parental encouragement exerted a positive effect on African American and White students’ academic experiences with faculty. Perceptions of prejudice and discrimination had the largest negative effect on African American students’ social experiences, but the results for White students were not significant. Therefore, the findings from these two studies demonstrate the importance of prejudice and discrimination on the adjustment of Black students in the realms of overall adjustment and specifically on academic adjustment. Although Crede and Niehorster (2012) noted that theories had suggested that the impact of discrimination on adjustment would be mediated by social support, this study did not test for the mediational role that social support might play. However, Crede and Niehorster (2012) predicted that their meta-analyses would provide some information on the role of mediation for social support.

In the category of studies on personality traits and core self-evaluations, Crede and Niehorster (2012) described several more preliminary research findings. They noted that early researchers found that personality factors such as extroversion and emotional stability facilitated students’ social adjustment because these traits made it easier for students to quickly develop new social relationships (Crede & Niehorster, 2012). Further, Crede and Niehorster wrote that researchers found that conscientiousness, with its emphasis on planning and organizing fostered students’ academic adjustment.
Crede and Niehorster (2012) added that research had shown that students with high levels of core self-evaluations were likely to be competent socially and academically. For instance, self-efficacy was found to be associated with overall adjustment for first generation college students (Ramos-Sanchez, & Nichols, 2007), and for college students’ grades in specific domains, such as science, math, and engineering (Hackett, Betz, Casas, & Rocha-Singh, 1992). A study by Brady-Amoon and Fuertes (2011) extended these early findings on self-efficacy to students in liberal arts programs. They examined the association between self-efficacy and self-rated abilities in conjunction with adjustment and academic performance with a sample of 271 undergraduate students with majors in the liberal arts. The sample was racially, ethnically, and socioeconomically diverse and was selected from six different colleges in New York. Sixty-two percent were female. Twenty-eight percent identified as African American or Black, 8% identified as Asian American, and 32% identified as Latino or Hispanic. The results of simultaneous multiple regression analyses, showed that self-efficacy and self-rated abilities together accounted for 25% of the variance in college students’ adjustment. Hierarchical multiple regression findings revealed that self-efficacy, self-rated abilities, and adjustment to college together contributed 18% of the variance in college students’ grade point average.

These studies reveal that students core evaluations of their academic ability contribute to their success in a variety of subject areas from science, and math, to the liberal arts, which require different academic skills. The importance of these self-perceptions to student adjustment also cut across various minority ethnic and social class groups.
In their preliminary look at the domain of relationships with parents, Crede and Niehorster (2012) briefly sketched factors in the research on parent-child attachment and parenting styles that had been found to either hinder or promote the student adjustment to college process. Many studies rested on a psychoanalytic framework that described the conjoint influence of the attachment bond and the psychological separation process that occurs between adolescents and parents in adolescence (e.g., Lapsley, Rice, & Shadid, 1989; Rice, Cole, & Lapsley, 1990; Schultheiss & Blustein, 1994). Parental fostering of autonomy, healthy attachment, and security, were expected to ease students’ transition to college.

An important contribution to our understanding of attachment and individuation relationships between parents and adolescents, and their role in students’ adjustment to college, in this period is seen in a study by Schultheiss and Blustein (1994). The perspective that guided their research was that a moderate degree of adolescent-parent connectedness in conjunction with adolescent individuation from the family of origin would facilitate college adjustment. Previous research by Blustein, Walbridge, Friedlander, and Palladino (1991) had found that positive perceptions of parental attachment coupled with conflictual and attitudinal independence from parents, as measured by the Psychological Separation Inventory (PSI; Hoffman, 1984), promoted college students’ career exploration behaviors and development. Conflictual independence refers to the degree to which one perceives oneself to be free from excessive guilt, anxiety, mistrust, responsibility, inhibition, resentment, and anger in relation to one’s parents. Attitudinal independence refers to the degree to which a person reports having attitudes, values, and beliefs that are unique from one’s parent.
In this study, Schultheiss and Blustein (1994) hypothesized that conflictual and attitudinal independence and adolescent-parent attachment would be positively associated with college student development and adjustment measured on the Student Developmental Task and Lifestyle Inventory (Winston, 1990) and the SACQ. Canonical correlation results for women’s development supported the conjoint hypothesis for the relationship between attachment and separation variables and development. Those young women who shared similar attitudes and beliefs with parents, and who were strongly emotionally attached to both parents, were likely to have progressed in developing purpose and academic autonomy. Conflictual independence in the relationship between adolescents and parents was not important for young women’s development. For young men neither psychological separation nor parental attachment was significantly related to college student development (Schultheiss & Blustein, 1994).

Schultheiss and Blustein (1994) added that for young women’s college student adjustment, there was no support for the conjoint hypothesis. Neither psychological separation nor parental attachment, were significantly related to adjustment. There was limited support for the conjoint hypothesis for young men. For young men, conflictual independence stood out as the strongest factor in their college adjustment. For young men, a healthy degree of psychological separation was more important than close relations with parents.

Schultheiss and Blustein (1994) noted that these gender differences were important to investigate in future research on development across the college years and on the adjustment process. They also assert that studies should be extended to include other family configurations such as divorced families and other groups such as high-
school students from different cultural, ethnic, and racial backgrounds. However, in
spite of the non-significant findings for associations between parent-adolescent
dynamics and adjustment to college in this study, Crede and Niehorster (2012) expected
that parental fostering of autonomy and attachment would enhance students’ transition to
college.

The meta-analyses conducted by Crede and Niehorster (2012) included data from
119 studies. Findings for the relationships between adjustment to college and the
various theoretical antecedents and correlates mentioned above are described next.
According to Crede and Niehorster, students’ demographic characteristics were largely
unrelated to adjustment to college. For instance, age, minority status, gender, socio-
economic status, and first generation student status were all largely unrelated to
adjustment to college, although minority status was related to social adjustment for
minority students. Crede and Niehorster also argued that prior achievement and high
school grades were not predictive of adjustment, which may be due to the different
nature of academic tasks in college and high school.

Individual traits, social support, and students’ relationships with their parents
were moderately related to adjustment to college (Crede & Niehorster, 2012). The
personality trait of conscientiousness exhibited the strongest positive relationship with
academic adjustment, followed by agreeableness and extroversion, while neuroticism
displayed a relatively strong negative relationship with all four of the adjustment
constructs. Core self-evaluations showed relatively strong positive relationships with the
adjustment to college constructs, with self-esteem displaying the strongest relationships
with overall adjustment. Self-efficacy and internal locus of control beliefs showed
strong relationships with the adjustment variables and also had very strong relationship with overall adjustment. Affective state variables of positive emotionality, low negative emotionality, and low depression were associated with high levels of adjustment. Depression was most strongly negatively related to personal-emotional adjustment, and stress was most strongly negatively related to overall adjustment and academic adjustment.

The relationship between coping approaches and adjustment were weak to moderate, but generally supportive of the view that problem focused coping facilitates adjustment, whereas emotion focused coping styles are associated with adjustment difficulties (Crede & Niehorster, 2012). The strongest negative relationship was between emotion focused coping and personal-emotional adjustment.

The meta-analytic findings for social support showed moderate positive relationships across the different types of adjustment (Crede & Niehorster, 2012). An important exception to that result was that social support from faculty exhibited a stronger relationship than other forms of social support with academic adjustment and the other types of adjustment.

Students’ attachment to their parents exhibited moderate positive relationships with adjustment to college, but so did parents’ fostering independence in their children (Crede & Niehorster, 2012). Crede and Niehorster concluded that development of secure adult relationships between parents and students appears to facilitate the adjustment process.

A third goal of the review by Crede and Niehorster (2012) was to examine how the adjustment to college constructs predicted the two college outcomes: grades and
retention. The meta-analytic results indicated that the adjustment variables added incremental validity to the prediction of college grades and to retention above the high school predictors of grades and admission test scores. Crede and Niehorster (2012) argued that the incremental validity provided by adjustment to college constructs suggest that theoretical models of both academic achievement and college retention are likely to benefit from an integration of traditional academic readiness and effort constructs with adjustment to college constructs.

Crede and Niehorster (2012) summarized their findings by suggesting that colleges use the student adjustment literature, (a) to help identify students who are at risk for failure and leaving college, and, (b) to design interventions to help them cope, study, and accommodate to their new environment. In addition, Crede and Niehorster called for more incremental studies that show moderation and mediation between adjustment to college variables, and research that focuses on evaluating interventions.

Although the meta-analytic review by Crede and Niehorster (2012) provides an important summary of the research findings on the topic of adjustment to college, it does have limitations. First, the studies that were produced in this earlier time period tended to focus on single antecedents to predict outcomes rather than on more complex models that highlight mediation and moderation effects. The research that has been produced since this review does use more sophisticated models and statistical analyses to examine complex relationships based on theory. Second, only studies using the SACQ as the outcome measure were included. Third, the review focused on 4-year educational institutions. Fourth, no studies based on family systems models were part of the review.
Fifth, no studies that focused on students’ ability to regulate their emotions, detrimental cognitions, and behaviors were included.

The next few paragraphs describe two key studies concerning, (a) a family systems perspective on adjustment to college, and (b) an updated meta-analytic review of the literature on parent attachment bonds to the adjustment process that were not included in Crede and Niehorster’s (2012) meta-analyses. However, both of the articles were published in this time period, and both of them expand our understanding of family dynamics and the relevance of emotional factors to college student adjustment, which is the focus of this dissertation.

A study by Johnson, Gans, Kerr, and LaValle (2010) focused on relations between students family environment variables (i.e., family cohesion, expressiveness, and conflict), students emotion managing skills (i.e., attending to, clarifying, and repairing or modulating emotions), and students’ adjustment to college. Johnson et al. (2010) tested the hypothesis that students’ ability to manage their emotions predicts college adjustment over and above the variance accounted for by family environment variables. They also tested the hypothesis that students’ ability to manage emotions moderates the relationship between family environment and college adjustment.

A total of 320 (93 men, 227 women) first-year students at a large university in the northeast completed the Family Environment Scale (FES; Moos & Moos, 1976), the Emotion Coping Trait, Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 2002), and the SACQ. Johnson et al. (2010) noted the following findings. Regression results revealed that family conflict made a significant contribution to personal/emotional adjustment to college. In addition, the results supported the first
hypothesis. Students’ ratings of their clarity and ability to repair negative emotions each made a significant unique contribution to the prediction of students’ academic adjustment, social adjustment, and personal adjustment. Results also supported the second hypothesis. The relationship between family expressiveness and social adjustment to college varied depending on students’ emotion coping style. Participants from less expressive families who tended to avoid their emotions reported significantly more academic, social, and personal/emotional adjustment to college problems than peers from more expressive families (Johnson et al., 2010).

The findings by Johnson et al. (2010) highlighted the importance that the ability to manage and regulate emotions has on students’ academic, social, and personal adjustment to college and the role that family expressiveness has on students emotion focused coping. The results also offered support for the notion that a cohesive family may provide college students with a secure base that facilitates the developmentally appropriate struggle of separation and individuation (Bowen, 1976; Minuchin, 1974). Johnson et al. (2010) concluded that, although the findings are preliminary, they do support a call for interventions, either through family therapy, individual counseling, or through support groups, to help college students develop techniques and skills for managing difficult emotions.

Finally, it is also important to highlight additional findings from a separate meta-analytic review by Mattanah, Lopez, and Govern (2011) on contributions of parental attachment bonds to college student development and adjustment. Mattanah et al. (2011) meta-analyzed 156 articles from 1987-2009. They hypothesized that indicators of parental attachment security, such as warmth, caring, and open communication, and
high levels of encouragement of autonomy, should be related to multiple aspects of students’ adjustment to college. Mattanah et al. (2011) found a small to moderate relationship between parental attachment and college student adjustment. Given that outcome, Mattanah et al. stated that, “It is likely that parental attachment serves as a significant but distal predictor whose effects on adjustment during the college years may be less direct and more proximally predicted by other developmental processes not specifically examined in our meta-analysis” (p. 588). They speculated that in the college years there is a transfer of attachment functions from parents to intimate peers like close friends and romantic partners. In support of this view, they noted that studies that incorporated self-report measures of both parent and adult intimate peer attachment security generally have revealed that these attachment constructs are only moderately correlated, and that, relative to parental attachment measures, indicators of peer attachment security typically demonstrate stronger associations with independent measures of self-esteem, depression, coping, and socio-emotional competence (Carnelley, Pietroromono, & Jaffe, 1994; Cummings-Robeau, Lopez, & Rice, 2009; Laible, 2007; Lopez, 1996). Mattanah et al. (2011) also reported that the attachment scales and subscales used in the studies in the meta-analysis did not moderate the relationships between parental attachment and adjustment outcomes. Further, they found that parental attachment was equally predictive of adjustment across the broad range of outcome measures. It appears that attachment security is predictive of better adjustment both in relationships with others and feelings about ones’ self-worth and sense of academic competency.
The gender of parent and gender of student did not moderate the attachment-adjustment relationship (Mattanah et al., 2011). This finding contradicts the theoretical speculations of Chodorow (1991) and Josselson (1987), and suggests that attachment relationships with mothers and fathers are equally important to male and female development in the period of emerging adulthood. Also ethnicity, nationality, and year in school did not moderate the overall attachment relationship. However, Mattanah et al. (2011) did find that attachment security predicted adjustment more strongly among students who leave home than those who remain at home. Finally, the authors reported a significantly stronger effect for the developmental task of separation-individuation from parents than for the other tasks of ego identity, gender identity, and career exploration (Mattanah et al., 2011).

In terms of counseling implications Mattanah et al. (2011) suggested that interventions focusing on the “dialogic and dialectic processes in parent-student communications may foster students’ experiences of greater self-other differentiation-of-self in their relationships with parents” (p. 590). Moreover, Mattanah et al. stressed that “identifying interactions associated with emotional reactivity and problem behaviors in parent-child relationships may also lead to communications with others that advance other developmental tasks such as forming secure peer relationships, and encouraging personal responsibility for forming life/career goals and plans” (p. 590). Therefore, the implications for interventions highlighted by Johnson et al. (2010) on family environment and the parent-adolescent attachment/individuation process by Mattanah et al. (2011) reach the same conclusion about the need to help students learn to manage emotional reactivity. The next section presents more recent research that builds on the
findings of these early studies from 1990-2011 and moves beyond some of their limitations noted above.

**Research from 2012 to the present.** A developing trend in the research since 2012 has been the utilization of integrated theoretical models to study relations between variables impacting students’ academic adjustment and overall well-being identified in previous studies. For instance, Gans and Johnson (2016) extended their research on linkages between family functioning and individual student adjustment to college by expanding the definition of whole-family functioning to include adaptive physiology, that is, allostatic cortisol response to challenge. The focus of this study was to examine the role of individual physiological responses within a triadic family context in predicting later adjustment during the transition to college. The multi-method approach they used included observational, physiological, and self-report data. Gans and Johnson (2016) tested three hypotheses: (a) emerging adults (EA)’s cortisol response to family interaction will be linked to family functioning in a whole family context; (b) EA’s cortisol response to family interaction will predict changes in internalizing behavior across the first year of college; and (c) family functioning will moderate the relationship between EA’s cortisol response to family interaction and changes in emotional adjustment during the transition to college.

Gans and Johnson (2016) reported that a total of 83 student participants (25 male, 58 female) and their parents were assessed in the summer prior to beginning college, in the fall, and in the spring. The whole family came to the pre-college assessment. A saliva sample was taken from each family member when they first entered the lab, and then each family member completed questionnaires. A second
saliva sample was taken immediately prior to the start of the family interaction task. Then the family members were taken to a separate room where they were instructed to build a house of cards together using as many cards as possible. Their interactions were video recorded. A third saliva sample was taken at the completion of this task. Next the participants returned to the waiting room to continue to work on their questionnaire packets. A fourth saliva sample was taken from each family member 20 minutes after the conclusion of the family interaction task. Students returned in the fall and spring semesters and completed self-report measures of their behavioral adjustment.

According to Gans and Johnson (2016), the Family Structure and Process (FSAP) coding system was used to assess family structure (i.e., strength of the marital subsystem, differentiation-of-self of the marital subsystem, family level cohesion, and strength of each parent-emerging adult subsystem). Trained observers also assessed family process on positive affect, negative affect, verbal expressiveness, criticism, humor, and praise, for each family dyad and at the level of the whole family. Eight composite variables were created reflecting the positivity and negativity in each family dyad and at the triad level. Positivity scores at the dyadic level reflected the expression of positive affect, verbal expressiveness, praise, and humor. Negative scores reflected negative affect and criticism. At the triadic level positivity scores reflected family cohesion, positive affect, and verbal expressiveness, praise, and humor. Negative scores at the triadic level reflected distance, negative affect, and criticism. Scores on the FSAP were cluster analyzed and resulted in 39 distant and negative families and 38 cohesive and positive families. The Family Environment Scale (FES; Moose & Moose, 1976) was administered to assess family members’ perceptions of family cohesion,
expressiveness, and conflict. The Adult Self-Report Form for the ASEBA (ARS; Achenbach & Rescorla, 2003) was responded to by students to provided scores on students’ internalizing behavior: depressive problems and anxiety problems.

The results for hypothesis one showed that female EA’s whose cortisol levels decreased when they interacted with their parents, reported significantly more family cohesion, expressiveness, and less conflict on the FES (Gans & Johnson, 2016). There was no significant difference in perceived family relatedness for male EA’s regardless of whether their cortisol decreased or increased when interacting with parents. Male EA’s from families characterized as distant by outside observation showed a large decrease in cortisol across family interactions as compared with male EA’s from cohesive families, and female EA’s from both distant and cohesive families.

The results provided some support for hypothesis two, that EA’s cortisol response to a family interaction task will predict adjustment during the college transition (Gans & Johnson, 2016). Among participants whose cortisol increased during family interactions, self-reported anxious behavior increased across the transition to college for emerging adults from distant families and decreased for emerging adults from cohesive families. Among participants whose cortisol decreased during family interaction, anxious behavior decreased for emerging adults from distant families and remained relatively stable for emerging adults from cohesive families. No significant relationship among cortisol response, family type, and depressive behavior was indicated.

Hypothesis 3, that family functioning will moderate the relationship between EA cortisol response in a family interaction task and anxious behavior during the college transition process was also supported (Gans & Johnson, 2016). Results indicated that
observed family functioning scores appeared to moderate the relation between EA’s cortisol response during family interaction and anxious behavior when adapting to college. Gans and Johnson (2016) conclude that this study represents only a first step, but an important one, towards establishing that cortisol response, which is an indicator of anxiety for EA’s in a family context, is predictive of later adjustment.

Another example of more complex research on students’ adjustment to college in this time period is seen in a series of studies applying a modification of Lent and Brown’s interest, choice, and performance/persistence model of social-cognitive career theory to predict academic adjustment or educational satisfaction among student populations (Lent & Brown, 2008). The model proposes several hypotheses. First, personality or affective variables (e.g., extroversion and emotional stability) are hypothesized to impact students’ academic satisfaction and life satisfaction both directly and indirectly through pathways that involve academic supports and self-efficacy. Second, person-cognitive variables, academic self-efficacy and outcome expectations, would partially mediate the effects of academic supports on academic satisfaction, and academic goal progress would in part channel the effects of academic supports, self-efficacy, and outcome expectations on the same outcome. Third, students’ satisfaction with their academic lives is assumed to play a key role in mediating effects of other variables on overall life satisfaction, while academic goal progress could also produce a direct path on this global satisfaction outcome. The model has been applied to study predictors of well-being among African students in the U.S. (Ezeofor & Lent, 2014), Asian American students in the U.S. (Hui, Lent, & Miller, 2013), and Taiwanese and Singaporean college students (Sheu, Chong, Chen, & Lin, 2014).
Recently Sheu, Mejia, Rigali-Oiler, Prime, and Chong (2016) modified the academic satisfaction model in their research, in two ways. First, they included the variables of independent and interdependent self-construals to represent students’ individualistic and collectivist cultural orientations. Second, they studied participants from three racial/ethnic groups, including 306 Caucasian Americans (36% males, 64% females), 284 Asian Americans (51% males, 49% females), and 259 Latino/a Americans (38% males, 62% females). The majority of participants were freshmen (36-39%), followed by sophomores (24%-31%) and juniors (19%-24%).

The purpose of the study was to examine race/ethnicity as a moderator for testing the cross-racial/ethnic validity of a modified academic satisfaction model (Sheu et al., 2016). In the modified academic satisfaction model, self-construal variables (independence, interdependence) would have impacts on academic satisfaction directly and indirectly through academic supports and outcome expectations. Also, personality and self-construal variables were allowed to covary. Participants completed measures of life satisfaction, academic satisfaction, academic goal progress, academic self-efficacy, academic outcome expectations, academic supports, and independence and interdependence self-construals, and extroversion and emotionality that operationalized variables in the model.

Structural equation modeling results supported the cross-racial/ethnic validity of the modified academic satisfaction model (Sheu et al., 2016). Some findings were consistent across the three groups. Emotionally stable students tended to show more confidence completing academic tasks while interdependent students tended to seek more supports. Also neither of the self-construal variables directly predicted academic
satisfaction; both variables indirectly partially predicted academic satisfaction through the links of academic supports to self-efficacy, to goal progress and academic self-efficacy to goal progress, through which students’ emotional stability and interdependent self-construal partially exerted impacts on academic satisfaction. The authors suggested that intervention and outreach programs for improving students’ well-being should focus on providing supports, boosting students’ confidence in performing academic tasks and helping students make progress toward academic goals.

There also were differences between racial/ethnic groups (Sheu et al., 2016). Extraverted Caucasian American students (from more independent individualistic cultures) tended to have lower life satisfaction, while extraverted Asian American students (from more interdependent collectivist cultures) felt more satisfied with their overall lives. Also the connection between emotional stability and life satisfaction was stronger for Caucasian American students than for Asian American and Latino/a American students. Sheu et al. (2016) argued that these findings imply that interventions for promoting emotional stability and/or encouraging the development of a group oriented cultural orientation might produce different results depending on students’ racial/ethnic backgrounds. Other results revealed that Caucasian American and Asian American students tended to combine academic supports, self-efficacy, outcome expectations, and goal progress in their pursuit of academic and life satisfaction. In contrast, Latino/a American students tended to rely more on academic supports or academic self-efficacy to mediate the effects of their personality traits and self-construals on the two satisfaction outcomes, and did not view academic outcome expectations as direct or indirect contributors to their well-being. The authors provided
several recommendations for helping universities to build support networks and other interventions for student success based on these findings.

Ezeofor and Lent (2014) also examined social cognitive and cultural predictors of academic satisfaction in African students studying in American universities. They found that the model fit the data well and accounted for 59% of the variance in academic satisfaction. However, in contrast to the findings of Sheu et al. (2016), in their study, Ezeofor and Lent (2014) found that only the relational self-construal indicator yielded a significant direct path to academic support. Personal individual, and collective beliefs did not relate directly to academic satisfaction but rather operated through mediated pathways.

The series of studies applying Lent and Brown’s (2008) academic adjustment model to university students from different cultures and backgrounds demonstrate the complex ways that students’ personality, cognitive beliefs, and affective variables of extraversion and emotional stability, help or hinder students’ academic satisfaction and overall well-being (Ezeofor & Lent, 2014; Sheu et al., 2016). Yet, other racial/ethnic minority groups (e.g., African Americans, Native Americans) need to be included in future studies, as well as other cultural variables, such as saving face for Asians, and Black identity development for African Americans (Sheu et al., 2016). In addition, the role of emotion regulation variables, such as effortful control, and possible moderators (e.g., gender, and socioeconomic status) need to be explored in future research.

Allan, Garriott, and Keene (2016) have initiated another area of research focusing on the outcomes of social class and classism on first generation college students (FGCS). FGCS are operationalized as students whose parents have not completed a
bachelor’s degree. The authors point out that currently FGCS complete their degree at half the rate of their continuing-generation peers, and that middle-class norms prevalent in U.S. higher education undermine FGCS’s academic performance and emotional well-being. They base their study on forms of classism identified by Langhout, Drake, Rosselli, and Feinstein (2007). Citational classism refers to stereotypes of people from lower social class backgrounds, such as ascribing low intelligence to people who are poor. Interpersonal classism includes behaviors that devalue and exclude those from lower social backgrounds, such as student organizations scheduling skiing strips that some students may not be able to afford. Institutionalized classism refers to organizational structures that exclude some students such as some colleges encouraging study abroad with little financial support for students.

The study examined social class and first-generation status as predictors of institutionalized, citational, and interpersonal classism and classism as a predictor of life satisfaction, academic satisfaction, and grade point average (GPA) (Allan et al., 2016). The sample consisted of 1,225 college students: 56% were female, 41.7% were male; 83.8% Caucasian Americans, 4.7% were Asian American, 4% as Hispanic/Latino/a American, 3% were bi-racial, and 2% were African American. Twenty-five percent were FGCS. Structural equation modeling results found partial support for hypotheses. Social class predicted all three forms of classism, and FGCS status predicted institutionalized classism and interpersonal classism. The results also found direct relations from social class and FGCS status to life satisfaction, academic satisfaction, and GPA. Allan et al. (2016) suggested that training for faculty and administrators regarding possible classism biases in interactions with students, and in the impact that
increasing fees, and raising tuition credit hours for degree completion, has on student success can be helpful.

Both areas of research described above spotlight areas of race and social class differences that influence student well-being on campus. Another developing trend beginning to appear in the recent research on four-year educational institutions highlights the role that students emotional and behavioral self-regulation skills have on their adjustment to college. That research is described next.

**Research on Self-Regulation and Students’ Adjustment to School and College**

The terms self-regulation and effortful control sometimes are used interchangeably in the literature on students’ adjustment to the academic environment (Neuenschwander, Rothlisberger, Cimeli, & Roebers, 2012). However, self-regulation is a broader term that encompasses a more complex set of behaviors and control mechanisms than effortful control. Self-regulation has been shown to consist of both temperamental based effortful control (EC) mechanisms that focus on emotional regulation, and neurocognitive based executive functions (EF) that employ an interrelated set of higher order cognitive processes that focus on specific learning tasks (Neuenschwander et al., 2012). Outcome studies comparing the contribution of both EC and EF to children’s and adolescents successful adaptation to school has demonstrated that EC predicts grades, which reflect positive classroom related behaviors and interactions with teachers, whereas EF predicts performance on achievement tests, which reflect reading, writing, and math skills (Neuenschwander et al., 2012). Both of these aspects of self-regulation have been shown to foster learning, academic adjustment, and school success from elementary school (Neuenschwander et al., 2012) to high school, to

A few studies have investigated the role of self-regulation to students’ academic and psychological-emotional adjustment to college. For instance, Park, Edmondson, and Lee (2012) investigated the development of three self-regulation abilities (constructive thinking, emotional regulation, and mastery) in a sample of 162 students at a public university in the Northeast in the United States across the first year of college to determine how changes in these skills predicted psychological adjustment. The sample was 77.6% non-Hispanic White, 10.9% Asian, 4.9% African American, and 3.5% Latino or Hispanic. Students completed measures of the three self-regulation abilities and a measure of depression, anxiety, and stress at the first week of school and at the end of the year.

Results indicated that students’ sense of mastery decreased significantly over the year, and that changes in constructive thinking and emotion regulation were not significantly different. Anxiety and stress levels did not change from the beginning of the year to the end but depression showed a marginally statistically significant increase. Results also indicated that changes in all three self-regulation variables uniquely predicted changes in the three adjustment outcomes and that the changes were in the expected direction. Constructive thinking and mastery negatively predicted, and difficulties with emotional regulation positively predicted, changes in anxiety, stress, and depression. Gender and racial/ethnicity differences were noted. Men reported higher levels of depression than women and White students reported higher levels of mastery than minority students at time 1 and time 2. The authors recommended that
programming for freshmen should emphasize emotional and social well-being as well as academic success.

In comparison with the above study in which self-regulation was assessed by measures of constructive thinking, emotional regulation, and mastery, Boyraz, Granda, Baker, Tidwell, and Waits (2016) employed a measure of effort regulation in their longitudinal research on posttraumatic stress, effort regulation, and academic outcomes among college students. The term effort regulation refers to students’ ability to persist at academic tasks despite challenges and distractions. Effort regulation requires using motivational, metacognitive, and cognitive strategies. Thus the measure of effort regulation used in the Boyraz et al. (2016) study included four items, such as, “Even when course materials are dull and uninteresting, I manage to keep working until I finish” (p. 479). The model they tested examined the potential mediating effects of effort regulation and academic achievement on the relationship between PTSD symptoms and continued enrollment in college among trauma-exposed college students. Participation in college activities and American College Testing (ACT) scores were used as control variables in the model. The specific hypotheses were that, after controlling for participation in activities and ACT scores, (a) PTSD symptomatology at the first semester of college would be negatively associated with first semester effort regulation, first year GPA, and second year enrollment; (b) effort regulation would be positively related to GPA and second year enrollment, (c) first year GPA would be positively related to second year enrollment, and (d) effort regulation and first year GPA would mediate the relationship between PTSD symptoms in the first year of college and second
year enrollment. The study also sought to answer the question of whether gender moderated the hypothesized relationships among the study variables.

Participants were 484 trauma exposed students (Boyraz et al., 2016). Fifty-seven percent were males, and 43% were females; 75% of the participants were White, 16.7% were Black/African American, 1.7% were Hispanic/Latino, 1.7% were Biracial/Multiracial, 1.2% were American Indian, and .4% were Asian American (Boyraz et al., 2016).

Structural equation modeling results supported the model hypotheses (Boyraz et al., 2016). As expected, the ACT and activity participation control variables had significant effects on first-year GPA, which in turn, mediated the effects of these variables on second year enrollment. PTSD symptomatology had a significant negative indirect effect on second year enrollment through effort regulation and first year GPA. Students with high PTSD symptoms reported lower levels of effort regulation, which in turn, had a significant indirect on second year enrollment through first year GPA. The influence of gender differences was less clear. While the correlations between PTSD symptoms and both first year academic achievement and second year enrollment were significant only for females, the multi-group SEM analysis indicated that the pathways in the hypothesized model were not significantly different across gender. Therefore, the authors argued that, although PTSD symptoms may not have direct effects on academic achievement and college persistence for men, entering college with high PTSD symptomatology appears to increase the risk of poor academic performance and college drop out by limiting both men and women’s ability to persist at challenging or dull tasks. They suggested that negative PTSD cognitions (e.g., diminished sense of control over
events in one’s life, and low academic self-efficacy) may account for the negative relationship between PTSD and effort regulation.

In sum, these initial studies demonstrate the complex interrelations between cognitive, emotional regulation, mastery, and effort regulation skills associated with student adjustment to college. It is important to note that the measure on emotional regulation in the Park et al. (2012) study focused on a broader range of emotions expressed in general situations, in contrast to the emotional effort measure in the Boyraz et al. (2016) study, which was limited to only four items that zeroed in on specific learning situations. The outcomes variables in the two studies also differed, with emotional regulation being associated with personal-emotional adjustment and effort regulation with academic adjustment. Other researchers, utilizing Bowen’s Family Systems Model have employed a different effortful control measure to explore factors related to personal and academic adjustment in different samples of adults and college students. That research is discussed below after first describing the research on students’ adjustment to two-year community colleges.

**Research on Students’ Adjustment to Community College**

In contrast to the research on 4-year educational institutions described above, fewer empirical studies on students in 2-year colleges apply complex models and statistical procedures. Rather, the literature consists mainly of conceptual papers that describe the unique environment of open access community colleges (Baher, 2013), models of typical student characteristics (Tinto, 1975) the kinds of interventions that promote student persistence (Tinto, 2004), and quantitative studies that use regression procedures to predict student outcomes from their entry characteristics or use of support...
services (Habley, Bloom, & Robbins, 2012; Willamson-Ashe, 2008). A key theoretical article by Tinto (1975) described the Interactionalist Model of Student Persistence that has been influential in program development and research for both 4-year and 2-year colleges. In this model, Tinto described the relationships between student entry characteristics, goal commitment (initial and subsequent), integration (academic and social), and institutional commitment (initial and subsequent) to the outcome of persistence.

In a later paper, Tinto (2004) delineated specific conditions needed by community colleges to promote student persistence: (1) set high expectations by faculty and staff that they expect students to succeed; (2) provide academic, social, and personal support; (3) provide frequent and early feedback; (4) involve students as valued members of the institution through frequent quality contact by faculty with students; and (5) foster learning through involving students in learning tasks. Tinto also called for more federal and state financial aid for non-traditional students.

Although Tinto stated that each portion of his model affected other portions as well as ultimate persistence, Braxton, Hirschy, and McClendon (2004) argued that research has demonstrated that the only part of Tinto’s model that fits community colleges is that student entry characteristics directly affect the likelihood of students’ persistence. The majority of studies investigated students’ demographic or socioeconomic factors rather than personality traits and behaviors to predict student persistence. Research by Barbatis (2010) and Habley, Bloom, and Robbins, (2012) has identified entry level characteristics that have affected student persistence. They noted that non-traditional community college students living in poverty have less cultural
capital in contrast to middle class families with more economic resources and family members and friends who are college graduates. Consequently, non-traditional students are often uninformed about college admission requirements and procedures, and lack of study skills and academic preparation.

Bahr (2013) pointed out that, unlike universities, community colleges tend to be open-access institutions with minimal standards of admission. They typically require only a high school diploma or GED, or other evidence of a likelihood of benefiting from the education provided to them. Moreover, community colleges may impose minimal requirements with respect to students’ pathways through the institution. There are frequently no time limits before students have to choose a course of study and there can be long periods of interruption from students attending classes toward a degree. The conclusion Bahr (2013) draws is that because of this flexibility and freedom there are many different pathways that students follow and that qualitative research is needed along with quantitative research to study how students succeed or fail within this environment. The results of his quantitative research on attrition rates of non-traditional students in remedial math sequencing courses revealed that a single non-passing grade in any course was devastating. He argued that immediate intervention at any point in the sequencing of classes was necessary, either to have the student retake the class or set the student on a path of alternate credentialing through a vocational certificate program. He believes that researchers need to examine process as well as outcome to understand the variety of pathways that student can take to succeed (Bahr, 2013).

Further, Williamson-Ashe (2008) administered a survey on social and academic integration, and intent to reenroll to a random sample of 245 students. Discriminant
function analysis results showed that students who persisted had a stronger previous intent to reenroll, were more academically integrated into their studies, and had clear educational goals than students who did not return.

Additionally, research by Martin, Galentino, and Townsend (2014) is an example of a qualitative study that examined the common characteristics of non-traditional community college students who did graduate. Seventeen successful students, three faculty, and five staff at a large public community college in the Southeast of the United States participated in semi-structured interviews. The successful students were found to have clear goals, strong motivation and a drive to succeed, the ability to manage external demands, and self-empowerment. Yoder (2011) interviewed at-risk students and found that academic programs with caring faculty, who show an interest in students, and the availability of support services for tutoring and advising, fostered student persistence. Non-academic factors that were helpful were personal qualities of determination, perseverance, and self-efficacy. Students also described the critical support of faculty “heroes,” family, and friends as being highly significant to their success, especially in helping them through times of failure. Similar themes were evident in a dissertation by Miller (2015) on the journey of first generation college students who persisted. These students reported that support services and encouragement by faculty were key factors leading to their decision to continue with their studies. Peterson (2014) interviewed single parent students with children who persisted in community college and found that prioritizing responsibilities was critical to their success. These studies represent a few examples of the type and scope of the research focusing on factors associated with student retention and success in community colleges.
Implications of the Research Findings on Students’ Adjustment to College for MFTs

The unique role that MFTs can provide in educational settings has been argued in papers that highlight the value of family and systemic based interventions with children in elementary school, and adolescents in high school (Laundy, Nelson, & Abucewicz, 2011; Vennum & Vennum, 2013). Academic problems faced by students, often are intertwined with interpersonal difficulties with family members, teachers, and peers, and with mental health issues such as depression and anxiety (Laundy et al., 2011; Vennum & Vennum, 2013). The research on students adjustment to college suggests that the same factors related to school success and failure at the high school level are present at the college level, especially for non-traditional students in community college. According to Crede and Niehorster (2012), overwhelming stress is the strongest predictor of student failure in college. Non-traditional students in community colleges, who face poverty, and often lack sufficient academic preparation, experience overwhelming stress. The students who succeed possess personal strengths such as an extraordinary drive to succeed, and have the support of caring family, and friends, as well as caring and engaging faculty, and a supportive academic environment (Martin et al, 2014; Yoder, 2015).

The role of MFTs in the public school system at the elementary and high school levels has been expanding since 2008 (Laundy et al., 2011). MFTs are uniquely trained to work in educational institutions because their interventions are based on a systems perspective in which the focus of intervention is on the reciprocal relationships between people (Laundy et al., 2011; Vennum & Vennum, 2013). MFTs focus on process as
opposed to outcome, and on the flow and patterning of interactions between people. At times they act as consultants, helping to clarify and open up communication between teachers and students; and between staff, administrators, and students, so that each person listens and responds to others in beneficial ways (Laundy et al., 2011; Vennum & Vennum, 2013). In this type of atmosphere students learn to listen, think clearly, solve problems, and manage stress. They can build better study habits and find success in classes.

At other times, MFTs intervene as mental health professionals who can determine appropriate interventions, including referrals to others in community counseling centers. They consider themselves to be uniquely trained members of multidisciplinary mental health teams (Laundy et al., 2011; Vennum & Vennum, 2013).

Laundy, Nelson, and Abucewicz (2011) have chronicled the history of collaboration of MFTs on multidisciplinary teams in public schools. In addition, they surveyed the opinions of other school personnel on the value they see in having MFT trained personnel with them on the multidisciplinary teams. The findings of their survey with general teachers, special education teachers, counselors, school psychologists, social workers, and administrators provides information about the effectiveness and uniqueness of MFT interns in five schools in Connecticut. The majority of other school personnel strongly supported the inclusion of MFTs with a systemic perspective to work directly with families and others to improve student outcomes.

Vennen and Vennum (2013) interviewed 21 MFTs about their experiences in the public schools in 10 states across the United States. The findings showed that the participants found the experience rewarding and called for a specialization in School-
Based Family Therapy. Because of the similarities in the struggles high school students and students entering college in the stage of emerging adulthood face, the Specialization in School-Based Family Therapy they call for could include training MFTs to work in community college settings.

Part of the training that MFTs receive that is useful for MFTs who may work in high school or college settings is on Bowén’s Family Systems Model (Bowen, 1978; Kerr & Bowen, 1988). Bowén’s Family Systems Model has special relevance for this dissertation on non-traditional students’ adjustment to community college and is described next, followed by a discussion of how it adds to our understanding of students in the stage of emerging adulthood entering college.

**Murray Bowén’s Family Systems Model**

As stated previously, Murray Bowén’s Family Systems Model (1978) and its emphasis on the concept of differentiation-of-self forms the underlying theoretical basis for this dissertation. In particular, findings from empirical studies on differentiation-of-self and effortful control in a sample of adults (Skowron & Dendy, 2004), and on differentiation-of-self and adjustment to college in a sample of students (Skowron, Wester, & Azen, 2004) provide the rationale for the hypotheses in this study.

According to Murray Bowén (1978) and Kerr and Bowén (1988), the family is an emotional relationship system shaped by 8 intertwined concepts. The following 6 interlocking concepts form the core of his Family Systems Model: differentiation-of-self, the nuclear family emotional system, triangles, the family projection process, emotional cut-off, and the multigenerational transmission process. These concepts are bound together by underlying chronic anxiety that Bowén says occur in nuclear and extended
families across generations and impacts levels of differentiation-of-self in family members as they struggle with balancing the pressures of togetherness and individuation throughout the life-span. Chronic anxiety is inevitable and is aroused in all species when they are confronted by a threat. Its importance and relationship to differentiation-of-self is captured in the following quote. Chronic anxiety is “the underlying basis of all symptomology; its only antidote is resolution through differentiation, the process by which an individual learns to chart his or her own direction rather than perpetually following the guidelines of family and others” (Goldenberg & Goldenberg, 2004, p. 179). Therefore, while there are eight interconnected concepts in Bowen’s Family Systems Model, this study focuses on differentiation-of-self.

**Differentiation-of-Self**

Bowen’s Family Systems Model concept of differentiation-of-self forms the core of his model. Differentiation-of-self refers to how a person functions intrapsychically and interpersonally in relationships with others (Bowen, 1978). Both intra-psychic and interpersonal processes are involved as people try to balance the tension and anxiety caused by two contradictory forces in families as children grow up: forces that press for togetherness among family members, and opposing forces that encourage autonomy, separateness, and individuality. The intra-psychic struggle for the individual is based on the need to develop the ability to separate feelings from thinking, and to choose between being guided by cognitions or emotions in a situation. The interpersonal struggle for the person is based on the need to not only experience intimacy in relationships but also to remain autonomous and independent by expressing one’s own needs, opinions, and beliefs to others (Bowen, 1978; Kerr & Bowen, 1988).
Balance and flexibility between cognitions and feelings is the ideal in managing the anxiety associated with these inevitable tensions. Individuals who can balance cognitions and feelings have a high degree of differentiation-of-self. They have the capacity to experience strong feelings or to shift to calmer logical reasoning when needed. As a result, they can make decisions based on careful thought and they can develop a more clearly defined sense of self and purpose. They have a solid sense of self and they can make strong “I” statements when needed (Bowen, 1978, p. 252). In contrast, individuals who experience fusion between their cognitions and feelings have a low degree of differentiation-of-self. They tend to make decisions only on what feels right, not on what they think is right based on logical consideration of facts. They have a weak pseudo-self rather than a strong core inner self and have difficulties making firm “I” statements in relationships and situations of distress. Consequently, they also tend to be more emotionally reactive in relationships. They find it difficult to remain composed when interacting with others who show emotions and raise tense issues. In these situations their anxiety rises, and they become overwhelmed by powerful automatic emotional reactions, often resulting in disruptions in relationships (Bowen, 1978; Kerr & Bowen, 1988, p. 320). These responses and behaviors then may lead to emotional fusion or cut-off as they try to decrease underlying overwhelming feelings of anxiety. Bowen (1978) argued that interpersonal patterns of fusions with others or emotional cut-off both are behavioral mechanisms for distance regulation. Emotional fusion refers to blurring of boundaries between individuals, and the loss of self in relationships. Emotional cut-off refers to a person using an exaggerated façade of independence and rebellion to regulate distance. However, in both patterns, the person with a low differentiation-of-
Self remains emotionally “stuck” in patterns formed in childhood, and becomes either compliant or rebellious. Whereas the emotionally fused person tends to experience separation as overwhelming, the emotionally cut-off person finds intimacy profoundly threatening (Bowen, 1978). These patterns will be described in more detail below under the other interlocking concepts.

Since the construct of differentiation-of-self is especially pertinent to this dissertation, the research findings supporting its role in college students’ development and adjustment in the stage of emerging adulthood are discussed in a separate subheading at the end of this section on Bowen’s Family Systems Model. The other components of Bowen’s Family Systems Model and the research on them are described next.

**Nuclear Family Emotional System**

According to Kerr and Bowen (1988), the development of differentiation-of-self results from the interaction between biological and genetic factors and the important relationship patterns that form in the nuclear family between children and their parents. The nuclear family emotional system describes how relationship patterns develop among family members. Each family has rules and regulations that dictate how much individuality is accepted and how much cohesiveness and family agreement is needed to keep the family functioning (Kerr & Bowen, 1988). The rules can be overt, spoken and well explained, or they can be covert. Family members enforce these rules through their interactions. For example, if there is a rule in a family that all members must agree on everything and one person expresses a different point of view, another family member will correct them in some manner and pull them back “in line” with the group. In this
type of family togetherness and cohesiveness are valued more than individual independence, and members are encouraged to agree with the group, and to put less emphasis on their individual needs than on the family. On the other hand, in a family where independence is emphasized, members are encouraged to look out for themselves, to voice their opinions, and to “fight” for what they believe in. In this type of family closeness is not as important as individual autonomy, and individual feelings and opinions may not be shared or expressed with other family members (Kerr & Bowen, 1988).

Being too close to others or too independent and distant from them can affect persons in negative ways. If people are overly close, or fused with one another, they may lose sight of who they are as a person (Bowen, 1978; Kerr & Bowen, 1988). They may become so invested in pleasing others that they do not pay attention to what their personal needs and interests are, and fail to develop a strong core self. They may turn to others for emotional support and experience anxiety when they are alone. As a result, they develop low differentiation-of-self. On the other hand, persons who are overly independent may feel that they do not have anyone that they can rely on, leaving them feeling alone in the world. Consequently, they may feel anxious because they believe that they have to do everything for themselves, without guidance and support, and are threatened when others get too close. This underlying chronic anxiety also can result in persons becoming poorly differentiated (Kerr & Bowen, 1988).

Kerr and Bowen (1988) argued that the healthiest families find a balance between independence and closeness. Members are encouraged to be close, yet autonomous. In these families, individual members are appreciated both for their views
and for their feelings, so they feel valued for who they are and close and connected to others. This balance reduces anxiety and increases feelings of security.

The concept of differentiation-of-self refers not only to fusion with or isolation from family members but also to our ability to separate our emotional processes from our thinking (Bowen, 1978; Kerr & Bowen, 1988). People who grow up in an emotionally charged home learn to be emotionally reactive to others. This emotional reactivity directs their interactions with others. They are overly emotional and have a decreased ability to apply rational thinking in tense situations and to solve problems. These less differentiated people are less skilled at dealing with stressful events because they are overwhelmed by strong impulsive feelings and respond from an emotional standpoint rather than from a more flexible cognitive perspective. Kerr and Bowen (1988) also made the point that people who are less differentiated are less likely to deal with long-term stressors without developing psychological symptoms such as anxiety and depression. The development of these symptoms occurs over time because persons with low differentiation-of-self lack the ability to adapt and cope with the chronic distress that constantly confronts them.

In contrast, people who achieve a balance between emotional reactivity to others and calm thinking are more fully functioning. They can have strong opinions about a situation, but they also can look at the details surrounding an event and form an opinion that is not forced by their emotional response. These more highly differentiated people are better able to calm themselves in times of stress, work out reasonable solutions to problems, and compromise with others (Bowen, 1978; Kerr & Bowen, 1988).
Research on the Nuclear Family Emotional System

The empirical examination of the tenets that underlie Bowen’s Family Systems Model rests on clearly defining Bowen’s propositions, and testing them with a reliable and valid measure. Elizabeth Skowron has accomplished both tasks. Her research developing the Differentiation-of-Self Scale (1998) and the studies described below have validated some of Bowen’s assertions related to the nuclear family emotional system. For example, Bowen believed that differentiation-of-self was intertwined with underlying levels of chronic anxiety and stated that, “chronic anxiety increases as levels of differentiation decreases” (Kerr & Bowen, 1988, p. 117). Early research by Skowron and Friendlander (1998) with a sample of 313 adults in the U.S. found a correlation of -.67 between differentiation-of-self and trait anxiety. Bowen further postulated that people with high levels of chronic anxiety would experience physical or psychological symptoms (Kerr & Bowen, 1988). The research supporting this postulation is described below under the subheadings, “research on differentiation-of-self and psychological functioning,” and “research on differentiation-of-self and emotional regulation.”

Triangulation and the Family Projection Process

Triangulation refers to the process by which two low differentiated people involved in a conflicted relationship draw in a third person, such as a child, in an effort to reduce chronic anxiety that one or both spouses experience (Kerr & Bowen, 1988). Psychological symptoms in a child may develop through this process. The higher the degree of family fusion the more intense and crystallized the triangulating will be and the parents, acting as a fused parental “we,” may project their low differentiation-of-self onto the child (Titelman, 2008). This pattern is referred to as the family projection
process. It occurs when, faced with chronic anxiety and distress, poorly differentiated parents focus their attention on the most vulnerable and weakest child in the family and triangle that child into their interactions. This fusion-prone child is the child who is most sensitive to upsets in the family and becomes most attached emotionally to the parents. As a result of the triangulation and projection, this child develops an even lower degree of differentiation-of-self than the parents as they transmit their own low level of differentiation-of-self onto him or her (Titelman, 2008). Bowen theorized that triangulation places children at risk for psychological distress by increasing their emotional reactivity.

**Research on the Triangulation Process**

Miller, Anderson, and Keala (2004) reviewed the research conducted on Bowen’s Family Systems Model over the previous 15 years. They concluded that studies had shown a positive relationship between marital distress and triangulation but no research that directly links chronic anxiety with triangulation. They stated that two studies involving college students did not support Bowen’s assertion that anxiety was the mechanism by which triangulation creates stress in children. They also indicated that there were mixed results in the few studies that investigated the connection between triangulation and physical symptoms, emotional symptoms and social symptoms, including college adjustment.

However, subsequent research published after 2004 did document an association between marital hostility and emotional reactivity in children (Amato & Afifi, 2006; Buehler, Lange, & Franck, 2007), and triangulation and adolescent internalizing problems (Grych, Fosco, & Hauser, 2008). In addition, in a study with depressed
children and their families. Buehler, Franck, and Cook (2009) found that when parents were having marital issues, they developed a triangle with their child to disperse their anxiety. Triangulation led to depression in the child. When the stressors were reduced and the marital problems decreased, the child still experienced depression because the child was left as a less important member of the triangle. The child was harmed in various ways. The child perceived isolation and lack of support from their parents, and because they had withdrawn from their friends, they also lost closeness with their peers, which increased their depressive symptoms.

Furthermore, in two studies, one involving a group of young females in high school under the age of 18 (Perosa & Perosa, 2010) and the other, a group of young adult women over the age of 18 in college (Perosa & Perosa, 2011), who were at risk for eating disorders, Perosa and Perosa (2010; 2011) found that attachment and individuation variables (i.e., connectedness with parents, autonomy from parents, and self-other differentiation from peers) mediated between parent coalition/triangulation patterns and symptoms of eating disorders in daughters. There were differences between the groups. The strong mediating role of the attachment and individuation variables for college females stressed both connection with parents (rather than autonomy from parents) and differentiation from peers. In comparison, for high school females the impact of these attachment/individuation variables together as well as the unique role of differentiation from peers played stronger mediating roles for bulimia and thinness behaviors. This research shows that age differences based on developmental stages display different patterns in the mediation process between parental coalition/triangulation and symptoms related to eating disorders. These studies reveal the
complex ways that triangulation patterns impact symptoms in adolescents and emerging adults.

**Emotional Cut-Off**

The concept of emotional cut-off links triangulation and family projection with the multigenerational transmission process. These next sections describe more clearly how serious symptoms in individuals may develop over time. Family theorists argue that stress in families is highest at transition points when changes in family functioning occur, such as when a child becomes an adolescent or when an adolescent “leaves home” to become a young adult (Haley, 1979; Minuchin, 1974). Emotional cut-off refers to the way that young adults separate themselves from their families-of-origin in order to start the next stage of their life. According to Kerr and Bowen (1988), the degree and type of emotional cut-off that takes place develops in response to the degree of intensity and fusion in the parental triangle the child experienced in adolescence and their level of differentiation-of-self. Adolescents with low levels of differentiation-of-self become emotionally reactive and may display emotional cut-off from parents when they leave home and move to a new location, or they may just stop talking to parents (Kerr & Bowen, 1988). Titelman (2008) argued that a cut-off between an offspring and a parent(s) is always an expression of unresolved attachment between the child and a parent(s). According to Titleman, the young adult with low differentiation-of-self, who is highly fused and overly involved with parents and strongly emotionally reactive, experiences a tearing away when they leave and may seek to fuse with someone else in a relationship (such as a partner or spouse) later. Young adults with these patterns either rebel or overly conform in relationships and form new triangles. Adolescents who have
not been involved in an intense triangle and who are more highly differentiated have a smoother transition because they are less emotionally reactive and use thinking over emotionality in new relationships (Kerr & Bowen, 1988).

Therefore, emotional cut-off is a phenomenon that occurs on a continuum. Some adolescents and young adults with low degrees of differentiation-of-self may be left feeling isolated from family and more insecure. They continue to remain emotionally reactive in relationships. Others with a higher degree of differentiation-of-self may experience a less disruptive cut-off. They may feel some support from parents and may continue to be less emotionally reactive in relationships with others (Kerr & Bowen, 1988).

**Research on Emotional Cut-Off**

There is sparse but some research that suggests that the inability of parents to process intense negative emotions with children impacts the cut-off process. For instance, Schwartz, Thigpen, and Montgomery (2006) found that gender differences exist among children whose low differentiated parents are unable to process emotionally intense issues in interactions with them, particularly negative emotions. Males reacted by developing a poor sense of self. Females reacted by displaying increased fusion with others and low levels of emotional cut-off. Bartle-Haring (1997) found that when young adults, either male or female, had a highly differentiated relationship with their father based on mutual respect and the open sharing of feelings, they were better able to explore both male and female characteristics in themselves and obtain identity achievement in college. These studies indicate the negative effects that low differentiated parents have on children when they fail to process their emotions with
them, and the positive effects that parents with higher levels of differentiation-of-self have on their children when they are able to manage their emotional reactions and share the range of their feelings with them.

**Multi-Generational Transmission Process**

The multi-generational transmission process refers to how the level of differentiation-of-self decreases in some family members and increases in others across several generations. This process occurs through the mechanisms of triangles and interlocking triangles (Titelman, 2008). In each generation the child who receives the greatest amount of the projection process is drawn into conflicts between parents and ends up with the lowest level of differentiation-of-self. In comparison, the child who is only weakly involved in the projection process achieves a slightly higher level of differentiation-of-self. According to Kerr and Bowen (1988) children who are more strongly involved in the projection process try a variety of strategies to break away from the triangle as they become young adults. That struggle was described as part of the emotional cut-off process. Kerr and Bowen (1988) believed that spouses choose someone with the same level of differentiation-of-self so the process of having strong or weak triangles is repeated again and again. Over several generations this process results in some family members having extremely low levels of differentiation-of-self (who experience chronic emotional or physical problems) and others who function with relatively high levels of differentiation-of-self (who experience fewer difficulties). These other family members fall in between extremes in their degree of differentiation-of-self.
Research on the Multi-Generational Transmission Process

In their review of research on Bowen’s Family Systems Model, Miller et al. (2004) found that there is some evidence that the multigenerational transmission process exists for violence, divorce, marital quality, eating disorders, depressed affect, and alcoholism. They also found one study that indicated that parents’ levels of differentiation-of-self are not predictive of their children’s levels of differentiation-of-self and one study that differentiation-of-self was a significant mediating variable between family-of-origin violence and dating violence among college students.

Summary of Bowen’s Family Systems Model

As indicated in the previous sections, Bowen’s descriptions of family systems links interactions between parents and children with the ways children grow, mature, and manage their emotions and behaviors in interpersonal relationships throughout their development. Bowen’s Family Systems Model is comprehensive and has led to an expanding body of research to test its basic tenets. Miller et al. (2004) were the first scholars to review the research on Bowen’s Family Systems Model. The conclusions they summarized and later research findings by others that followed tend to support the interlocking tenets of Bowen’s Family Systems Model that form the theoretical background for this study. However, since the concept of differentiation-of-self lies at the core of Bowen’s formulations about development, and is central to this dissertation, the research on differentiation-of-self and aspects of psychological functioning related to emotional regulation in college students are described in greater detail next.
Research on Differentiation-of-Self in Emerging Adulthood

Most of the research on the concept of differentiation-of-self has been conducted using the Differentiation-of-Self Inventory (DSI; Skowron & Friedlander, 1998) and its revision (DSI-R; Skowron & Schmitt, 2003). The DSI consists of four subscales: I-Positions (IP), Emotional Reactivity (ER), Emotional Cut-Off (EC), and Fusion with Others (FO). The IP subscale assesses the extent to which a person is able to define and express his or her own voice, especially in stressful situations. The ER subscale measures the person’s ability to regulate affect, EC assesses the degree to which a person reactively distances themselves from others to soothe anxiety, and FO assesses the amount of emotional closeness in a person’s interpersonal relationships. These subscales represent the major aspects of Bowen’s Family Systems Model intra-personal (IP, and ER) and inter-personal (EC, and FO) theoretical dimensions of differentiation-of-self.

Jankowski and Hooper (2012) argued that research by Skowron (2004), Skowron and Platt (2005), Skowron and Dendy (2004), Skowron, et al. (2004), and Skowron, Stanley, and Shapiro (2009) is important because it links Bowen’s Family Systems Model construct of differentiation-of-self to the lifecycle stage of emerging adulthood (Arnett, 2000; Arnett, 2007). Emerging adulthood is conceptualized as theoretically different from both adolescence and adulthood (Arnett, 2000, 2007). It is characterized by instability, as young adults face changes in residential status, the education environment, work status, and new relationships. They struggle with the task of separation and individuation as they leave home. It is a time of excitement but also of fear, anxiety, depression, and loneliness, as they explore new challenges in college.
and/or the workplace, search for the potential fit of a future career, and make decisions about values, dating, and making friends. This is the time when the emerging adult makes the emotional cut-off described in Bowen’s Family Systems Model (Kerr & Bowen, 1988; Titelman, 2008). Therefore research on differentiation-of-self and psychological and emotional functioning at this transitional period of young adulthood is critical.

**Research on Differentiation-of-Self and Psychological Functioning**

The role of differentiation-of-self in psychological and psychosocial functioning has been studied, mainly with college age students in the stage of emerging adulthood. For instance, Skowron, Wester, and Azen (2004) tested whether differentiation-of-self mediated or moderated relations between stress and personal adjustment in a sample of college students. Their sample consisted of 126 undergraduate students: 23.8% men and 75.4% women, ranging in age from 18 to 50 years of age, with a mean of 22.25 years and a \( SD \) of 5.98. Twenty-nine percent were freshmen, 28.8% were sophomores, 22.4% were juniors, 13.6% were seniors, and 5.6% were graduate students. The majority (84.4%) were European American, 7.2% were African American, 2.4% Asian American, and 4.8% were biracial. Most students (76%) worked part-time, 5.6% held full time jobs, and 20% were not employed. The majority (89.6%) of students also received support from outside sources: 58.6% of them from parents and 62% from government student loans. One third of their mothers were high school graduates, 31% had some college, and 25% had an associate or bachelors’ degree. Of the participants’ fathers, 30% had high school degrees, 25% had some college, and 20% had a college degree.
The students completed a measure of differentiation-of-self (i.e., the DSI); an instrument assessing their experience of academic stress (e.g., difficulty meeting deadlines for course requirements), financial stress (e.g., Difficulty paying tuition), and social strain (e.g., Difficulty living in the local community); and a measure of psychological adjustment (Skowron et al., 2004).

The results indicated that differentiation-of-self partially mediated the effects of academic and financial stress, and exerted a direct influence, on psychological adjustment to college (Skowron et al., 2004). There were no gender differences. In other words, differentiation-of-self was the mechanism through which stress influenced psychological adjustment. Less emotional reactivity (ER), emotional cut-off (EC), fusion with others (FO), and greater ability to take an “I” position (IP) in relationships, taken together, predicted 33% of the variability in the relationship between academic and financial stress and psychological adjustment. ER accounted for 31.5%, IP 26.6%, EC 35.1%, and FO 6.8% of that overall mediated effect between academic and financial stress and psychological adjustment. Lower college stress and greater ability to take “I” positions uniquely predicted greater psychological adjustment. The results also found no evidence that differentiation-of-self moderated the link between stress and psychological adjustment to college.

In another study Skowron (2004) examined the cross-cultural validity of differentiation-of-self for individuals of color. The study tested relations between measures of differentiation-of-self, personal adjustment, and ethnic group belonging in ethnic minorities. Participants included undergraduate and graduate ethnic minority students enrolled in a large urban university in the Midwest. The sample was comprised
of 61 persons of color (80.3% women and 19.7% men. Thirty percent were freshmen, 25% sophomores, 16% were juniors, 10% seniors, and 20% were graduate students. Nearly 25% were Asian American, 20% Native American, 17% African American, 15% Latino/a, or multiethnic (25%). They answered measures of differentiation-of-self, three indices of personal adjustment (e.g., psychological symptomology, distress, and physical health), a measure of problem solving skills, and a measure of ethnic group belonging that taps positive ethnic attitudes and feelings of belonging.

The first set of results indicated that higher levels of differentiation-of-self predicted better psychological adjustment, social problem-solving skills, and greater ethnic group belonging among persons of color (Skowron, 2004). Specifically, less ER, less EC, and less FO, and better ability to take “I” Positions predicted better psychological adjustment. Lower EC explained 44% unique variance in psychological symptoms, with lower EC associated with fewer symptoms. Also a greater ability to take “I” positions in relationships was uniquely associated with better social problem solving skills. There was no association between differentiation-of-self and physical health status.

Second, higher differentiation-of-self predicted higher ethnic group belonging scores. EC significantly explained unique variance in group belonging scores, with lower EC associated with higher belonging scores. Skowron (2004) concluded that the findings provide initial, though indirect, empirical support regarding the intersection of racial-cultural identity theory and Bowen’s Family Systems Model.

Further, Skowron, Stanley, and Shapiro (2009) found that over a three month period, students with higher levels of differentiation-of-self reported greater well-being.
than students with lower levels of differentiation-of-self. Specifically they examined the longitudinal relationship between differentiation-of-self and interpersonal and psychological well-being in a sample of young adults in order to test the hypothesis that greater differentiation-of-self, (that is, lower emotional reactivity, better capacity to take an “I” position in relationships, less emotional cut-off, and lower fusion with others) predicted greater interpersonal and psychological health. Participants included 132 young adults, ages 18-22, from a large mid-Atlantic university. Approximately half (51.6%) were single, 46% were in a committed relationship. Most were not employed while 30.2% worked 20 hours per week. Over 75% reported having monthly contact with their parents, only 2.3% reported complete cut-off from their fathers, and none were completely cut-off from their mothers. Most participants were female (86.4%), 13.6% were male. The sample was predominately European-American (92.4%), 3.1% Asian American, 1.6% Hispanic/Latina, and 0.8% were Native American. They completed measures of differentiation-of-self, interpersonal problems functioning (such as, scales on Domineering/controlling, Intrusive/needy), and an outcome questionnaire in which they reported the frequency with which they experienced various emotional states the previous week. Hierarchical regression analyses results showed that Time 1 differentiation-of-self predicted lower Time 2 psychological symptoms and interpersonal problems after controlling for Time 1 distress levels. Further, canonical correlation analyses revealed several significant patterned associations between aspects of differentiation-of-self and specific interpersonal problems. The first canonical root characterized by the set of differentiation-of-self subscales, led by greater cut-off and difficulty taking “I” positions predicted greater interpersonal distress along all eight
dimensions. The second root indicated that individuals who tended to be cut-off were more likely to try to control others or to remain distant and aloof.

These studies have demonstrated associations between levels of differentiation-of-self, stress, and psychological functioning in young adults and college students. Other studies have looked at levels of differentiation-of-self, coping skills, and emotional regulation in young adults. These are presented next.

**Research on Differentiation-of-Self and Emotional Regulation**

Bowen (1978) and Kerr and Bowen (1988) postulated that persons with high levels of differentiation-of-self would have the ability to process intense affect, remain calm when experiencing anxiety so that they could problem solve and compromise when appropriate, and respond with less intense affect when necessary. Consequently, they would be better able to maintain emotional relationships with others throughout their lives with little anxiety. They also would be better equipped to manage stress and have less depression, chronic anxiety, and other mental and physical health issues.

Existing research offers some support for these beliefs. Lambert and Friedlander (2008) found that higher levels of differentiation-of-self were associated with higher levels of emotional control, and increased feelings of support and security within a family therapy relationship. Rosen, Bartle-Haring, and Stith (2001) found that the potential for dating violence was reduced in individuals with higher levels of differentiation-of-self when compared to individuals with lower levels of differentiation-of-self.

Murdock and Gore (2004) found that young adults who had higher levels of differentiation-of-self were better equipped to deal with stressors they encountered
because they utilized appropriate coping mechanisms to deal with those stressors. They could solve problems because of their increased ability to think clearly when experiencing stress. In contrast, low differentiated persons employed reactive or suppressive coping which has been associated with increased levels of psychological distress.

Because lower levels of differentiation-of-self have been associated with poorer coping and problem solving skills, researchers have explored the possible connection between level of differentiation-of-self and child abuse. Skowron and Platt (2005) and Skowron, Pincus, and Kozlowski (2010) found that a high predictability of engaging in child abuse existed among young adults who had lower levels of differentiation-of-self, who had difficulties controlling emotions in high-stress situations, and who tended to move towards emotional cut-off from others when stressed.

The relationship between differentiation-of-self, anxiety, stress, and emotional reactivity has also been studied in marital relationships. Gubbins, Perosa, and Bartle-Haring (2010) found that differentiation-of-self was negatively associated with the tendency to become emotionally flooded during conflicts for both partners. In addition, Skowron (2000) found that higher levels of marital satisfaction were correlated with low levels of emotional reactivity, emotional cut-off, and fusion, and with higher levels of the ability to take I-positions.

**Research on Differentiation-of-Self and Effortful Control**

Researchers also have begun to hone in on the relationship between differentiation-of-self and effortful control, which is particularly relevant for this dissertation. Effortful control is defined as the ability to actively modulate emotions.
Individuals who are capable of self-regulation can engage in conscious effortful control of their attention, emotions and feelings, and behavior. They can flexibly shift and focus attention, reduce negative emotions such as fear and anger, or optimize positive emotions such as interest and joy, and engage in adaptive approach behaviors or inhibit maladaptive behavioral responses. While effortful control refers to voluntary, conscious control, arousal and emotion are considered more reactive. Effortful control, or self-regulation, is an important dimension of temperament since it enables an individual to suppress reactive tendencies, modulate emotions, and engage in purposeful behavior (Rothbart, Evans, & Ahadi, 2000).

Skowron and Dendy (2004) saw parallels between Rothbart et al.’s (2000) concept of effortful control, Bowlby’s concept of attachment security, and Bowen’s concept of differentiation-of-self. They believed that more differentiated persons, who experienced attachment security, would be more capable of reflecting on, experiencing, and regulating emotions, coping with uncertainty and ambiguity, and remaining calm in intimate relationships than less differentiated persons. Therefore, they tested relations between differentiation-of-self, adult attachment, and effortful control in a sample of 225 adults contacted on the World Wide Web via news groups focusing on family and parenting issues, and relationships. The sample consisted of 79% females and 21% males, with a mean age of 36.31 years ($SD = 11.30$). Most participants (63%) were married, whereas the rest were single (21%) or divorced (16%). The majority (70%) were employed. Twelve percent were high school graduates, 45% had some college/technical training, 24% had bachelor’s degrees, and 15% had master’s degrees.
Most (87%) described themselves as European American, 5% as biracial, 2% as African American, 1% as Latino, and 1% as Native American.

Hierarchical regression results showed that greater emotional reactivity, emotional cut-off, and fusion with others, and inability to make “I” statements in relationships were associated with greater attachment anxiety (Skowron & Dendy, 2004). Additional hierarchical regression results showed that (a) relational variables of attachment and differentiation-of-self predicted the capacity for effortful control, and (b) differentiation-of-self scores provided incremental prediction of effortful control scores over and above adult attachment dimensions. Specifically, differentiation-of-self accounted for 19% of the variability in effortful control, over and above relations with attachment anxiety and avoidance. Skowron and Dendy (2004) stated that this study provided the first established link between differentiation-of-self and self-regulatory control. Greater ability to take an “I” position (IP) in relationships along with less emotional reactivity (ER) each uniquely predicted greater effortful control.

**Summary of Research on Differentiation-of-Self**

The series of papers by Elizabeth Skowron and her colleagues demonstrates the utility of Bowen’s Family Systems Model in understanding students’ emotional reactions to stress in the stage of emerging adulthood (Skowron et al., 2004; Skowron et al., 2009) and supports the validity of Bowen’s Family Systems Model across racial/ethnic groups (Skowron, 2004). Further, the findings serve as a bridge connecting the concepts of differentiation-of-self and effortful control, to students’ multidimensional adjustment to college, which forms the framework for this dissertation. A comparison of the studies by Skowron and her colleagues shows that differentiation-
of-self predicted emotional expression and regulation in college students from White and minority racial groups (Skowron, 2004; Skowron, Stanley, & Shapiro, 2009). Other studies showed that students’ differentiation-of-self mediated between stress they experienced and their personal adjustment to college (Skowron, Wester, & Azen 2004). In addition, in another study differentiation-of-self predicted effortful control in a sample of adults (Skowron & Dendy, 2004). However, in this last study, the sample consisted chiefly of adults not currently in college. Therefore, research is needed to test the relationship between differentiation-of-self and effortful control with college students. Also because the measure of adjustment to college that Skowron utilized in her research only operationalized psychological adjustment, future research employing a multidimensional measure of student adjustment to college can increase our understanding of associations between differentiation-of-self, effortful control, and the multifaceted patterns of adjustment that students must make to succeed in community college.

**Implications of Bowen’s Family Systems Model and Supporting Research**

**On Differentiation-of-Self for MFTs**

Bowen’s Family Systems Model emphasizes the significance of the type of cut-off that emerging young adults make during the life cycle stage of leaving home. Skowron’s research (Skowron & Dendy, 2004; Skowron et al., 2004; Skowron et al., 2009) clearly shows that low differentiated emerging young adult students have difficulty managing the anxiety and powerful emotional reactions they have to the challenges they encounter. Yet, Bowen’s Family Systems Model also provides a model of therapeutic interventions that MFTs can apply to help persons learn to calm
themselves, and draw upon stronger cognitive processes, in order to solve problems and resolve interpersonal conflicts (Titelman, 1998). In their interactions with students, MFTs trained in Bowen’s Family Systems Model techniques, focus on cognitions, use “I” statements, and avoid being triangulated into tense relationships involving the student and others (Titelman, 1998). They model how a highly differentiated person communicates, and encourage students to practice those kinds of statements with others. They also collaborate and consult with faculty, staff, and administrators to help them engage and communicate clearly with the student. MFTs using systems based approaches have a unique set of skills to help students differentiate and succeed at college (Titelman, 1998; Vennum & Vennum, 2013).

**Summary of Chapter II**

Non-traditional students in community colleges have graduation rates of 20% compared to graduation rates of 69% for students enrolled in 4-year colleges (Martin et al., 2014). Many non-traditional students are academically unprepared, and have financial and family responsibilities that impose burdens on them and create overwhelming stress. The theory of Emerging Adulthood (Arnett, 2000; Arnett, 2007) clarifies the challenges students in this transitional period struggle with when they leave home. It is a time of excitement, fear, anxiety, depression, and loneliness, as they explore new challenges in college and/or the workplace, search for the potential fit of a future career, and make decisions about values, dating, and making friends. Thus the model highlights the tasks and concomitant stress that emerging adults must master. In contrast, Bowen’s Family Systems Model zeroes in on the type of emotional cut-off that young adults experience and the emotional reactivity they must manage in order to
succeed in their new environment (Titelman, 1998). It emphasizes the importance of emotional regulation in helping individuals concentrate, problem solve, make decisions, and remain calm in relationships when disruptions begin to surface. The review of the literature in this chapter on Bowen’s Family Systems Model, differentiation-of-self, and adjustment to college reveals the need for a study that emphasizes the unique role that emotional regulation plays between non-traditional community college students’ levels of differentiation-of-self and the multidimensional aspects of their adjustment to the community college environment. Differentiation-of-self has been shown to be related to effortful control, or the ability to consciously process and disclose emotions, and engage in purposeful behaviors (Skowron & Dendy, 2004). In addition, research by Skowron et al. (2004) has found that differentiation-of-self mediates between college stress and personal adjustment. A study that looks relationships between differentiation-of-self, effortful control and academic, social, and personal adjustment with non-traditional students in the community college setting potentially can help administrators, faculty, counselors and MFTs design programs to enhance student success.

**Purpose of the Study**

Based on the research findings described above, the intent of this dissertation is to investigate relations between differentiation-of-self, effortful control, and the multidimensional model of adjustment to college. As stated in Chapter I, this dissertation answers the following general question: “Does differentiation-of-self predict unique variance in community college students’ academic, social, and personal adjustment above the amount of variance explained by effortful control? The specific research questions and hypotheses are described below.
Research Questions and Hypotheses

Research Questions.

1. Are there significant differences in gender, age, and/or ethnicity/race on:
   a. students’ differentiation-of-self scores on emotional reactivity (ER);
   b. students’ effortful control scores on the ATQ-S-EC; and on
   c. students’ social adjustment, academic adjustment, and personal-emotional adjustment to college scores on the SACQ?

2. Do effortful control (ATQ-S-EC) scores significantly relate to students’
   a. academic adjustment,
   b. social adjustment, and
   c. personal adjustment to college scores on the SACQ?

3. Do differentiation-of-self (DSI-SF) IP and ER scores provide incremental variance above the amount of variance explained by effortful control (ATQ-S-EC) scores on students’ SACQ scores on
   a. academic adjustment,
   b. social adjustment, and
   c. personal-emotional adjustment?

Research Hypotheses.

1a. There will be gender differences on emotional reactivity (ER); males will report significantly less emotional reactivity (i.e., higher ER scores than females.

As described previously in Chapter II, research by Skowron and Dendy (2004) found gender differences only on Emotional Reactivity (ER) scores on the
Differentiation-of-Self Inventory-Revised (DSI-R). Men reported less emotional reactivity (i.e., higher ER scores) than women.

1b. There will be significant differences in ethnicity/race on student social adjustment to college scores on the Student Adaptation to College Questionnaire (SACQ). Minority students will score significantly lower than White students on social adjustment to college on the SACQ.

Crede and Niehorster (2012) found that minority students scored significantly lower than White students on social adjustment to college on the SACQ. Note: There are no hypotheses regarding age.

Research Question 2. Effortful control (ATQ-S-EC) scores will significantly relate to students’

2a. academic adjustment,

2b. social adjustment, and

2c. personal-emotional adjustment to college scores, on the SACQ.

As shown in Chapter II, research by Crede and Niehorster (2012) showed that self-esteem, internal locus of control, and positive coping scores, which are associated with self-regulation, showed strong relationships with the three college adjustment variables and had the highest relationship with over all college adjustment.

Research Question 3. Differentiation-of-self (DSI-SF) IP and ER scores will provide incremental variance above the amount of variance explained by effortful control (ATQ-S-EC) scores on students’ (SACQ) scores on

3a. academic adjustment

3b. social adjustment, and
3c. personal-emotional adjustment

As reported in Chapter II, research by Skowron and Dendy (2004) found that Differentiation-of-self (DSI-SF) IP and ER scores provided incremental prediction of effortful control scores above attachment dimensions. Research by Skowron, et al. (2004) found that differentiation-of-self mediated between college academic and financial stress and college adjustment scores on the SACQ. Therefore it is logical to hypothesize that Differentiation-of-self (IP) and (ER) scores will provide incremental variance above the amount of variance explained by effortful control (ATQ-S-EC) scores on students’ SACQ scores.

**Overview of Chapter III**

Chapter III focuses on the hypotheses for this study that are stated above and the statistical analyses used to test them. The participants, measures, procedures, and data analyses plan are specified in more detail.
CHAPTER III

METHODOLOGY

As previously argued, a study that looked at relationships between differentiation-of-self, effortful control and, academic, social, and personal-emotional adjustment, with non-traditional students in the community college setting could make an important contribution to our understanding of factors that foster student success (Skowron & Dendy, 2004; Skowron et al., 2004). The core of Bowen’s Family Systems Model rests on the concept of differentiation-of-self and its importance in explaining how people regulate their emotional and behavioral responses to stress (Bowen, 1978; Kerr & Bowen, 1988). The goal of this dissertation was to determine whether differentiation-of-self (IP) and (ER) scores predict unique variance in non-traditional community college students’ academic, social, and personal-emotional adjustment, above the amount of variance explained by effortful control (i.e., self-regulation) scores. The next section of this chapter presents the specific research hypotheses, measures, procedures, and data analyses used to test the hypotheses.

Participants and Delimitations

In this study non-traditional college students could be any age, gender, race (including White), or ethnic group, who met at least one (or more) of the following characteristics. The student may have delayed enrollment into college (e.g., to work, to join the military, etc.) rather than starting college right after high school. The student
could have attended on a part-time basis or have been employed full-time. The student could have been “financially independent” in terms of financial aid; or have dependents other than a spouse (i.e., children). The student could have been a single parent, may not have earned a high school diploma but earned a GED, or had a disability. The student may have taken remedial courses, may have been the first in their family to attend college, or may have grown up in a family where English was spoken as a second language. The term non-traditional student also included White students who may not have been members of a minority group but who met one or more of the other factors described above.

The convenience sample of community college non-traditional students at least 18 years of age was recruited in arts and sciences classes at a community colleges in the midwest of the United States. A power analysis, using G*Power software, indicated that for Hypotheses 1a and 1b, 128 participants (64 per group) were recommended for the t-test using a power level of .80; the effect size was .5 and the alpha level was .05. For Hypothesis 3, using hierarchical multiple regression, 77 participants were recommended using a power of .80; the effect size was .15 and the alpha level was .05. While 197 participants completed the surveys, in whole or part, 25 participants were removed because they did not consent or were ineligible to participate because they were not 18 years old. In the preliminary screening, 3 participants were removed because they exited the survey after giving consent, and an additional 49 participants were removed because they stopped completing the survey at some point. One additional case was removed due to being an outlier. Therefore, the final usable sample size was 119 participants.
The sample consisted of 17.6% male, 79% female, 2.5% transgender, and .8% other. Age of participants ranged from 18 to 63 years, with a mean age of 28 years. The sample was primarily White (75.6%), with 15.1% identifying as Black or African American, 4.2% as Hispanic or Latino, .8% as Asian, and 4.2% as Other (Mixed, Middle Eastern, Pacific Islander). A majority of the participants were single (61.3%), with 28.6% being married, 6.7% being divorced, and 3.4% being other (cohabitating, engaged, dating). Over half (59.7%) of the participants reported that they did not have any children, while 12.6% reported having one child, 16% reported having two children, and 11.8% reported having three or more children. A large majority (89.1%) of the sample indicated that they were not the head of a single parent family, while 10.1% indicated that they were. A bulk of the participants (91.6%) reported that English was their first language, while 8.4% indicated that English was not their first language.

As for being the first member in a family to attend college, 35.3% of the sample reported that they were the first, while 64.7% reported that they were not the first to attend college. When asked about education level of their fathers, 16.8% reported that their father completed some high school, while 41.2% of the participants’ fathers completed high school, 21% completed some college or an Associate degree, 10.1% completed a Bachelor’s degree, and 10.9 indicated other levels of education (middle school, GED, trade school, Master’s degrees, or medical degrees). As for the mothers’ level of education, 10.9% indicated their mother had some high school, while 35.3% indicated that their mother completed high school, 35.3% completed some high school or an Associate degree, 8.4% completed a Bachelor’s degree, and 10.1% indicated other levels of education (trade school, GED, LPN, Master’s degree).
A wide range of reasons for attending community college were cited including starting a career upon graduation (31.1%), transferring to a 4-year institution (47.1%), losing a job and seeking re-training in a new field (5%), and high school students earning college credits (6.7%). Finally, 38.7% of the sample reported that they were first-year students, 43.7% reported being second-year students, and 17.6% classified themselves as other (third year, forth year, transient, working on additional degrees).

**Measures and Questionnaires**

The following measures and questionnaires were employed in this study.

**Demographic Questionnaire**

The Demographic Questionnaire, developed by the researcher, obtained demographic information including, gender, race, age, marital status, number of children, if participants were head of a household, if they were single parents, first generation college students, education levels of participants’ mothers and fathers, if English was their second language, reason for choosing community college, year and semester in community college, whether they were attending full or part time, plans following community college, if they were receiving financial aid, high school and community college GPA, if they earned a GED, and if they had a disability. (See Appendix B for a copy of the Demographic Questionnaire.)

**The Differentiation-of-Self-Short Form (DSI-SF)**

The DSI was originally developed by Skowron and Friedlander (1998) and was revised by Skowron and Schmitt (2003). The DSI-R contained 46 items and had a full scale and four subscales: I-Position (IP), Emotional Reactivity (ER), Fusion with Others (FO), and Emotional Cut-Off (EC). The short form of the DSI was developed in a
dissertation by Drake (2011) in a series of three studies. Participants in the first study were 344 college students from a midsize Midwestern university who ranged in age from 18 to 58 years ($M = 25.89$, $SD = 8.00$). The majority were female ($n = 191$, 55.5%) and Caucasian ($n = 245$, 71.2%). Other ethnicities included African Americans ($n = 51$, 14.8%), Hispanic ($n = 15$, 4.4%), Asian or Pacific Islander ($n = 20$, 5.8%), and Other ($n = 13$, 3.8%). Participants completed the 46-item DSI-R. Item Response analytic techniques resulted in 20 items and four subscales, IP, ER, FO, and EC that comprise the DSI-SF. Only the IP and ER subscales were used in this study since Skowron and Dendy (2004) found that differentiation-of-self IP and ER scores provided incremental prediction of effortful control scores above attachment scores. In addition, Skowron et al. (2004) indicated that differentiation-of-self (DSI-R) (IP) and (ER) scores mediated between the effects of college academic and financial stress scores on the (CSI) and exerted a direct influence on personal adjustment scores on the SACQ. The IP and ER subscales each contain six items. A sample item for the IP subscale reads, “I’m fairly self-accepting.” A sample item for the ER scale states, “At times my feelings get the best of me, and I have trouble thinking clearly.” Respondents report how much an item is true for them. Scoring options for items range from 1 (not at all true) to 6 (very true). Several items are reversed scored. To obtain a subscale score, the researcher calculates the average of all items within a subscale. High scores on IP indicate a stronger ability for individuals to voice their opinions; high scores on ER indicate lower emotional reactivity. The full scale and four subscales displayed evidence of internal consistency reliability. IP had an alpha coefficient (Cronbach, 1951) of .72; ER demonstrated an
alpha coefficient of .84, and the full-scale alpha was .87. (EC had an alpha of .81 and FO had an alpha of .74.). The scales displayed moderate inter scale correlations.

Study 2 provided evidence for construct and convergent validity of the DSI-SF. A sample of 595 students from a midsize Midwest university answered the measures. Sixty-five percent were females and 35% were males. They ranged in age from 18 to 62 years (\(M = 27.04, SD = 9.29\)). The participants were primarily Caucasian (67%), followed by Asian (12%), African American (8.8%), and Hispanic or Latino (3.4%). Construct validity was demonstrated in several ways. The results of factor analyses supported the four subscales and indicated that each of the four subscales was largely singular with respect to the content of the items. The inter-scale correlations between the full scale, the four subscales of the DSI-SF, and criterion variables of perceived stress, state anxiety, trait anxiety, depression, and self-esteem were in the predicted direction and had large effect sizes. The DSI-SF also showed convergent validity with the Level of Differentiation-of-Self Scale (LDSS; Haber, 2003).

In Study 3, the DSI-SF scales displayed good test-retest reliability over a 4-week period. The test-retest correlation results were .74 for IP, .82 for ER, and .85 for the full scale. (Results for FO and for EC were .72 and .73.) Drake (2011) concluded that the DSI-SF was a reliable and valid measure for use with college students. (See Appendix C for a copy of the DSI-SF.)

**The Effortful Control Scale (ATQ-S-EC)**

The ATQ-S-EC scale is a 19 item self-report measure of effortful control on the Adult Temperament Questionnaire-Short Form (ATQ-S). It measures the ability to (a) focus and shift attention, (b) Inhibit undesirable approach behaviors, and (c) and perform
an action in spite of a strong desire to avoid such action. Sample items read: “It is hard for me to focus my attention when I am depressed”; “When I am excited about something, it’s usually hard for me to resist jumping right into things before I’ve considered consequences”; and “I can make myself work on a difficult task even when I don’t feel like trying.” Items are rated on a 7-point Likert scale from 1 (extremely untrue of you) to 7 (extremely true of you). Total ATQ-S-EC scores range from 1 to 7, with higher scores indicating greater effortful control. The Total ATQ-S-EC scale was used in this dissertation. Internal consistency reliability was .77 in the Skowron and Dendy (2004) study. Construct validity has been established through factor analyses and support for predicted correlations with four of the Big Five personality scale. Rothbart et al. (2000) administered the ATQ to 107 undergraduates at a large university in the West. Results of a principal-axis factor analysis with oblique rotation yielded four factors: Orienting Sensitivity, Extraversion, Effortful Control, and Negative Affect. The researchers also gave a measure of 40 trait adjectives to students, which they said were mini-markers for the Big Five. The Effortful Control factor correlated positively with the Big Five personality scales of Conscientiousness, Openness to experience, and negatively with Neuroticism. In addition, Rothbart (2007) reviewed the research on temperament, development, and personality, and noted that the Openness to experience and Agreeableness factors have been found to relate to the adult temperament dimensions of sensitivity and affiliation, and that emotional control predicts conscience, empathy, and guilt. (See Appendix D for a copy of the measure.)
The Student Adjustment to College Questionnaire (SACQ)

The SACQ is a 67-item self-report measure providing scales assessing college students’ academic adjustment, social adjustment, personal/emotional adjustment, and their attachment to the college. Scoring also provides an overall index of full-scale adjustment. The institutional attachment scale was not used in this study because many of the items on it overlap with items on other scales (Baker & Siryk, 1989). This study used the academic adjustment (24 items), social adjustment (20 items), and personal/emotional adjustment (15 items) subscales. Sample items on these subscales read: “I have been keeping up to date on my academic work”; “I have several close social ties at college”; and “I haven’t been able to control my emotions very well lately.” The scales use a 9-point Likert-type scale ranging from 1 (applies very closely to me) to 9 (doesn’t apply at all to me).

The internal consistency alpha reliability coefficients (Cronbach, 1951) ranged from .89 to .92 for academic adjustment; for social adjustment they ranged from .83 to .91, and, for personal/emotional adjustment they ranged from .77 to .86 in several studies (Crede & Niehorster, 2012). Construct validity is evidenced by the supporting results of a confirmatory factor analytic study by Taylor and Pastor (2007), based on a sample of 861 sophomores at a mid-sized southeastern university. The sample consisted of a majority of females (61%) and Caucasians (85%). Taylor and Pastor (2007) found adequate fit (RMSEA = 0.089, CFI = 0.91) for the four-factor model. Crede and Niehorster (2012) also argued that construct validity for the SACQ is supported by its negative association with attrition from school (-.15 to -.42), the use of counseling services (-.15 to -.28), and its positive associations with GPA (.18 to .32), and student
participation in social events (.16 to .22) in studies. (See Appendix E for a copy of the measure.)

**Procedures**

After approval was obtained from the Institutional Review Board at The University of Akron and a community college in the midwest of the United States, faculty in the arts and sciences department at the community college were contacted in person and via e-mail directly by the researcher. The study was described to faculty and they were asked to tell their students about it and ask them to participate, if they were interested. Interested faculty were e-mailed a link to the on-line survey and were asked to disseminate it to interested students.

The study was conducted using an online survey format (i.e., Qualtrics). Once the link was accessed, the participants saw a document for informed consent. The Informed Consent document includes a brief description of the study, the risks and benefits of participation in the study, a note that participation was voluntary, that the participant has a right to refuse to participate and could withdraw at any time without negative consequences. It also included a description of how data would be handled and how confidentiality and anonymity would be maintained (see Appendix A). If the volunteer agreed to participate, he/she would be taken to the online survey and related documents.

The survey began with the Demographic Questionnaire. (See Appendix B for a copy of the Questionnaire.) Following completion of the Demographic Questionnaire, the next documents were the Differentiation-of-Self-Short Form (see Appendix C), the Effortful Control Scale, (see Appendix D), and the Student Adjustment to College
Questionnaire (see Appendix E), presented in counterbalanced order to reduce order effect. (Qualtrics was used for counterbalancing measures.) There was no debriefing for students. The estimated time to complete the entire survey was approximately 20-25 minutes. When students were done, they exited the survey.

Data Analyses

Data Screening and Descriptive Statistics

First, the data was screened for missing and incorrectly entered data, normality, linearity, outliers, and multicollinearity. Descriptive statistics were run for the demographic variables in the study including gender, race, age, marital status, number of children, if participants were head of a household, if they were single parents, first generation college students, education levels of participants’ mothers and fathers, if English was their second language, reason for choosing community college, year and semester in community college, whether they were attending full or part time, plans following community college, if they were receiving financial aid, high school and community college GPA, if they earned a GED, and if they had a disability. In addition, psychometric properties of the major study variables were computed (e.g., mean, standard deviation, range, alpha, correlations).

Hypothesis Testing

Hypotheses 1a and 1b. T-tests were computed in order to test for significant differences by gender and race on Differentiation-of-self (DSI-SF) “I” position (IP) and emotional reactivity (ER) subscale scores, on Effortful Control (EC) scores on the Adult Temperament Scale (ATQ-S-EC), and the academic, social, and personal-emotional
adjustment to college scores on the Student Adjustment to College Questionnaire (SACQ).

**Hypotheses 2a, 2b, and 2c.** Bivariate correlations were used to test for relations between students’ effortful control (ATQ-S-EC) scale scores and students’ academic adjustment scores, social adjustment scores, and personal/emotional scores on the SACQ.

**Hypotheses 3a, 3b, and 3c.** A series of three hierarchical multiple regression procedures were run to test whether DSI-SF (IP) and (ER) scores provide incremental variance above the amount of variance explained by the ATQ-S-EC scores. In the analyses, effortful control (EC) scale scores were entered into the model in step 1 followed by the emotional reactivity (ER) and “I” position (IP) subscale scores in step 2. The academic adjustment to college subscale scores on the SACQ served as the outcome variable for the first hierarchical regression analyses; the social adjustment subscale scores were the outcome variable for the second hierarchical regression analyses; and the personal-emotional adjustment subscale scores were the outcome variable for the third analyses.

**Summary of Chapter III**

As seen in their review of the literature on adjustment to college in Chapter II, Crede and Niehorster (2012) called for more incremental studies evaluating the relative contribution of different variables related to student success at college. The goal of this dissertation was to take a step in the direction Crede and Niehorster suggested by adding knowledge about how differentiation-of-self and effortful control contribute to student academic, social, and personal-emotional adjustment to the college setting. The general research question answered in this dissertation was, “Does differentiation-of-self add
unique variance above the amount of variance explained by effort control (i.e., self-regulation) to non-traditional students’ academic, social, and personal adjustment to community college.

Chapter III presented the research hypotheses, participants, instruments, procedures, and data analyses plan followed to answer the above question. Chapter IV describes the results of the data analyses. Chapter V discusses the conclusions, the relationship of the findings to previous studies, limitations in this study, suggestions for future research, and implications of the research for faculty, and administrators in community colleges to develop strategies to help meet the needs of their students.
CHAPTER IV
RESULTS

The purpose of this dissertation is to determine whether differentiation-of-self (IP) and (ER) scores predict unique variance in non-traditional college students’ academic, social, and personal-emotional adjustment, above the amount of variance explained by effortful control scores. All of the data were cleaned and screened prior to exploring preliminary study data (i.e., means, standard deviations, and correlations), and major hypotheses were tested.

Data Cleaning and Screening

Each variable was screened in order to identify and account for missing data. A total of 197 participants completed the surveys, in whole or part. Twenty-five participants (12% of the original data set) were removed because they did not consent ($n = 19$, 9% of the original data set) or were ineligible to participate because they were not 18 years old ($n = 6$, 3% of the original data set). In the preliminary screening, 3 (1% of the original data set) participants were removed because they exited the survey after giving consent and an additional 49 (24% of the original data set) participants were removed because they stopped completing the survey at some point. The final preliminary data set was $N = 120$.

Next, after applicable items were reverse coded and scales and subscales were created, missing data was accounted for on each scale. For the SACQ subscales of
social, personal-emotional, and academic adjustment the mean for the subscales was used given there were no more than two omissions for each participant and there was no instance that data needed to be removed. Question 26 on the social adjustment subscale was removed because students completing these surveys do not live in dorms. For the ATQ-S-EC, mean scores were used to replace missing values per the scoring instructions. Again, no data were removed. Finally, for the DSI-SF only the IP and ER subscales were used because they offer better prediction of effortful control than the attachment scales (Skowron & Dendy, 2004). The final main data set was \( N = 120 \).

After identifying and accounting for missing data in the preliminary and main data sets, data screening for normality (i.e., skewness and kurtosis), univariate outliers, multivariate outliers, and multicollinearity was assessed. Data were screened for normality. For both skewness and kurtosis, the statistic was divided by the standard error; no values were greater than 3.29, indicating that skew and kurtosis were not present in the data set (see Table 1). To further access the possibility of skewness and kurtosis, histograms and P-Plots were also examined. Data on each of the histograms appeared to be normally distributed, and dots on each of the P-Plots were evenly distributed as expected.

Each of the scale scores was converted to a \( z \)-score to assess for univariate outliers. If a \( z \)-score has a value greater than 3.29 it indicates a potential univariate outlier. One score yielded a value that was greater than 3.29 (\( p < .001 \) for the \( z \) distribution). The value of 3.54 was on the SACQ personal-emotional adjustment scale. A histogram was created to further evaluate the presence of a possible univariate outlier.
and it was determined that the value should remain as part of the data set and not be removed as it is acceptable to include a few outliers and the evaluation of the histogram appeared to be of normal distribution (Tabachnick & Fidell, 2001).

Table 1. Skewness and kurtosis values

<table>
<thead>
<tr>
<th>Scale</th>
<th>Skewness</th>
<th>Std. Error</th>
<th>Kurtosis</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>SACQ Social Adjustment</td>
<td>.267</td>
<td>.221</td>
<td>-.033</td>
<td>.438</td>
</tr>
<tr>
<td>SACQ Personal-Emotional Adjustment</td>
<td>.512</td>
<td>.221</td>
<td>.956</td>
<td>.438</td>
</tr>
<tr>
<td>SACQ Academic Adjustment</td>
<td>-.195</td>
<td>.221</td>
<td>-.211</td>
<td>.438</td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td>-.131</td>
<td>.221</td>
<td>.781</td>
<td>.438</td>
</tr>
<tr>
<td>DSI-SF (IP)</td>
<td>-.018</td>
<td>.221</td>
<td>-.433</td>
<td>.438</td>
</tr>
<tr>
<td>DSI-SF (ER)</td>
<td>.489</td>
<td>.221</td>
<td>-.027</td>
<td>.438</td>
</tr>
</tbody>
</table>

Note. $N = 120$

Mahalanobis distance scores and probabilities were calculated where Mahalanobis chi square scores of $p \leq .001$ are considered a multivariate outlier. One multivariate outlier was found ($p = .00087$) and was removed.

Finally, multicollinearity was assessed specifically looking at the tolerance, variance inflation factor, and condition index. Based on the results of the analyses, multicollinearity was not present. The final number of participants was determined ($N = 119$, 60% of the original data set).
**Descriptive Statistics**

Means, standard deviations, and Cronbach’s alpha coefficients were calculated for each scale and can be found in Table 2. Additionally, correlations were calculated for all scales and can be found in Table 3.

Table 2. Means, standard deviations, and Cronbach’s alpha coefficients

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>SACQ Academic Adjustment</td>
<td>120.59</td>
<td>9.47</td>
<td>.572</td>
</tr>
<tr>
<td>SACQ Personal-Emotion Adjustment</td>
<td>72.57</td>
<td>7.45</td>
<td>.837</td>
</tr>
<tr>
<td>SACQ Social Adjustment</td>
<td>101.34</td>
<td>11.16</td>
<td>.772</td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td>4.64</td>
<td>.86</td>
<td>.705</td>
</tr>
<tr>
<td>DSI-SF (ER)</td>
<td>3.71</td>
<td>1.05</td>
<td>.805</td>
</tr>
<tr>
<td>DSI-SF (IP)</td>
<td>4.03</td>
<td>.94</td>
<td>.767</td>
</tr>
</tbody>
</table>

Note. N = 119

Several correlations were found among the scales. Three correlations were found to be significant at the .05 level. A negative correlation between SACQ personal-emotional adjustment and DSI-SF (ER) scales ($r(119) = -.191, p = .038$) indicating that lower levels of personal and emotional adjustment are related to lower levels of emotional regulation. Positive correlations between SACQ social adjustment and ATQ-S-EC scales ($r(119) = .198, p = .031$), and SACQ social adjustment and DSI-SF (IP) scales ($r(119) = .216, p = .018$). Additionally, four correlations were found to be
significant at the .01 level. These include positive correlations between SACQ social adjustment and DSI-SF (ER) scales \((r (119) = .236, p = .010)\), DSI-SF (ER) and ATQ-S-EC scales \((r (119) = .413, p = .000)\), ATQ-S-EC and DSI-SF (IP) scales \((r (119) = .389, p = .000)\), and DSI-SF (ER) and DSI-SF (IP) scales \((r (119) = .548, p = .000)\).

Table 3. Correlations between scales

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSI-SF (ER)</td>
<td>1</td>
<td>.548**</td>
<td>.419**</td>
<td>.236**</td>
<td>-.191*</td>
<td>-.123</td>
</tr>
<tr>
<td>DSI-SF (IP)</td>
<td>.548**</td>
<td>1</td>
<td>.389**</td>
<td>.216*</td>
<td>-.019</td>
<td>-.080</td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td>.413**</td>
<td>.389**</td>
<td>1</td>
<td>.198*</td>
<td>-.053</td>
<td>-.111</td>
</tr>
<tr>
<td>SACQ Social Adjustment</td>
<td>.236**</td>
<td>.216*</td>
<td>.198*</td>
<td>1</td>
<td>-.126</td>
<td>.032</td>
</tr>
<tr>
<td>SACQ Personal Adjustment</td>
<td>-.191*</td>
<td>.019</td>
<td>-.053</td>
<td>-.126</td>
<td>1</td>
<td>.160</td>
</tr>
<tr>
<td>SACQ Academic Adjustment</td>
<td>-.123</td>
<td>-.080</td>
<td>-.111</td>
<td>.032</td>
<td>.160</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the .01 level (2-tailed)
*Correlation is significant at the .05 level (2-tailed)

Hypotheses Testing

Hypotheses 1a and 1b were assessed using \(t\)-tests to test for significant differences by gender and ethnicity on Differentiation-of-Self (DSI-SF) “I” position (IP) and emotional reactivity (ER) subscales scores, on Effortful Control (EC) scores on the Adult Temperament Scale (ATQ-S-EC), and the academic, social, and personal-emotional adjustment to college scores on the Student Adjustment to College
Questionnaire (SACQ). Hypotheses 2a, 2b, and 2c were assessed using bivariate correlations to test for relations between effortful control (ATQ-S-EC) scores and students’ academic adjustment, social adjustment, and personal-emotional adjustment scores on the SACQ. Hypotheses 3a, 3b, and 3c were assessed using a series of three hierarchical multiple regressions to test whether DSI-SF (IP) and (ER) scores provide incremental variance above the amount of variance explained by the ATQ-S-EC scores.

**Hypotheses 1a and 1b**

In order to test for significant differences by gender and racial/ethnic groups on Differentiation-of-Self (DSI-SF) “I” position (IP) and emotional reactivity (ER) subscale scores, on Effortful Control (EC) scores on the Adult Temperament Scale (ATQ-S-EC), and the academic, social, and personal-emotional adjustment to college scores on the Student Adjustment to College Questionnaire (SACQ), a series of twelve \( t \)-tests were run.

A Bonferroni correction to the alpha level was used to help control for the possibility that significant results were found by chance due the high number of \( t \)-tests that were run (six for gender and six for race). The Bonferroni correction was calculated by taking the standard alpha level (.05) and dividing it by the number of analyses. Because there were six analyses for gender and six for race, the standard alpha (.05) was divided by six, resulting in a new significant cutoff of \( p = .008 \).

When conducting the \( t \)-tests for gender, only males and females were included as the two groups due to the low and insignificant number of participants who self-identified as something other than male or female (i.e., transgender). Results of an independent-samples \( t \)-test on DSI-SF (IP) subscale scores in males and females showed
there was not a significant difference in scores for males ($M = 4.43, SD = .77$) and females ($M = 3.91, SD = .92$); $t(113) = 2.41, p = .018$. Results of an independent-samples $t$-test on DSI-SF (ER) subscale scores in males and females showed there was not a significant difference in scores for males ($M = 4.15, SD = .78$) and females ($M = 3.60, SD = 1.05$); $t(113) = 2.26, p = .026$. Results of an independent-samples $t$-test on ATQ-S-EC scale scores in males and females showed were not significant difference in scores for males ($M = 4.84, SD = .77$) and females ($M = 4.63, SD = .83$); $t(113) = 1.03, p = .305$ on the ATQ-S-EC scale. Results of an independent-samples $t$-test on SACQ academic adjustment subscale scores in males and females showed were not significant difference in scores for males ($M = 119.10, SD = 9.36$) and females ($M = 121.28, SD = 9.17$); $t(113) = -.98, p = .878$ on the academic adjustment subscale of the SACQ. Results of an independent-samples $t$-test on SACQ social adjustment subscale scores in males and females showed there were not significant difference in scores for males ($M = 100.67, SD = 13.68$) and females ($M = 101.48, SD = 10.58$); $t(113) = -.30, p = .764$ on the social adjustment subscale of the SACQ. Finally, results of independent-samples $t$-test on SACQ personal-emotional adjustment subscale scores in males and females showed there were not significant difference in scores for males ($M = 70.38, SD = 6.34$) and females ($M = 73.81, SD = 7.61$); $t(113) = -1.36, p = .177$ on the personal-emotional adjustment subscale of the SACQ. Results of the $t$-tests for gender are in Table 4. None of the gender correlations were found to be significant at the .008 level.
Table 4. Results of t-tests for DSI-SF (IP) and (ER), ATQ-S-EC, and SACQ academic, social, and personal adjustment by gender

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Male</th>
<th>Female</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>DSI-SF (IP)</td>
<td>4.43</td>
<td>.77</td>
<td>21</td>
</tr>
<tr>
<td>DSI-SF (ER)</td>
<td>4.15</td>
<td>.78</td>
<td>21</td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td>4.84</td>
<td>.77</td>
<td>21</td>
</tr>
<tr>
<td>SACQ Academic Adjustment</td>
<td>119.10</td>
<td>9.36</td>
<td>21</td>
</tr>
<tr>
<td>SACQ Social Adjustment</td>
<td>100.67</td>
<td>13.68</td>
<td>21</td>
</tr>
<tr>
<td>SACQ Personal Adjustment</td>
<td>70.38</td>
<td>6.34</td>
<td>21</td>
</tr>
</tbody>
</table>

Only White and Black groups were included in the t-tests comparing means on race and the scale scores due to the low and insignificant number of participants who self-identified as something other than white or black (i.e., Hispanic, Asian). Results of an independent-samples t-test on DSI-SF (IP) subscale scores in white and black groups showed there was not a significant difference in scores for whites (M = 3.98, SD = .96) and blacks (M = 4.35, SD = .75); t(106) = -1.56, p = .121. Results of an independent-samples t-test on DSI-SF (ER) subscale scores in white and black groups showed there was not a significant difference in scores for whites (M = 3.62, SD = 1.09) and blacks (M = 4.03, SD = .89); t(106) = -1.49, p = .139. Results of an independent-samples t-test on ATQ-S-EC scores in white and black groups showed there was not a significant difference in scores for whites (M = 4.63, SD = .91) and blacks (M = 4.60, SD = .72);
$t(106) = -1.65, p = .869$. Results of an independent-samples $t$-test on SACQ academic adjustment subscale scores in white and black groups showed there was not a significant difference in scores for whites ($M = 119.69, SD = 9.20$) and blacks ($M = 125.44, SD = 9.65$); $t(106) = -2.40, p = .018$. Results of an independent-samples $t$-test on SACQ social adjustment subscales scores in white and black groups showed there was not a significant difference in scores for whites ($M = 100.83, SD = 11.15$) and blacks ($M = 103.72, SD = 12.87$); $t(106) = -.98, p = .331$. Finally, results of an independent-samples $t$-test on SACQ personal-emotional adjustment subscale scores in white and black groups showed there was not a significant difference in scores for whites ($M = 73.23, SD = 7.58$) and blacks ($M = 72.33, SD = 6.29$); $t(106) = -.05, p = .273$. Results of the $t$-tests for gender are in Table 5. None of the race correlations were found to be significant at the .008 level.

Table 5. Results of $t$-tests for DSI-SF (IP) and (ER), ATQ-S-EC, and SACQ academic, social, and personal adjustment by race

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Group</th>
<th>95% Cl for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>M  SD n</td>
<td>M  SD n</td>
</tr>
<tr>
<td>DSI-SF (IP)</td>
<td>3.98 .96 90</td>
<td>4.35 .75 18</td>
</tr>
<tr>
<td>DSI-SF (ER)</td>
<td>3.62 1.10 90</td>
<td>4.03 .89 18</td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td>4.63 .91 90</td>
<td>4.60 .72 18</td>
</tr>
<tr>
<td>SACQ Academic Adjust</td>
<td>119.69 9.20 90</td>
<td>125.44 9.66 18</td>
</tr>
<tr>
<td>SACQ Social Adjust</td>
<td>100.83 11.15 90</td>
<td>103.72 12.87 18</td>
</tr>
<tr>
<td>SACQ Personal Adjust</td>
<td>72.23 7.59 90</td>
<td>72.33 6.29 18</td>
</tr>
</tbody>
</table>
Hypotheses 2a, 2b, and 2c

A series of three bivariate correlations were calculated to test if effortful control (ATQ-S-EC) scores were significantly related to students’ academic, social, and/or personal-emotional adjustment subscale scores on the SACQ. Correlations for all of the scales are found in Table 6. Regarding the hypotheses, there was no significant correlation between ATQ-S-EC scores and SACQ academic adjustment subscale scores ($r = -.111, n = 119, p = .231$). There was a significant correlation between ATQ-S-EC scores and SACQ social adjustment subscale scores ($r = .198, n = 119, p = .031$) indicating that higher levels of effortful control are related to greater social adjustment in college. There was no significant correlation between ATQ-S-EC and SACQ personal-emotional subscale scores ($r = -.053, n = 119, p = .570$).

Table 6. Correlations between ATQ-S-EC, SACQ academic, social, and personal-emotional adjustment scales

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATQ-S-EC</td>
<td>1</td>
<td>-.111</td>
<td>.198*</td>
<td>-.053</td>
</tr>
<tr>
<td>SACQ Academic Adjustment</td>
<td>-.111</td>
<td>1</td>
<td>.032</td>
<td>.160</td>
</tr>
<tr>
<td>SACQ Social Adjustment</td>
<td>.198*</td>
<td>.032</td>
<td>1</td>
<td>.126</td>
</tr>
<tr>
<td>SACQ Personal-Emotional Adjustment</td>
<td>-.053</td>
<td>.160</td>
<td>-.126</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes. $N = 119$; *$p < .05$
Hypotheses 3a, 3b, and 3c

A series of three hierarchical multiple regression procedures were run to test whether DSI-SF (IP) and (ER) scores provide incremental variance above the amount of variance explained by the ATQ-S-EC scores. In the analyses, gender was not entered into the model in Step 1 because it was not significantly correlated with any of the other variables as shown in Table 4. For the analysis, ATQ-S-EC scores were entered into the model in Step 1, and the DSI-SF (ER) and (IP) subscale scores were added in Step 2. The SACQ academic adjustment subscale scores served as the outcome variable for the first hierarchical regression analyses; the SACQ social adjustment subscale scores served as the outcome variable for the second hierarchical regression analyses; and the SACQ personal-emotional adjustment subscale scores served as the outcome variable for the third analyses. Results for all analyses are shown in Table 7.

A two-step hierarchical multiple regression was calculated predicting SACQ academic adjustment scores based on participants ATQ-S-EC and DSI-SF (IP) and (ER) scores. In Step 1, ATQ-S-EC scores were not significant \( (F(1,117) = 1.447, p > .05) \), with an \( R^2 \) of .012. In Step 2, the regression equation was not significant when DSI-SF (IP) and (ER) scores were added as predictors along with ATQ-S-EC scores \( (F(3,115) = .762, p > .05) \), with an \( R^2 \) of -.019. The \( \Delta R^2 \) Step 1 to Step 2 was .007. ATQ-S-EC, DSI-SF (IP) and DSI-SF (ER) scores did not significantly predict SACQ academic adjustment scores.

A second two-step hierarchical multiple regression was calculated predicting SACQ social adjustment scores based on participants ATQ-S-EC and DSI-SF (IP) and (ER) scores. In Step 1, ATQ-S-EC scores were significant \( (F(1, 177) = 4.775, p < .05) \),
with an $R^2$ of .039. In Step 2, a significant regression equation was found ($F(3,115) = 3.091, p < .05$, with an $R^2$ of .075. The $\Delta R^2$ Step 1 to Step 2 was .035. Participants’ ATQ-S-EC scores were significant at predicting SACQ social adjustment, $\beta = 2.56$.

Table 7. Hierarchical multiple regressions predicting SACQ subscale scores from ATQ-S-EC and DSI-SF (IP) and (ER) scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$Change</th>
<th>Unstandardized B</th>
<th>Coefficients Std. Error</th>
<th>Standardized Coefficients Beta</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion: SACQ Academic Adjustment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1: ATQ-S-EC</td>
<td>.012</td>
<td>-1.214</td>
<td>1.009</td>
<td>-.111</td>
<td>.231</td>
</tr>
<tr>
<td>Step 2: ATQ-S-EC, DSI-SF (IP), DSI-SF (ER)</td>
<td>.007</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ATQ-S-EC</td>
<td></td>
<td>-.786</td>
<td>1.140</td>
<td>-.072</td>
<td>.492</td>
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<tr>
<td>DSI-SF(IP)</td>
<td></td>
<td>-.841</td>
<td>1.033</td>
<td>-.093</td>
<td>.417</td>
</tr>
<tr>
<td>DSI-SF(ER)</td>
<td></td>
<td>-.012</td>
<td>1.134</td>
<td>-.001</td>
<td>.992</td>
</tr>
<tr>
<td>Criterion: SACQ Social Adjustment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1: ATQ-S-EC</td>
<td>.039</td>
<td>2.560*</td>
<td>1.171</td>
<td>.198</td>
<td>.031</td>
</tr>
<tr>
<td>Step 2: ATQ-S-EC, DSI-SF (IP), DSI-SF (ER)</td>
<td>.075</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATQ-S-EC</td>
<td></td>
<td>1.312</td>
<td>1.304</td>
<td>.101</td>
<td>.316</td>
</tr>
<tr>
<td>DSI-SF(IP)</td>
<td></td>
<td>1.476</td>
<td>1.181</td>
<td>.139</td>
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<tr>
<td>DSI-SF(ER)</td>
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<td>1.191</td>
<td>1.298</td>
<td>.101</td>
<td>.360</td>
</tr>
<tr>
<td>Criterion: SACQ Personal Adjustment</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Step 1: ATQ-S-EC</td>
<td>.002</td>
<td>-.029</td>
<td>.053</td>
<td>-.050</td>
<td>.589</td>
</tr>
<tr>
<td>Step 2: ATQ-S-EC, DSI-SF (IP), DSI-SF (ER)</td>
<td>.045</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ATQ-S-EC</td>
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<td>.007</td>
<td>.059</td>
<td>.011</td>
<td>.911</td>
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<tr>
<td>DSI-SF(IP)</td>
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<td>-.124*</td>
<td>.053</td>
<td>-.262</td>
<td>.022</td>
</tr>
<tr>
<td>DSI-SF(ER)</td>
<td></td>
<td>.063</td>
<td>.059</td>
<td>.120</td>
<td>.282</td>
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</table>

A final two-step hierarchical multiple regression was calculated predicting SACQ personal-emotional adjustment scores based on participants’ ATQ-S-EC and DSI-SF (IP) and (ER) scores. In Step 1, ATQ-S-EC scores were not significant.
\(F(1,117) = .293, p > .05\), with an \(R^2\) of .002. In Step 2, the regression equation was not significant, \(F(3,115) = 1.902, p > .05\), with an \(R^2\) of .047. The \(\Delta R^2\) from Step 1 to Step 2 was .045. Participants’ DSI-SF (IP) scores were a significant predictor of SACQ personal-emotional adjustment, \(\beta = -.124\).
CHAPTER V
DISCUSSION

The overarching goal of this study was to examine the relationship between Murray Bowen’s Family Systems Model concept of differentiation-of-self applied to non-traditional students’ adjustment to community college. One purpose was to add to our understanding of gender and racial differences on the college adjustment process for non-traditional community college students. A second intent was to extend the findings from previous research that employed only a single global measure of student adjustment to include a multi-faceted measure of academic, social, and personal adjustment to the community college environment. A third purpose was to examine the ability of differentiation-of-self to predict incremental variance over effortful control on the various adjustment variables for non-traditional community college students. A fourth goal was to contribute to the body of research using the measures of effortful control and differentiation-of-self with community college students in order to clarify overlap and differences between these two concepts. A fifth and final purpose was to investigate the use DSI-SF with non-traditional community college students, which has not been studied.

Overall the findings provided some support for the hypotheses. The first set of hypotheses regarding gender and racial differences on the variables was not supported. The second set of hypotheses concerning correlations between effortful control (ATQ-S-
EC) scores and students’ academic, social, and personal adjustment scores on the SACQ found a significant correlation between the ATQ-S effortful control score and the SACQ social adjustment score, which partially supported Hypotheses 2. The third hypothesis predicted that differentiation-of-self scores [i.e., DSI-SF (IP) and (ER)] would provide significant incremental variance above the amount of variance explained by effortful control (i.e., ATQ-S-EC) scores on students’ academic, social, and personal-emotional adjustment scores on the SACQ. Results indicated that Differentiation-of-Self (IP) scores added significant variance over ATQ-S-EC scores for personal-emotional adjustment, which partially supported Hypothesis three. These outcomes in comparison to other findings in the literature are discussed in more detail below.

**Relations for Gender and Race on Differentiation-of-Self, Effortful Control, and College Student Academic, Social, and Personal-Emotional Adjustment**

In the current study, Hypotheses 1a and 1b, using $t$-tests to test for significant differences by gender and race/ethnicity on Differentiation-of-Self (DSI-SF) “I” position (IP) and emotional reactivity (ER) subscales scores, on Effortful Control (EC) scores on the Adult Temperament Scale (ATQ-S-EC), and on the academic, social, and personal-emotional adjustment to college scores on the Student Adjustment to College Questionnaire (SACQ) were not significant. These results for gender failed to support expected outcomes based on the findings of previous studies that found significant gender differences on the DSI (ER), or the DSI-R (ER) scales in predicting marital adjustment (Skowron, 2000), greater emotional regulation (i.e., attachment security, and effortful control) (Skowron & Dendy, 2004), and psychological distress (Skowron & Friedlander, 1998). In those studies males scored lower, indicating they had stronger
emotional reactivity than females. Perhaps this inconsistency in gender results was due to the different measures of differentiation of-self that were utilized in those studies versus the DSI-SF (Drake, 2010) which was administered in the current study. Further, in the current study, only DSI-SF- (IP) and (ER) scales were given, not the (FO) and (EC) subscales used in the other studies. In addition, it is important to note that Drake did not test for gender differences in his dissertation.

Another factor contributing to the failure to find gender differences between the studies may be due to differences in the size and composition of the samples. The studies that found gender differences had larger numbers of participants, mainly with older adults not in college, including the Skowron and Dendy (2004) study, and married couples in the Skowron (2000) study, or they had a larger sample of traditional college students at a large 4-year university (Skowron & Friedlander, 1998). In comparison, the sample in the current study was smaller with 119 students who were non-traditional students in community college. Even more germane is the fact that the sample was 79% female (n = 94) and 17.6 % male (n = 21). According to G* Power findings, a sample size of 128 participants (64) per group were recommended for a power level of .80, an effect size of .5, and an alpha level of .05. Therefore, more males were needed to have met this recommendation.

However, in spite of these inconsistencies around gender differences in the various studies, it is interesting to point out that some results for gender differences came close to reaching significance in the current study. For example, \( t \)-test results for gender differences on the DSI-SF (IP) subscale reached a \( p \)-value of .018, and the \( p \)-value on the DSI-SF (ER) subscale was .026. These values were close to the Bonferroni correction
criterion of $p=.008$. Therefore, there was a trend in this study in the same direction as studies that may have had more power to detect significant gender differences than the current study had. As noted above, this study had too few males to have adequate power based on G* Power results that recommended 64 participants per group.

The finding of no gender differences does align with other related studies that did not find gender differences, such as the research by Skowron, Wester, and Azen, (2004) that found that differentiation-of-self scores on the DSI (ER) emotional reactivity, (IP) “I” statements, (EC) emotional cut-off, and (FO) fusion with others subscales mediated between stress and psychological adjustment. They argued that the finding of no gender differences in their sample suggested that an individual’s differentiation-of-self, or capacities for autonomous, independent thinking, emotional regulation, and a comfort with connections to family rather than emotional cut-off, may represent adaptive mature autonomy distinct from pseudo autonomy characterized by emotional cut-off, and detachment from family that may have existed in studies that had found gender difference. Although Skowron et al.’s (2004) study used a small sample of 126 students (23.8% were males and 75.4% were females), similar to the sample size of 119 in this study, that sample was more traditional than the sample in this study and was composed of 4-year college students, not students in community college. Also, that study used the DSI (Skowron & Friedlander, 1998), not the DSI-SF (ER) and (IP) subscales developed by Drake (2011) which were used in this study. Because the emotional cut-off scale was not given in this study, the issue of whether this sample represented students that are characterized as having mature adaptive autonomy rather than pseudo autonomy is
uncertain. Again, the reasons for the findings of no gender differences in this study are unclear.

Perhaps future studies with larger samples that consist of more homogeneous groups of only one or two types of non-traditional students (i.e., students of color, students from poverty households, single heads of households, students who are older), and that use the full scales on the DSI-SF or on the DSI-R would sort out the factors contributing to gender differences more clearly.

In this study, t-tests were also conducted to test for significant differences for race/ethnicity on Differentiation-of-Self (DSI-SF) “I” position (IP) and emotional reactivity (ER) subscales scores, on effortful control (EC) scores on the Adult Temperament Scale (ATQ-S-EC), and on the academic, social, and personal-emotional adjustment to college scores on the Student Adjustment to College Questionnaire (SACQ). No significant results were found. The findings do not support the expected outcome for racial/ethnic differences on social adjustment to college found in the Crede and Niehorster (2012) meta-analytic study. Nor do they fit the findings from McDonald and Vranna (2007) that indicated that when social comfort factors between races on campus were taken into account, racial differences between Black and White students were found on the full scale of the SACQ. Further, other research by Cabrera, Nora, Terenzini, Pascarella, and Hagedorn (1999) indicated that on 4-year college campuses, where students encountered racial discrimination, they reported lower academic self-efficacy. The unexpected outcomes in the current study compared to the findings in the above studies may be due to the small number of minority students in the current sample, or that no measure of social comfort or perceptions of racial discrimination were
given. Additionally, this sample consisted of students from a community college rather than 4-year educational institutions.

However, the finding of no racial/ethnic significant differences in the present study does match the results in the Skowron (2004) study, in which Skowron compared the DSI scores of racial/ethnic participants to scores from her sample of White persons from the Skowron, Wester, and Azen (2004) study, and found no significant differences. Moreover, it is interesting to note that, although the $t$-test on the SACQ academic adjustment scale in the current study yielded no significant race differences, the $p$ value was .018, which was close to the Bonferroni corrected criterion of $p = .008$. Black students scored higher on academic adjustment than White students.

Yet, similar to the issue with gender analyses, this study had too few Black or African American participants to meet the recommendation of 64 students per group to achieve a power level of .80, an effect size of .5, and an alpha level of .05 to test for race differences. The sample in this study had 90 White participants but only 18 Black or African American students. Future studies with larger more homogeneous sample sizes of community college students, and other measures related to academic success, satisfaction, and adjustment, may offer more definitive findings on ethnic/racial differences than this study.

Relations between Differentiation-of-Self (ER) and (IP) Scale Scores, Effortful Control ATQ-S-EC Scale Scores, and SACQ Academic, Social, and Personal/Emotional Adjustment Scale Scores

Hypotheses 2a, 2b, and 2c, using a series of three bivariate correlations to test for relations between effortful control (ATQ-S-EC) scores and students’ academic
adjustment, social adjustment, and personal-emotional adjustment scores on the SACQ, yielded one significant correlation. There was a significant correlation between ATQ-S-EC scores and SACQ social adjustment subscale scores, indicating that higher levels of effortful control are related to greater social adjustment in community college. This finding partially supported hypotheses 2.

However, other significant patterns emerged in the correlation matrix for all measures in the study which are important to more fully understand commonalities and differences between the concepts of differentiation-of-self and effortful control. For example, there were significant correlations between effortful control and the differentiation-of-self scales (see Table 3). First, a positive correlation was found between the ATQ-S-EC and the DSI-SF (ER), which indicates that more effortful control is related to less emotional reactivity. Second, there was a positive correlation between the ATQ-S-EC and the DSI-SF (IP) scale that shows that more effortful control is associated with the ability to use “I” statements in interactions with others. There also was a significant correlation between ATQ-S-EC effortful control and SACQ social adjustment. Other findings pertained to personal-emotional adjustment. A significant negative correlation was found between the DSI-SF (ER) and the SACQ personal-emotional adjustment scale, indicating that lower levels of personal and emotional adjustment are related to lower levels of emotional reactivity. Finally, a significant positive correlation emerged between the DSI-SF (ER) and the DSI-SF (IP) scales that indicates that less emotional reactivity is related to higher use of “I” statements by individuals.
The findings for Hypothesis 3 offer other insights into relationships between effortful control and differentiation-of-self. Hypotheses 3a, 3b, and 3c conducted a series of three hierarchical multiple regressions to test whether DSI-SF (IP) and (ER) scores provide incremental variance above the amount of variance explained by the ATQ-S-EC scores. The results for academic adjustment were not significant for ATQ-S-EC or DSI-SF (IP) or (ER) scales. These results did not support the hypotheses. For social adjustment, only ATQ-S-EC scores were significant and predicted 3.9% of the variance. However, since DSI-SF (IP) and (ER) scores were not significant in step 2 and added no incremental variance, these findings did not support the hypotheses for social adjustment. For personal-emotional adjustment, ATQ-S-EC scores were not significant. However, DSI-SF (IP) did add significant incremental variance (4.7%) to the prediction of social adjustment above effortful control scores in step 2. Consequently, this result did support the hypothesis for the prediction of personal-emotional adjustment.

Overall, the significant findings for hypotheses two and three partially supported expectations and shed light on relationships between effortful control, differentiation-of-self, and adjustment to community college when they are compared with previous research findings. For example, the finding linking effortful control and social adjustment fits with other studies on effortful control, and self-regulation, though these studies incorporated a variety of participants of different ages in different settings in elementary school, high school, and college (Boyraz, Granda, Baker, Tidwell & Waits, 2016; Neuenschwander, Rothlisberger, Cimeli, & Roebers, 2012; Park, Edmondson, & Lee, 2012; Skowron & Dendy, 2004; Veronneau, Racer, Fosco, & Dishion, 2014; Xia, Fosco, & Feinberg, 2015). The findings from the studies highlight the complex
interrelations between cognitive, emotional regulation, and effort regulation skills associated with student adjustment inside and outside of the classroom. The authors generally concurred that self-regulation embraces temperamental based effortful control mechanisms (EC) that include emotional regulation, and neurocognitive executive functions (EF). They argue that self-regulation is a broader term than effortful control alone and incorporates a more complex set of behaviors and control mechanisms. However, some studies (i.e., Neuenschwander, Rothlisberger, Cimeli, & Roebers, 2012; Veronneau, Racer, Fosco, & Dishion, 2014; Xia, Fosco, & Feinberg, 2015) targeted elementary school students, who were not emerging adults, and did not include a measure of differentiation-of-self. Instead, they tended to rely on measures of effortful control or self-regulation suitable to the young age of their participants. In contrast, the papers by Skowron and Dendy (2004) and Skowron Wester, and Azen (2004) on effortful control utilized college students and highlight inter-relations between differentiation-of-self and effortful control that line-up with the significant correlations between those concepts that were obtained in this study. In Skowron’s (2004) research, and this study, effortful control was associated with lower emotional reactivity and the ability to make “I” statements in social interactions with others. In this study, effortful control predicted significant unique variance with social adjustment. However, differentiation-of-self variables of less emotional reactivity and greater use of “I” statements predicted unique variance above effortful control for personal-emotional adjustment. These finding suggests that different types of adjustment may require different combinations of effortful control and differentiation-of-self. Yet, one point to keep in mind is that in these studies effortful control was associated with healthy aspects
of differentiation-of-self, reminiscent of Skowron’s (2004) previous comments that the sample of young adults in her study may represent individuals who display healthy, rather than pseudo-autonomy patterns of development. Future studies on community college, as well as 4-year college students, and adjustment to academic environments, need to add emotional cut-off and fusion with others scales on the DSI-R or DSI-SF along with the emotional reactivity and “I” statements scales, in order to provide a fuller picture of personality dynamics than this study offers.

Limitations and Directions for Future Research

The present study displayed several limitations. As described previously, the sample size was very small so the study may have lacked enough power to adequately detect some significant relationships. There were too few males and too few Black and African American participants to tap into significant gender and race differences on the independent t-tests. The lack of power also may have been one reason that, although some results for some analyses were significant, they were not robust. For example, little variance was explained in some regression analyses. The ATQ-S-EC explained 3.9% of the variance for SACQ social adjustment and the DSI-SF (IP) only added 4.5% of the variance for SACQ personal-emotional adjustment.

A related issue was that the sample was not homogeneous. Therefore, the generalizability of the results from this study is limited to a broad and less specific mix of non-traditional students. Other studies need to include larger samples targeting one or two specific non-traditional groups, such as single mothers, minority students, students from impoverished environments, or children of immigrants who come from homes where English is a second language. The inclusion of only one particular group studied
in more depth could shed light on how effortful control and differentiation-of-self affect the adjustment process for those students more precisely than the lack of clarity that occurred in this study. For example, what does effortful control and differentiation-of-self reveal about how single mothers regulate emotions in order to meet the challenges of parenting, to use study time effectively, or to reduce worry and depression? In contrast, by adopting the strategy of adding larger numbers of students from more than one group, and using more sophisticated research designs that incorporate nesting strategies and structural equation modeling analyses, the unique and complex ways that aspects such as effortful control and differentiation-of-self impact adaptation to college could be sorted out. For example, do minority students react emotionally to academic stress the same way that White students do? Do both groups use the same emotion regulating strategies to focus and shift their attention while studying, or when needed in the classroom in order to succeed? Do both use “I” statements when interacting with faculty and peers?

There also were problems with some measures. Some questionnaires were too long. The SACQ contained 67 items which was very high and took time to answer. The ATQ-S-EC scale had 19 items, which also was long. Therefore, the length of these measures may have contributed to several participants not completing the study. Moreover, a reading of the items on the measures suggests that some questions on some measures did not seem relevant. For example, no significant associations were found for the academic adjustment scale. A reading of the items on that subscale reveals that many items were not very specific and did not tap into some problems students may have been encountering in specific ways. Items such as, “I have not been keeping up
with my academic work lately,” or “I haven’t been very efficient in the use of my study
time lately,” does not help to identify what may be causing this. Is the student partying
too much? Does the student need to work too many hours? Does the student understand
why he or she is not using their time efficiently? Also, the SACQ academic adjustment
scale displayed low internal consistency reliability with an alpha of only .57, which is
below the standard requirement of a reliability coefficient of .70. Future studies may
benefit from using other measures such as scales on academic self-efficacy, academic
commitment, or academic satisfaction instead of the SACQ academic scale.

Future studies could also add effortful control and differentiation-of-self
variables to Lent and Brown’s (2008) performance/persistence model to predict
academic adjustment or educational satisfaction for non-traditional students in
community colleges (as well as traditional students in 4-year educational institutions).
Another interesting educational perspective is to give the DSI to faculty (and the DSI-SF
to students) and the ATQ-S-EC to both in order to understand how these variables
influence interactions in the classroom. Do faculty who have higher levels of
differentiation-of-self use more “I” statements when teaching or conducting discussions?
Do students with higher levels of differentiation-of-self use more “I” statements when
asking or answering questions? Do faculty and students who have higher levels of
differentiation-of-self remain calm when a student challenges a grade or believes a test
item was unfair?

One more caveat to keep in mind in future studies is the need to employ the full
version of the DSI-SF rather than just the emotional reactivity (ER) and the “I”
statements (IP) scale in an effort to identify if the sample is composed of healthy
autonomous persons or less healthy, more pseudo autonomous individuals. The emotional cut-off (EC) scale and the fusion with others (FO) scale would add valuable information to examine this issue.

**Implications for Marriage and Family Therapists**

The results of this study can be used to promote the addition of MFT’s to positions in community (and 4-year) college counseling centers. The findings that differentiation-of-self and effortful control are related to adjustment to community college supports tenets of Bowen’s Family Systems Model (Bowen, 1978; Kerr & Bowen, 1988). Specifically, the findings suggest that effortful control and differentiation-of-self add valuable information to help MFTs understand a broad array of difficulties that some students may encounter in the adjustment process. For example, students may tell counselors, or faculty, that they are fearful that they are not succeeding in the classroom. They may be swept up by strong fears or distractions while studying. They may not be able to focus attention for long periods or to be able to shift attention when under pressure. Other students may be having problems relating with others and feel isolated; others may be spending too much time socializing and trying to fit in. Some students may be having problems with family members, or may not know which course of study best fits their interests and strengths. The MFT can introduce the concept of differentiation-of-self and how it is associated with the problems of overreacting emotionally in situations and being unable to concentrate. The MFT may briefly describe Bowen’s Family Systems Model and do a genogram to help the student gain insight into family dynamics and how his or her experiences in the home may still be part of the struggles they are facing. If the student has difficulty stating clear “I”
positions in relationships with parents or with faculty and authority figures, the MFT may introduce family-of-origin therapy. The client may be taught the concepts of triangulation and how the process of de-triangulation helps a person learn to control their emotions and feel more comfortable in relationships using “I” statements that clearly express what he or she is feeling and thinking. Through coaching by the therapist, the client can be taught to maintain regular person-to-person relationships with individual family members. These skills can also transfer over into other relationships the student may have on campus with faculty, staff, administrators, and friends. For other issues related to emotional reactivity, the MFT can help students focus on and think about their feelings and how they can use self-talk (e.g., “I need to calm myself down right now.”) to pause and reflect on what is upsetting them before they respond impulsively to others. In other situations, where feelings of anxiety may interfere with their studying, students can be taught about effortful control and how to use self-talk to refocus their attention back on task. In sum, the results from this study reveal that differentiation-of-self and effortful control complement each other, and the self-regulating skills associated with both, can help students learn to accept greater responsibility for their self-direction and adaptive coping.

Conclusion

Despite the limitations mentioned above, the results of this study make important contributions to the literature. The investigation was the first to apply the concepts of differentiation-of-self and effortful control to understand the adjustment process of non-traditional community college students. It also added to the literature by employing a multi-faceted measure of student adjustment covering academic, social, and
personal-emotional domains. It also was the first study to investigate the use of the DSI-SF (ER) and (IP) subscales with non-traditional community college students. Moreover, the results provided partial support for the hypotheses and helped to clarify commonalities and differences between the concepts of differentiation-of-self and effortful control.
REFERENCES


APPENDICES
APPENDIX A

INFORMED CONSENT LETTER

You are invited to participate in a dissertation research project being conducted by Nicole Cleland, a doctoral candidate in the School of Counseling at the University of Akron in Akron, Ohio. This study will examine students’ self-regulation, emotional expression, and their academic, social, and personal adjustment to community college. If you agree to participate in the study, you will be asked a series of general demographic questions and then you will be asked to complete three questionnaires related to your behaviors, emotional reactivity, and adjustment to your community college setting. The surveys should take approximately 20-25 minutes.

You will not receive direct benefits or compensation for your participation in the study. However, your participation may add to the body of knowledge and understanding of factors influencing students’ success in their new academic environment. As a result of this knowledge, faculty and administrators may develop better ways of facilitating this transition for students.

Your participation in this study is voluntary, and you are free to refuse to participate or to withdraw your participation at any time, without negative consequences. No known risks or discomforts to research participants are expected. All information will remain anonymous with no identifying data collected. Your anonymity will be further protected by not asking you to sign and return an informed consent document. Confidentiality will be maintained through use of a number code system that will be assigned to the online responses. Data collected for purposes of this study will be entered into a password protected computer and answers to the questionnaires will be stored on a secure website. If desired, you will be able to print a copy of this informed consent document for future reference.

If you have any questions about this study, please contact Nicole Cleland via e-mail NCleland@STARKSTATE.EDU or phone (330) 280-2016. You can also contact Dr. Rikki Patton, Ph.D., Dissertation Chair, from The University of Akron, in Akron, Ohio, at rpatton@uakron.edu or phone (330) 972-8158.
Clicking "I Agree" on the cover page and beginning the study will serve as your acceptance of the information provided in this Informed Consent Document and your consent to participate in this study.

Thank you,

Nicole R. Cleland, MA, PhD candidate
APPENDIX B
DEMOGRAPHIC QUESTIONNAIRE

Directions: The following items are for informational purposes only. All answers will remain anonymous. Please answer each item by placing an asterisk * by the answer choice appropriate for you and by typing statements where indicated.

1. Indicate your gender.
   a) Female
   b) Male
   c) Transgender
   d) Other

2. Indicate your race.
   a) White
   b) Black/African American
   c) Hispanic/Latino
   d) Asian
   e) Native American/American Indian
   f) Other (Please describe) ______________

3. List your age ___

4. Indicate your marital status.
   a) single
   b) married
   c) divorced
   d) Other (Please describe) _____

5. How many children do you have?
   a) none
   b) one
   c) two
   d) three or more

6. Are you the head of a single parent family?
   a) yes
   b) no
7. Are you the first member of your family to attend college?
   a) yes
   b) no

8. What is the educational level of your father?
   a) Some high school
   b) Completed high school
   c) Some college; or Associate degree
   d) Bachelor’s degree
   e) Other (Please list) _______

9. What is the educational level of your mother?
   a) Some high school
   b) Completed high school
   c) Some college; or Associate degree
   d) Bachelor’s degree
   e) Other (Please list) _______

10. Is English a second language in the family you grew up in?
    a) yes
    b) no

11. Indicate the reason you chose to attend a community college
    a) I intend to get a job and start my career when I graduate from community college.
    b) I intend to start here to save costs and then transfer to a 4-year college.
    c) I was working full time for a number of years but lost my job and I am seeking retraining in a new field for a more secure job.
    d) I am an Advanced Placement high school student seeking college course credits
    e) I finished military service and I am seeking more education for a career
    f) Other (Please describe) _____________________

12. Indicate the year you are in in community college.
    a) First year
    b) Second year
    c) Other (Please describe) _____________________

13. Indicate the semester you are in.
    a) Fall
    b) Spring
    c) Summer
14. Indicate whether you are attending full time or part time.
   a) full time
   b) part time

15. Indicate whether you attend you mostly day classes or mostly evening classes.
   a) primarily day time classes
   b) primarily evening classes

16. Please list your major or field of study.
   a) general studies
   b) medical related program (List specific) ________________
   c) business related program (List specific) ________________
   d) technical or computer related program (List specific) ____________
   e) manufacturing related (List specific) ________________
   f) Other (List specific) ______________

17. Please describe your career goal

   ________________________________________________________________
   ________________________________________________________________

18. What do you plan to do after you leave community college?
   a) transfer to a 4-year college
   b) find a full time job in my career field
   c) find a job to save money, work for a while, and then continue my education
   d) Other (Please describe) ________________

19. If you are in high school and taking Advanced Placement courses in community college, what do you plan to do after you graduate from high school?
   a) attend community college and then enter my career goal job after I graduate
   b) attend community college and then transfer to a 4-year college
   c) directly attend a 4-year college
   d) Other (Please describe) ________________

20. Please list any financial aid you are receiving? (Indicate more than one, if more than one fits your situation.
   a) None
   b) Grant
   c) Scholarship
   d) Loan(s)
   e) Work study at school
   f) Other (Please describe) ________________
21. What were your approximate high school grades?
   a) Mostly A’s and B’s
   b) Mostly B’s and C’s
   c) Mostly C’s
   d) Other (Please describe) _______________

22. What are your current grades?
   a) Mostly A’s and B’s
   b) Mostly B’s and C’s
   c) Mostly C’s
   d) Other (Please describe) _______________

23. Have you taken remedial courses?
   a) yes
   b) no

24. Have you earned a GED?
   a) yes
   b) no

25. Do you have a disability?
   a) yes
   b) no
APPENDIX C

DIFFERENTIATION-OF-SELF SHORT FORM (DSI-SF)

DIRECTIONS:

These are questions concerning your thoughts and feelings about yourself and relationships with others. Please read each statement carefully and decide how much the statement is generally true of you on a 1 (not at all) to 6 (very) scale. Be sure to answer every item and try to be as honest and accurate as possible in your responses. Use the following rating scale and indicate the number that best reflects your response for each statement by putting an asterisk * in front of it.

Rating scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all characteristic of me</td>
<td>Somewhat characteristic of me</td>
<td>Definitely characteristic of me</td>
<td>Very characteristic of me</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Example: I get overly frustrated at exam time.]

```
1 2 3 4 5 6
```

Begin here:

1. I tend to remain pretty calm even under stress.

```
1 2 3 4 5 6
```

2. At times my feelings get the best of me and I have trouble thinking clearly.

```
1 2 3 4 5 6
```

3. No matter what happens in my life, I know that I’ll never lose my sense of who I am.

```
1 2 3 4 5 6
```
Rating scale:

1 2 3 4 5 6
Not at all characteristic of me

Somewhat characteristic of me

Definitely characteristic of me

Very characteristic of me

4. At times I feel as if I’m riding an emotional roller-coaster.

1 2 3 4 5 6

5. There’s no point in getting upset about things I cannot change.

1 2 3 4 5 6

6. I’m overly sensitive to criticism.

1 2 3 4 5 6

7. I’m fairly self-accepting.

1 2 3 4 5 6

8. If I have an argument with my best friend, parent, partner or spouse, I tend to think about it all day.

1 2 3 4 5 6

9. My self-esteem really depends on how others think of me.

1 2 3 4 5 6

10. If someone is upset with me, I can’t seem to let it go easily.

1 2 3 4 5 6

11. I tend to feel pretty stable under stress.

1 2 3 4 5 6

12. I’m very sensitive to being hurt by others.

1 2 3 4 5 6
APPENDIX D

EFFORTFUL CONTROL (ATQ-S-EC)

On the following pages you will find a series of statements that individuals can use to describe themselves. There are no correct or incorrect responses. All people are unique and different, and it is these differences which we are trying to learn about. Please read each statement carefully and give your best estimate of how well it describes you. Circle the appropriate number below to indicate how well a given statement describes you.

Put an * by the number that shows: if the statement is:

1             extremely untrue of you
2             quite untrue of you
3             slightly untrue of you
4             neither true nor false of you
5             slightly true of you
6             quite true of you
7             extremely true of you
8 or X                         not applicable

If one of the statements does not apply to you, then put an * by “X” (not applicable). Check to make sure that you have answered every item.

**Rating scale:**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>extremely untrue</td>
<td>quite untrue</td>
<td>slightly untrue</td>
<td>neither true nor false</td>
<td>slightly true</td>
<td>quite true</td>
<td>extremely true</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

1. I am often late for appointments.
   1    2    3    4    5    6    7    X

2. It’s often hard for me to alternate between two different tasks.
   1    2    3    4    5    6    7    X

3. Even when I feel energized, I can usually sit still without much trouble if necessary.
   1    2    3    4    5    6    7    X
4. I often make plans that I do not follow through with.
   1 2 3 4 5 6 7 X

5. When I am trying to focus my attention, I am easily distracted.
   1 2 3 4 5 6 7 X

6. It’s easy for me to hold back my laughter in a situation when laughter wouldn’t be appropriate.
   1 2 3 4 5 6 7 X

7. I can keep performing a task even when I would rather not do it.
   1 2 3 4 5 6 7 X

8. When I am distracted, I usually can easily shift my attention back to what I was doing.
   1 2 3 4 5 6 7 X

9. I can easily resist talking out of turn, even when I am excited and want to express an idea.
   1 2 3 4 5 6 7 X

10. I can make myself work on a difficult task even when I don’t feel like trying.
    1 2 3 4 5 6 7 X

11. It is very hard for me to focus my attention when I am distressed.
    1 2 3 4 5 6 7 X

12. I usually have trouble resisting my cravings for food, drink, etc.
    1 2 3 4 5 6 7 X

13. If I think of something that needs to be done, I usually get right to work on it.
    1 2 3 4 5 6 7 X

14. When I am happy and excited about an upcoming event, I have a hard time focusing my attention on tasks that require concentration.
    1 2 3 4 5 6 7 X
### Rating scale:

<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>X</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>extremely untrue</td>
<td>quite untrue</td>
<td>slightly untrue</td>
<td>neither true nor false</td>
<td>slightly true</td>
<td>quite true</td>
<td>extremely true</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

15. When I am excited about something, it’s usually hard for me to resist jumping right into it before I’ve considered possible consequences.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
</table>
15. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | X |

16. I usually finish doing things before they are actually due (for example, finishing homework).

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
</table>
16. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | X |

17. When I see an item in a store I like, it’s usually very hard for me to resist buying it.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
</table>
17. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | X |

18. When I am afraid of how a situation might turn out, I usually avoid dealing with it.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
</table>
18. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | X |

19. It is easy for me to inhibit fun behavior that would be inappropriate.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>X</th>
</tr>
</thead>
</table>
19. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | X |
APPENDIX E

STUDENT ADAPTATION TO COLLEGE QUESTIONNAIRE (SACQ)

DIRECTIONS:

The statements below describe college experiences. Read each statement and decide how well it applies to you at the present time (within the past few days). Use the following rating scale to indicate the number that best represents how closely the statement applies to you by putting an asterisk * in front of it.

Rating scale:

<table>
<thead>
<tr>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>applies very closely</td>
<td>applies closely</td>
<td>not very closely</td>
<td>doesn’t apply at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Example: I get overly frustrated at exam time.]

9 8 7 6 5 4 3 2 1

Begin Here:

1. I feel that I fit well as part of the college environment.
   9 8 7 6 5 4 3 2 1

2. I have been feeling tense or nervous lately.
   9 8 7 6 5 4 3 2 1

3. I have been keeping up with my academic work.
   9 8 7 6 5 4 3 2 1

4. I am meeting as many people, and making as many friends as I would like at college.
   9 8 7 6 5 4 3 2 1
**Rating scale:**

<table>
<thead>
<tr>
<th></th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>applies very closely</td>
<td>applies closely</td>
<td>not very closely</td>
<td>doesn’t apply at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. I know why I’m in college and what I want out of it.
   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

6. I am finding academic work at college difficult.
   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

7. Lately I have been feeling blue and moody a lot.
   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

8. I am very involved with social activities in college.
   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

9. I am adjusting well to college.
   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

10. I have not been functioning well during examinations.
    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

11. I have felt tired much of the time lately.
    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

12. Being on my own, taking responsibility for myself, has not been easy.
    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

13. I am satisfied with the level at which I am performing academically.
    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
14. I have had informal, personal contacts with college professors.

9 8 7 6 5 4 3 2 1

15. I am pleased now about my decision to go to college.

9 8 7 6 5 4 3 2 1

16. I am pleased now about my decision to attend this college in particular.

9 8 7 6 5 4 3 2 1

17. I’m not working as hard as I should at my coursework.

9 8 7 6 5 4 3 2 1

18. I have several close social ties at college.

9 8 7 6 5 4 3 2 1

19. My academic goals and purposes are well defined.

9 8 7 6 5 4 3 2 1

20. I haven’t been able to control my emotions very well lately.

9 8 7 6 5 4 3 2 1

21. I’m not really smart enough for the academic work I am expected to be doing now.

9 8 7 6 5 4 3 2 1

22. Lonesomeness for home is a source of difficulty for me now.

9 8 7 6 5 4 3 2 1

23. Getting a college degree is very important to me.

9 8 7 6 5 4 3 2 1
**Rating scale:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. My appetite has been good lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>25. I haven’t been very efficient in the use of study time lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>26. I enjoy living in college housing (Please omit this question if you do not live in college housing.)</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
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</tr>
<tr>
<td>27. I enjoy writing papers for courses.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>28. I have been having a lot of headaches lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>29. I really haven’t had much motivation for studying lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>30. I am satisfied with the extracurricular activities available at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>31. I’ve given a lot of thought lately to whether I should ask for help from the Psychological/Counseling Services Center or from a counselor outside of college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>32. Lately I have been having doubts regarding the value of a college education.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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</tbody>
</table>
Rating scale:

<table>
<thead>
<tr>
<th></th>
<th>9</th>
<th>8</th>
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<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. I am getting along very well with my friends at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>34. I wish I were at another college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>35. I’ve put on (or lost) too much weight recently.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>36. I am satisfied with the number and variety of courses available at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>37. I feel that I have enough social skills to get along well in the college setting.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>38. I have been getting angry too easily lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>39. Recently I have had trouble concentrating when I try to study.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>40. I haven’t been sleeping very well.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>41. I’m not doing well enough academically for the amount of work I put in.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>42. I am having difficulty feeling at ease with other people at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
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</table>

141
**Rating scale:**

<table>
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<tr>
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<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>applies</td>
<td>applies</td>
<td>not</td>
<td>very</td>
<td>closely</td>
<td>closely</td>
<td>at all</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43. I am satisfied with the quality of the courses available at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>44. I am attending classes regularly.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>45. Sometimes my thinking gets muddled up too easily.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>46. I am satisfied with the extent to which I am participating in social activities at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>47. I intend to stay in this college to finish my degree even if it takes longer than I thought to complete my program.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>48. I haven’t been dating much lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>49. I worry a lot about my college expenses.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>50. I am enjoying my academic work at college.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>51. I have been feeling lonely a lot at college lately.</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
52. I am having a lot of trouble getting started on homework assignments.

9  8  7  6  5  4  3  2  1

53. I feel I have good control over my life situation at college.

9  8  7  6  5  4  3  2  1

54. I am satisfied with my program of courses for this semester.

9  8  7  6  5  4  3  2  1

55. I have been feeling in good health lately.

9  8  7  6  5  4  3  2  1

56. I feel I am very different from other students at college in ways that I don’t like.

9  8  7  6  5  4  3  2  1

57. On balance, I would rather be working full time than being in college.

9  8  7  6  5  4  3  2  1

58. Most of the things I am interested in are not related to any of my course work at college.

9  8  7  6  5  4  3  2  1

59. Lately I have doubts about whether this is the right place for me to achieve my goals.

9  8  7  6  5  4  3  2  1

60. I have been giving a lot of thought to dropping out of college altogether and for good.

9  8  7  6  5  4  3  2  1
**Rating scale:**

<table>
<thead>
<tr>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>applies very closely</td>
<td>applies closely</td>
<td>not very closely</td>
<td>doesn’t apply at all</td>
<td></td>
<td></td>
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</tbody>
</table>

61. I worry I will be in too much debt when I finish college so I am thinking of taking time off to work full time and save money.

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</table>

62. I am very satisfied with the professors I have now in my courses.

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</thead>
</table>

63. I have some good friends at college with whom I can talk about any problems I may have.

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64. I am experiencing a lot of difficulty coping with the stresses imposed upon me in college.

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65. I am satisfied with my social life in college.

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</table>

66. I’m quite satisfied with my academic situation at college.

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</tr>
</thead>
</table>

67. I feel confident that I will be able to deal in a satisfactory manner with future challenges here at college.

| 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |