The mediating influence of career aspirations and career decision-making self-efficacy on self-differentiation, vocational identity, and career indecision

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THE MEDIATING INFLUENCE OF CAREER ASPIRATIONS
AND CAREER DECISION-MAKING SELF-EFFICACY
ON SELF-DIFFERENTIATION, VOCATIONAL
IDENTITY, AND CAREER INDECISION

by

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A Dissertation Presented in Partial Fulfillment
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We hereby recommend that the thesis prepared under our supervision by Jay Justin Middleton entitled

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ABSTRACT

Research indicates that numerous family variables influence the career-development process (Osipow, 1983). Bowen’s family systems theory is one model through which to view the development and influence of the family on career development (Bowen, 1972). According to his theory, individuals begin life highly dependent on family members for all forms of support. As people grow into adults, they slowly become independent of their family, or self-differentiated. Adults low in self-differentiation have been found to make decisions in order to appease their families. Further, low levels of self-differentiation have been related to greater mental health problems (Skowron & Friedlander, 1998) and relational dysfunction (Jenkins, Buboltz, Schwartz, & Johnson, 2005). Conversely, those who are high in self-differentiation tended to report greater emotional and interpersonal stability (Jenkins, et al., 2005). However, there is little research that has explored the relationship between self-differentiation and variables that are important in the development of career identity. The purpose of this study was to better understand the relationships among self-differentiation, career indecision, career decision-making self-efficacy, vocational identity, and career aspirations. Data were analyzed from 324 students (59% female) enrolled in undergraduate psychology courses. Due to significant mean differences between males and females, the hypotheses were analyzed separately for each gender. For females, career decision-making self-efficacy and career aspirations are significant
mediators of the relationship between differentiation of self, vocational identity, and career indecision. For males, both career decision-making self-efficacy and career aspirations are significant mediators of the relationship between differentiation of self and vocational identity. Additionally, career decision-making self-efficacy is a significant mediator of the relationship between career indecision and differentiation of self for males. However, for males, career aspirations is not a mediator of the relationship between differentiation of self and career indecision when analyzed without career decision-making self-efficacy. The impact of these findings on future research and career counseling is discussed.
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CHAPTER 1

INTRODUCTION

The CollegeBoard (2013), a nonprofit organization dedicated to tracking the financial cost of college, noted that tuition to a four-year public university for an in-state student was $8,655.00 in 2012, an increase of 4.8% from the year before. This does not include the cost of room and board, which also saw a 3.7% increase. Another nonprofit organization, The Institute for College Access & Success (TICAS; 2013), noted that 70% of students graduating in 2012 were in debt, and that debt averaged $29,400. Therefore, any delay in making a career decision may in turn result in an increased financial burden on the student and his or her family (TICAS, 2013).

Gordon (1995) noted that between 20% and 50% of students enter college without a chosen major and that 75% will change majors at least once. Freshmen often choose a major during their first semester with little contemplation, and many change majors at least once during their time in school. Career indecision may result in students changing majors frequently, which is one of the top reasons for a delay in graduation (Asher, 2010). The problem of switching majors, and therefore delaying graduation, is significant enough that some institutions of higher learning are beginning to advocate barring students from choosing a major until their second year (Freedman, 2013). Research that examines the origins of career indecision can assist students in making a well-thought-out
career choice (Holland, 1997). One area of research that appears to be fruitful is how family influences career development (Holland, 1997; Roe, 1957; Super, 1957).

The influence of the family has long been thought of as critical in career development (Osipow, 1983). Historically, a number of career theorists such as Gottfredson (1981), Holland (1997), Roe (1957), and Super (1957) have argued that the process of career selection begins in childhood and that one’s family of origin is influential in career development, identity, and choice. Roe (1957) noted that parent–child interactions influence later career selection as adolescents attempt to fill needs not met by their parents. Super (1957) took a different perspective to the career-development process by arguing that it is a combination of childhood curiosity, exploration, and the modeling of behavior. Gottfredson (1981), Mitchell and Krumboltz (1996), and Holland (1997) explain the importance of family in career development via modeling, though Gottfredson places a greater emphasis on sex roles than Super. In a review of the literature, Whitson and Keller (2004) found that the structural and internal processes of the family were influential on career decision making. Structural factors included variables such as number of siblings, socioeconomic status (SES), and occupations of the parents. Internal process variables included family interaction patterns and parental expectations. Similarly, both structural and process variables were found to be of importance in an early literature review by Schulenberg, Vondracek, and Crouter (1984). However, Schulenberg et al. (1984) argued that a third factor, location of family in the larger social context, was also an important influence on career development.

Another important factor in the process of career exploration and selection is the development of identity (Munley, 1977). One definition of identity is the conscious sense
of self developed via social interaction (Erikson, 1968). Erikson argued that all people go through eight stages over the course of their lives. During each stage a different conflict must be resolved in order for them to move on to the next stage. It is during adolescence that the fifth stage, identity versus identity confusion, occurs (Erikson, 1968). Ideally, during this stage people develop a sense of personal identity through the exploration of a variety of roles. Those who do not develop a strong ego identity struggle with an identity crisis that hinders the development of personal, social, and romantic relationships. It is during this stage that career identity is generally solidified (Erikson, 1968). Delays in this stage can lead to problems in career choice. Erikson (1968) argued that career choice, while made during the identity stage, has its roots in early childhood and is shaped by interactions with family members and peers. However, the process of how career choice is transmitted between family members is unclear.

Further, family variables have been found to influence a number of variables related to career development such as career decision-making self-efficacy (CDMSE; Whitson, 1996), career self-efficacy (Hackett & Betz, 1981), and vocational identity (Lopez, 1989). Both self-efficacy and CDMSE have their theoretical roots in social cognitive theory (SCT; Bandura, 1977, 1986). SCT posits that learning is a complex function that involves environmental, behavioral, and personal factors. Similar to the theories of Holland (1997) and Gottfredson (1981), SCT emphasizes the role of observation in the learning process. However, other theorists take a different view of the influence of family on career development.

One theory that can shed light on the importance of family and its influence on variables related to career development is Bowen’s family systems theory (Bowen, 1966;
Kerr & Bowen, 1988; Papero, 1990). This theory states that all members of a family unit are emotionally interconnected. Members of the family unit are reliant on each other for support and seek guidance from one another. Bowen (1966) further argued that family members are so intensely tied to one another that the family unit acts in many ways as a living organism, and therefore behaviors within a family may be seen as adaptive. Emotional connectedness allows a family to develop cohesiveness that in turn can foster economic and social support. In healthy families people will feel connected to their family, yet also feel confident in making decisions based on their own personal wants and needs. Families will transmit their functioning level from one generation to the next.

However, sometimes the process of cohesiveness can become maladaptive when members become overreliant on one another. In these families, individual members do not just rely on others for support, but become dependent on them when faced with a decision. Individuals in these families do not act out of a healthy sense of individuality, but make choices in order to reduce internal feelings of anxiety. Anxiety arises because individuals worry about whether other family members will agree with a decision. These families become dysfunctional, and individual members will likely suffer from numerous personal, romantic, and social problems (Bowen, 1966; Kerr & Bowen, 1988; Papero, 1990). Career decision making in dysfunctional families is likely to be rooted in the desire to appease family members, and not based on personal interest, ability, or skill. Further, such dysfunction will be transmitted to later generations, perpetuating unhealthy family dynamics.

Recent research on Bowen’s family systems theory is generally sparse, and there are even fewer studies exploring his theory’s intersection with constructs related to career
identity development. Considering the importance of family on career decision making, this lack of research is unfortunate. The current study sought to connect the theoretical underpinning of Bowen’s family systems theory with several modern constructs of the career development process: career decision making, career self-efficacy, career aspirations, and vocational identity.

**Statement of Problem**

Despite the vast number of theories and variables that discuss the process of career selection, the majority of research studies do not tie the two together. Modern research treats career selection as a trait or personality-driven process. This approach is problematic since it fails to explain how families play a role in these traits. There is research that illuminates the relationship between family and career identity development. However, this research often focuses on family in terms of single demographic or individual variables and not from a unifying theoretical perspective of family, such as Bowen’s family systems theory.

With regards to Bowen’s family systems theory, there is little research tying it to the development of career identity. However, Johnson, Schamuhn, Nelson, and Buboltz (2014) found that individuals who are highly self-differentiated were more likely to have a well-developed vocational identity. Well-self-differentiated college students were more likely to make a career decision before graduating (Kinnier, Brigman, & Noble, 1990), though Larson and Wilson (1998) found no direct relationship between differentiation and career indecision. Further, there is a lack of research exploring the relationship between Bowen’s family systems theory, CDMSE, vocational identity, career indecision,
and career aspirations. The present study sought to better expand upon the research between these constructs.

The present study expanded upon previous research by directly tying Bowen's family systems theory to several modern constructions of career identity development. These include career indecision, vocational identity, career aspirations, and career decision-making self-efficacy. These instruments measure the process and outcomes of the career decision-making process. The self-differentiation measure is based directly on Bowen's family systems theory. The current study sought to explore the relationship that self-differentiation has on development of career identity, aspirations, and decision making. These variables have never previously been explored together.

Justification

The present study is an attempt to further understand how the complex dynamics of family can influence career decision making in young adults (e.g., Whitson and Keller, 2004). Previous research on families and career development found a relationship between the two (Michael, Most, & Cinamon, 2013; Nota, Ferrari, Solberg, & Soresi, 2007; Whitson, 1996). Research supports the negative relationship between high CDMSE and increased career indecision (Guay, Ratelle, Senécal, Larose, & Dechênes, 2006; Mathieu, Sowa, & Niles, 1993; Taylor & Betz, 1983). While some research has found a relationship between low self-differentiated families and career indecision (Lopez, 1989), others have not (Santos & Coimbra, 2000). Therefore, not only is the relationship between each set of variables unclear, but there is no study that looks at these variables together.
The present study addresses these issues by exploring career indecision, CDMSE, vocational identity, and career aspirations through the lens of Bowen’s family systems theory (Bowen, 1978). Bowen’s family systems theory notes that family functioning is an adaptive process in which individuals’ emotional, financial, and psychological needs are supported by the family unit. Healthy individuals are able to remain connected to their families while growing in independence. Further, these individuals are able to make decisions involving career and relationships without undue influence from family members. However, poorly self-differentiated individuals have weak boundaries with family members and will make decisions in order to appease others. It is likely that such decisions could include those that are vocational in nature.

Considering the impact that low differentiated families have on numerous areas of functioning, it is suspected that individual members will be less confident in their ability to make a career decision because they are overly reliant on the input of others. Similarly, career indecision may also be influenced by family members. Those in a low differentiated family may be torn between their own desires and those of their family. Specifically, they may not have a strong motivation to find a career when they believe that it is their family making the choice. Finally, individuals low in self-differentiation may have lower career aspirations because of having lower CDMSE.

Another body of evidence suggests a relationship between career indecision and differentiation. Indeed, researchers have found that career indecision is related to symptoms of depression (Saunders, Peterson, Sampson, & Reardon, 2000; Sweeney & Schill, 1998; Walker & Peterson, 2012), anxiety (Mojgan, 2011; Newman, Fuqua, & Seaworth, 1989; Peng, 2001; Weinstein, Healy, & Ender, 2002), and low global self
esteem (Emmanuelle, 2009). These problems are similar to the issues found in families that are well self-differentiated, such as increased general anxiety (Larson & Wilson, 1998) and gender distress (Skowron & Friedlander, 1998), and reductions in general well-being (Bohlander, 1999). Similarities in psychological problems in individuals who are either undifferentiated or suffering from chronic career indecision suggest that they may both stem from a similar underlying dysfunction. The present study will perhaps provide evidence of an underlying relationship between the two.

Literature Review

History of Vocational Theories

Hansen (1976) noted that career development is the “continuous lifelong process of developmental experiences that focuses on seeking, obtaining and processing information about self, occupational and educational alternatives, life styles and role options” (p. 44). However, Osipow and Fitzgerald (1996) noted that theories of career development tend to focus on one or more of the following: traits, social influence, self-conceptions, personality, and behavioral approaches. Further, within each of these areas is a diverse number of theories that may be only superficially related to one another. Though, in line with Hansen’s definition of career development, most modern vocational theories view the process of career development as one that begins in childhood and continues into adulthood. This suggests that family would have at least some impact on vocational development, though the majority of career theories are not explicit about the role that family plays.

Roe. One of the earliest vocational theorists was Anne Roe, who began her career as a clinical psychologist. However, she eventually went on to write about the
relationship between personality, family, and occupational choice (Roe, 1957; Roe & Lunneborg, 1990). She was heavily influenced by Maslow’s (1962) hierarchy of needs but placed self-actualization much lower on the hierarchy (Roe, 1956). She also argued that it was parental attitudes, and not behaviors, towards children that influenced career development. Therefore, Roe proposed three parent–child relationships: emotional, avoidant, and accepting. Each of the parent–child relationships could be further divided into one of two subtypes. Emotional relationships emphasized how much emotional focus was placed on the child by the parents. The first emotional subtype was referred to as overprotective. This subtype resulted when parents became too controlling of their children, which resulted in decreased intellectual curiosity and fostered a sense of dependence. The second subtype of emotional relationships was overdemanding. Parents of this subtype tend to set perfectionist standards for their children. Parents could also engage in two types of avoidance. The first subtype of avoidance is when parents neglect their children; in the other subtype, parents emotionally reject their children and do not show them love or affection. The final type of parent–child relationship is one that is characterized by acceptance of the child. Parents could engage in casual acceptance, in which only minimum support was given, while loving acceptance occurred when parents fully accepted their child without encouraging dependency (Roe, 1956).

These parent–child relationships formed the foundation for Roe’s view on career development. As an adult, a child would eventually seek an occupation that filled a need left void by his or her parents as well as satisfied his or her own hierarchy of needs (Roe, 1956). For example, a child who felt neglected or unsupported by his or her parents might eventually choose a career that required a high degree of connectivity with other people
in order to fulfill this unmet need. Further, adults who chose occupations that did not meet these needs were bound to have low levels of career satisfaction.

Roe also developed a two-dimension taxonomy that ordered careers based on the interpersonal relationships and skill level within an occupation (Roe, 1957). The interpersonal level arranged occupations along a continuum, where proximity signified career similarity. Accordingly, the eight career groups include service, business contact, organization, technology, outdoor, science, general culture, and the arts. Roe also considered the level of challenge and skill involved in a given career, which included semiskilled and unskilled, skilled, semi-professional and small business, professional and managerial, and independent professional and managerial occupations. However, there has been virtually no empirical data to support or dispute Roe’s claims.

Gottfredson. Linda Gottfredson’s (1981, 1996) theory states that vocational choices begin in early childhood and continue through adolescence and into early adulthood. Through interactions with parents and peers, children and adolescents develop a self-concept, which is the view one has of him- or herself (Super, Starishevsky, Matlin, & Jordaan, 1963). One’s self-concept includes a host of components such as values, beliefs, skills, gender, appearance, and social roles. One may not be aware of all aspects of his or her self-concept, but yet be influenced unconsciously. Individuals also have occupational stereotypes (Holland, 1997), which are the beliefs about people in a particular occupation. This includes aspects of personality, monetary and nonmonetary rewards, work environment, and who is a good fit for a particular career. Occupational stereotypes often include assumptions about gender suitability. Similar to the
development of self-concept, occupational stereotypes are largely informed by interactions with family and peers.

Gottfredson (1981, 1996) argued that children and adolescents combined self-concept and occupational stereotypes into cognitive maps of vocations. These maps allow youths to assess what careers may be a good fit by comparing their self-concept with occupational stereotypes. For example, adolescents who view themselves as masculine may avoid careers that they perceive as feminine. It is important to note that both self-concepts and occupational stereotypes, and therefore cognitive occupational maps, are based largely on perceptions and may not necessarily reflect reality.

According to Gottfredson (1996), a career within the cognitive occupational map is considered compatible when people believe that it matches their self-concept; conversely, the more conflict a potential vocation has with one’s self-concept, the more likely it is to be rejected. However, just because a career is compatible with one’s self-concept does not mean a person has the skills, education, or willingness to obtain them to enter such an occupation. Careers that are both accessible and compatible result in what Gottfredson (1996) calls a social map. Social maps can contain a very large or small number of occupations, and not surprisingly, those who have a small number tend to have difficulty choosing a career.

Gottfredson (1981, 1996) argued that as children grow older they eliminate careers in a process called circumscription, which consists of four stages that occur at approximately similar ages for all people. During each stage there is an increase in both physical and cognitive capabilities, which influences the decisions made in each stage. In the first stage, which occurs between the ages of 3 and 5, a child becomes oriented to
differences in size and power between individuals. This is the earliest point at which children will report a career interest. During the ages of 6 to 8 children enter into the second stage where career interests are focused on sex-role stereotypes, and it is these stereotypes that will lead children to eliminate certain vocations. During the third stage, between the ages of 9 and 13, job difficulty will become a factor. Jobs that are considered too difficult or contain a high risk of failure will be eliminated from consideration. At this age occupational prestige is also considered, with those that are low status also being eliminated. It is not until the final stage, which begins at the age of 14, that individuals will incorporate their unique identity into career selection. Adolescents at this stage also begin to think about other life roles, such as marital status; therefore, they also consider possible occupations within the context of other social roles. It is not until the final stage that possible careers are chosen.

After completing the four stages of circumscription the process of choosing a specific career occurs, which Gottfredson (1981, 1996) refers to as compromise. There are four guiding principles that influence compromise. The first principle is that individuals will take into account prestige, gender roles, and interest when finalizing a career choice. Second, people will often settle for a less-than-optimal choice as long the potential career is still a good fit with their self-concept. Factors such as length of education required, racial or gender barriers, and difficulty of occupation are also considered when deciding what is an optimal or good fit. The third principle is that individuals will delay making a career choice if they unable to decide on a suitable vocation. Thus, they will wait on making a choice until a career becomes more accessible or reconsider careers outside of their original social map. Finally, Gottfredson (1996)
argued that individuals will sacrifice criteria for a potential career based on the order in which the criteria were formed. The earlier a criterion was formed in childhood, the more crucial it is to one’s identity. Since gender norms are formed at a very young age, people will be more likely to sacrifice prestige than choose a career that violates gender stereotypes. Similarly, since interests do not form until adolescence, they are more likely to be sacrificed than prestige.

Several studies have been conducted to provide empirical support for Gottfredson’s original theory. A series of studies by Pryor and Taylor (Pryor, 1987; Pryor & Taylor, 1989; Taylor & Pryor, 1985) tested the validity of the compromise portion of Gottfredson’s theory. Overall, research indicated that prestige, personal interest, and sex roles all were important. However, there was little consistency from study to study about the magnitude and order of importance. Later studies found that when given a forced choice between gender roles and prestige, women were more likely to choose status (Leung, 1993; Leung & Plake, 1990). This was especially true of women who indicated they had less interest in maintaining gender stereotypes related to career. In two studies by Hesketh and colleagues (Hesketh, Durant, & Pryor, 1990; Hesketh, Elmslie, & Kaldor, 1990), they found that sex role stereotypes were most likely to be sacrificed, followed by prestige, and finally interest when selecting an occupation. These findings essentially reverse the order of importance argued by Gottfredson.

In response to these findings, Gottfredson (1996) modified her theory by suggesting there is a hierarchy based on the degree of compromise required. Occupations that require a minimum degree of compromise are likely to result in the sacrifice of sex roles, followed by prestige, and finally interest. Moderate levels of compromise will
result in prestige being more protected than sex roles. Only when confronted with a major compromise, will priority be given to sex roles, then prestige, and finally interest. However, Gottfredson (1996) never clarified what defines minimum, moderate, or high levels of compromise. In a study of Gottfredson’s updated theory, Blanchard and Lichtenberg (2003) found partial support for her claims. Those in the low degree of compromise placed the most importance on interest, followed by status, and finally sex roles. There were no significant differences between status and sex roles in the medium to high compromise groups, though status and sex roles were significantly more important than interest. Overall, it appears that the relationship between sex roles, status, interest, and degree of compromise is complex and warrants further research.

However, studies on the circumscription process have garnered more modest research support. As predicted by Gottfredson’s theory, both ability and gender appear to influence career aspirations (Cochran, Wang, Stevenson, Johnson, & Crews, 2011). Helwig (2001, 2004), in a longitudinal study on the development of career interests, found that Gottfredson was correct in that young children tend to prefer occupations that match expected gender roles. Boys in second and fourth grade tended to choose traditionally masculine occupations such as firefighter or pilot, while similarly aged girls preferred careers such as nurse or teacher. However, in sixth and eighth grade both sexes tended to prefer higher-prestige occupations such as doctor and lawyer, as predicted by Gottfredson’s theory, which suggests that social status becomes more important as children become older. Finally, twelfth graders tended to have an interest in a variety of careers, which would indicate that at that age personal taste and abilities become paramount.
The influence of family on career development is found throughout Gottfredson’s theory. Gottfredson (2002) argued that the initial formation of self-concept and career interest is initially influenced by family members. It is from family members that many children learn and model both gender-specific behaviors and initial career interest. Due to this modeling, adolescents’ cognitive maps will often be similar to those of their parents, though no empirical support is provided for this claim. Gottfredson’s theory does not delve into the process of how family influences career development besides modeling behavior.

Holland. Perhaps one of the most influential career theories is Holland’s (1997) theory of career choice. According to his theory, a person who works in an environment that matches his or her personality will be happier and more productive (Holland, 1997). Holland’s theory of career choice has several implications (Holland, 1997). First, vocational choices are reflections and extensions of personality. If this is true, then career interest inventories are also measures of personality. Another implication is that people in similar occupations are likely to have similar personalities and that people with similar vocational styles will respond to problems and situations in the environment in a similar manner (Holland, 1997). The relationship between people and environments can be understood by four constructs: congruence, differentiation, consistency, and identity (Holland, 1997).

Congruence. The first construct is congruence, which refers to the match between a person and the environment in which he or she works (Holland, 1997). The level of congruence tends to correspond with the satisfaction of the worker. If the level of congruence is low, the worker will likely be less productive, while higher levels generally
equate to more satisfied employees. Further, the development of congruence begins in adolescence and continues while a person completes the educational and training requirements needed for his or her chosen field.

Research offers support for the importance of congruence in career identity development. Werner (1974) sampled several hundred adolescent boys and girls in a vocational training program and measured their level of congruence. He found that those high in congruence were more likely to stay in the program, were more achievement oriented, and for boys only, were more satisfied. In college students, researchers found that students whose interests were congruent with those of their professors had higher grades (Posthuma & Narvan, 1970). Congruent freshmen engineering students were less likely to change majors than engineering students who were incongruent (Bruch & Krieshok, 1981). However, such findings are not universal. Morrow (1971) found that congruence was related to satisfaction for those majoring in mathematics, but not sociology.

Congruence is related to general personality stability, with those high in congruence reporting fewer personal adjustment issues (Walsh & Russell, 1969). Wiener and Vaitenas (1977) conducted a study with individuals working in management and sales. They found that those planning a career change tended to have lower levels of congruence and were more passive than those not planning a career change. Similarly, Heist and Yonge (1968) found that males with high congruence scores attending college had less anxiety, emotional disturbance, and likelihood of feeling socially alienated when compared to those with low congruence scores. This finding suggests either that
psychologically fit individuals make better career choices or that poor choices can lead to mental health dysfunction.

Research has explored congruence and its relationship to employment. Those who are congruent with their occupation tend to report higher job satisfaction (Mount & Muchinsky, 1978). Other studies have found a similar relationship between satisfaction and congruence (Wiggins, 1976; Wiggins, Lederer, Salkowe, & Rys, 1983). Further, the relationship between satisfaction and congruence appears to remain stable over time (Gottfredson & Holland, 1990). Research has also found that those who are congruent with their occupation are less likely to change careers (Vaitenas & Wiener, 1977; Wiener & Vaitenas, 1977).

**Differentiation.** Differentiation, the second construct, describes how clearly a person or environment matches a specific code type (Holland, 1997). For example, a person may only enjoy occupations and leisure activities that involve helping other people in lieu of all other activities. This person can be described as being highly differentiated because he or she clearly belongs to a particular code type. Conversely, a person who enjoys a variety of activities and is relatively equally skilled in all of them can be described as undifferentiated because he or she does not fit into a single code type (Holland, 1997).

The research support for differentiation is decidedly mixed. Holland (1968) placed students into low, medium, and high levels of differentiation. He then compared the different levels to stability in occupational choices. He found a strong relationship between greater levels of differentiation and stability for men, but no relationship for women. A longitudinal study conducted by Taylor, Kelso, Longthorp, and Pattison
(1980) compared highly and poorly differentiated students at an initial point and a year later. The highly differentiated group had higher scores on self- and career knowledge than those in the poorly differentiated group. Further, a year later the highly differentiated group had more stable career choices. However, a pair of studies did not find a relationship between differentiation and occupational identity (Schaefer, 1976; Villwock, Schnitzen, & Carbonari, 1976). Holland (1997) criticized these findings by suggesting that they did not control for a variety of confounds and for using small sample sizes.

**Consistency.** The thirst construct, *consistency*, denotes the similarity between the six subscales of the RIASEC (Holland, 1997). Letters that are closer together indicate that these subscales are similar, while letters farther apart indicate difference. For example, artistic and social individuals have a great deal more in common with one another than they do with realistic and conventional people. Similarly, work environments may be more or less similar to one another based on their code type. Inconsistent jobs are those that require an unusual combination on the RIASEC (Holland, 1997). Holland (1997) also denotes a subtype of consistency, which is consistency of aspirations. This is the degree to which someone’s future dreams vary in terms of code type.

Wiley and Magoon (1982) grouped college freshmen into high, medium, and low levels of consistency. They found that those in the high or medium groups were less likely to drop out of school, and those in low and medium groups had lower grade point averages than those in the high consistency group. A series of studies found that consistency strongly correlates to stability of career aspirations (O’Neil & Magoon, 1977; O’Neil, Magoon, & Tracey, 1978; Touchton & Magoon, 1977). Aiken and Johnston
(1973) noted that college students who had not chosen a major were more likely to seek career information if they had a highly consistent profile compared to those lower in consistency. Consistency is also a strong predictor of vocational stability in adults (Holland, Sorensen, Clark, Nafziger, & Blum, 1973). Holland et al. (1973) found that consistency is a predictor of job stability at both 5- and 10-year intervals. Gottfredson (1977) sorted individuals into high, moderate, and low levels of consistency. Results indicated that those in the high consistency group changed jobs less frequently than those in the other two groups. However, in a longitudinal study, Erwin (1982) did not find support for consistency as a predictor of vocational stability.

**Identity.** The final construct is identity (Holland, 1997), which refers to the stability of a person’s current and future goals as well as the stability of an occupational environment. If a person or environment has a high sense of identity, then their goals are less likely to vary (Holland, 1997). Since its inception, there has been a great deal of refinement and expansion of this concept. Holland’s code types divide both work and environments into six separate categories known as the Holland occupational themes and is known as the RIASEC model (Holland, 1997). However, when compared to the other components of Holland’s theory of career choice, the research on identity is sparse, though measures of identity tend to be reliable and valid (Holland, Daiger, & Power, 1980). Henkels, Spokane, and Hoffman (1981) noted that high levels of identity correlated with several subscales on the California Psychological Inventory, such as Sense of Well-Being and Capacity for Status. Identity also appears to be correlated with higher levels satisfaction with life (Olson, Johnston, & Kunce, 1985). However, there has been little research conducted on the predictive power of identity and career stability.
Holland’s theory of career choice, gender differences, and ethnicity. On average, women have higher scores on the Social, Artistic, and Conventional scales, while men tend to score higher on the Enterprising, Realistic, and Investigative scales (Holland, 1997). Similarly, these findings match the division of labor found in actual occupations (Holland, 1997; Reardon, Bullock, & Meyer, 2007; Roberti, Fox, & Tunick, 2003). Therefore, it could be argued that Holland’s code types do not encourage gender normative behavior but are rather a reflection of social norms. Research is largely supportive of Holland’s theory for diverse populations. Tracey and Robbins (2005) found that Holland’s code types were accurate for the majority of ethnicities within the United States. However, there are reports that some ethnic minority groups found within the United States tend to have slightly different averages on some of the six categories (Flores, Spanierman, Armstrong, & Velez, 2006; Kaufman, Ford-Richards, & McLean, 1998; Oliver & Waehler, 2005; Tang, Fouad, & Smith, 1999). Also, for both African Americans (Swanson, 1992) and Mexican Americans (Flores et al., 2006), the code types were more accurate in predicting career choice for females than males. Research on diverse groups outside of the United States has been notably mixed. For example, research by Spokane and Cruza-Guet (2005) found that Holland’s code types as well as consistency, differentiation, and congruence were applicable to a variety of western and eastern countries. Moreover, research has found that for Irish (Darcy, 2005), Icelandic (Einarsdottir, Rounds, Aegisdottir, & Gerstein, 2002), and Croatian (Šverko & Babarović, 2006) students, the RIASEC model was accurate. However, research found that the six code types did not fit native Chinese individuals or Americans (Long & Tracey, 2006; Yang, Stokes, & Hui, 2005). The RIASEC was also a poor fit for black
South African adolescents (Watson, Stead, & Schonegevel, 1998) and those living in the Basque region of Spain (Elosua, 2007).

**Holland and family.** Holland (1997) argued that a person’s code type developed in relation to a combination of personality, environmental, and historic factors. Families influence children’s code types both through hereditary, which bestows genetic gifts or limitations, and through social interaction. Holland (1997) defers to Krumboltz’s (1979) application of social learning to career choice as a way to explain the origins of his code types. However, there have been several studies on the relationship between family and the development of code types. Holland (1962) found that a person’s highest code type was strongly correlated with his or her father’s occupation. Grandy and Stahmann (1974) reported that a college student’s code type could be predicted using several family variables. The father’s occupation predicted realistic, investigative, and artistic code types, and the mother’s vocation predicted conventional and investigative types. The gender of the student and political leanings of the father were also predictors of code type. A later study by DeWinne, Overton, and Schneider (1978) attempted to replicate the findings by Grandy and Stahmann (1974). They found that fathers influenced the code types of daughters and sons, while mothers only influenced their sons’ code types. Hazanovitz-Jordan (1982) reported that for both men and women, realistic and investigative types were influenced by their fathers, and social and artistic types were influenced by their mothers. Smart (1989) found that family of origin variables were only important for the development of the social code type. Grotevant, Scarr, & Weinberg (1977) compared families with adopted and biological children. Biologically related
family members were more likely to have similar code types compared to adopted members.

Super. Super’s (1990, 1994) theory of career development is directly embedded with his overall theory of human development. He developed his theory based on three areas within psychology (Super, 1990, 1994). The first is trait theory, which, as applied to vocational theories, states that some individuals are better qualified for different fields based on traits or personality characteristics. The second component of his theory is self-concept. Super (1994) viewed self-concept as one’s awareness of similarities and differences between him- or herself and others. Finally, he based his theory on developmental psychology, which generally views people as developing through different stages across the lifespan. In particular, Super (1994) was strongly influenced by Buhler (1933), who argued that all individuals go through life stages. Buehler argued that during each of these stages important development and life events occur.

According to Super (1957), there are a variety of roles that a person engages in during his or her life including studying, working, community service, home and family, and leisure activities. Studying involves not only attending formal classes, but studying at the library or continuing education as an adult. Work often begins during childhood when offspring assist their parents with household chores. This may further develop into small jobs such as yard work or watching other children. In adulthood this includes traditional vocational duties such as beginning and maintaining a career (Super, 1957).

Volunteering in service of social welfare is thought of as community service and often begins in childhood and continues throughout one’s life (Super, 1957). This can include being part of political or religious organizations. The life role of home and family
depends greatly on age. There is a general increase in responsibility as a person enters into adulthood and a decrease as he or she enters into the later stages of life. However, this is not always the case as sometimes elderly individuals are called upon to help take care of grandchildren. The final life stage, leisure, changes often through a person’s life span. Adolescence and childhood typically contain a greater amount of leisure activity than adulthood. Leisure activity then decreases until the later stages of life, during which it may increase again when a person retires. Further, Super (1990) argued that individuals varied in the importance of their occupation that they assign to their overall life.

Emphasis on one or more of the five roles varies from person to person (Super, 1990).

Within his theory of development, Super (1990) incorporates vocational development, which occurs in stages, some of which are based on age. Within each stage a number of tasks related to career development occur. The stages related to vocational development are growth, exploration, establishment, maintenance, and disengagement. The first three stages also incorporate substages. A critical concept within all of these stages is that of vocational maturity (Super, 1957, 1994). Vocational maturity can be defined as “the way in which an individual successfully completes certain career development tasks that are required according to his current development phase” (Super, 1977, p. 294). According to this definition, it is not solely the vocational activity that people are engaged in that matters, but rather, its relation to the developmental phase they occupy. Career maturity also consists of several components: interest in the career planning process; information about possible occupations; consistency in a particular vocational interest; crystallization of attitudes towards work; and a match between personal interest, skills, and occupational interest (Super, 1994).
Super's stages of vocational development. Super's (1990, 1994) theory of career development begins at birth, and the first stage is referred to as growth. All developing children have a need for curiosity, which fuels exploration of the environment. During this exploration, a child is likely to seek out information from others. The people whom the child seeks out may become key figures in the development of career identity, and these are typically parents and influential caregivers. Whom the child seeks information from will influence his/her interests as well as self-concept. Both interests and self-concept are further refined by play and exploration activities. This overall process is guided by a sense of time, which will help the child, as an adolescent and young adult, choose a career (Super, 1990, 1994).

Further, this stage can be broken down into three substages: fantasy, interest, and capacity (Super, 1990, 1994). From the ages of 4 to 10, fantasy dominates children's career development. They often will have vocational interest in impossible or highly unrealistic careers that they will act out with peers in the form of play. The substage of interest occurs from ages 11 to 12. During this period, interests are developed that form the foundation for possible vocations. Often these interests are vague, undefined, and based on casual interest, and often they still lack plausibility. It is not until the substage of capacity, which occurs from ages 13 to 14, that more realistic careers are considered. Since career choices are more realistic and well defined at that point, it becomes easier for children to vocalize their interest.

The next stage is exploration, which is when tasks related to career choice are implemented. The substages of exploration are tentative, crystallization, and specification (Super, 1990). The tentative stage, from ages 15 to 17, allows people to experiment with
different careers via education, part-time employment, fantasy, direct observation, and volunteering. At this time potential careers will be discarded and the field will be narrowed. This sets the stage for crystallization, from ages 18 to 21, when a career is chosen and steps are taken in support of this choice. Often this requires gaining additional education or training. The final substage, specification, occurs in the early to mid-20s (Super, 1990). Typically, people will choose a particular career or specialization within their field, which may require additional training. However, if a person finds that he or she is not suited for such a career, it may be necessary to move back several substages and restart the exploration process.

The next stage is establishment and lasts from the mid-20s until middle age (Super, 1990). The major task during this stage is the establishment of a career, which consists of two substages: trial and stabilization, and advancement. Trial and stabilization occurs during the first few years of the establishment substage. Often this involves trying out a handful of specific careers within a chosen field. Once a field is selected, the substage of advancement takes places. Typically this occurs during the ages of 30 to mid-40s and involves making personal and professional gains. Ideally, seniority is gained via demonstrating superior skills developed through years of experience, and depending on the field, further training and education may be needed.

The maintenance stage follows and lasts until one’s early 60s (Super, 1990). During this period previous work habits are sustained in order to maintain accomplishments, though often competition from younger workers occurs. Super (1990) argued that a career plateau is often reached during this stage, which often allows for the development of recreational activities. The final vocational stage is disengagement and
takes place during one’s late 60s and lasts through retirement (Super, 1990). This is generally a gradual process in which one slowly transfers duties to coworkers, and it may involve training a replacement. The major task during this stage is finding meaningful activity to replace work.

**Influence of family.** Super (1990) places the greatest importance of family on career development during the growth stage. It is during this period that one’s self-concept is formed. Super (1990) argues that self-concept is informed partially by roles and interactions within the family. The development of self-concept begins very early in childhood when people identify with the same-sex parent. However, as people grow older they may realize that their parent’s roles are not ideal, such as having low status occupations, and may seek others with which to identify. However, little research has been conducted on modeling through the lens of Super’s theory of career development. Further, the modeling behavior Super refers to has been better conceptualized and tested by other career theorists (e.g., Gottfredson and Bandura) or constructs (e.g., social learning theory).

**Research support.** Modest research support has been found for varying aspects of Super’s theory of career development. Bullington and Arbona (2001) noted that Mexican American adolescents often engaged in age-appropriate career exploratory behaviors as predicted by Super. Creed and Patton (2003) found support for the two components of career maturity they explored, career planning and knowledge about careers. They also noted that higher scores in these areas were positively related to increased career decision-making self-efficacy and general career decision making. Nevill and Super (1988) found that the cognitive component of career maturity was related to commitment
to work in college students. Further, seniors and juniors had higher levels of career maturity than freshmen and sophomores, which is predicted by Super's theory. However, the limited research support is unsurprising considering Super himself states that it is not a fully testable theory but a "segmental theory, a loosely unified set of theories dealing with specific aspects of career development taken from developmental, differential, social, and phenomenological psychology and held together by the self-concept or personal construct theory" (Super, 1984, p. 194). Additionally, inventories do not exist to measure much of Super's theory of career development (Herr, 1997).

Family Systems

One way of understanding how families operate is through the lens of Bowen’s family systems theory (Bowen, 1976, 1978; Kerr & Bowen, 1988). Bowen’s family systems theory states that in every individual there are two opposing forces: one that drives him or her to separate from one’s family and one that encourages him or her to remain connected. Further, his theory is based on eight foundational concepts: triangles, nuclear family emotional system, family projection process, multigenerational transmission process, emotional cutoff, sibling position, societal emotional process, and differentiation of self.

**Triangles.** According to Bowen (1976, 1978) the family system is built upon sets of three-person relationships. These family triangles are created in order to deal with the tension intrinsic in two-person relationships, and a third person is added to the dyad so that the tension may be shifted (Bowen 1976, 1978). For example, parents in conflict might shift their tension to a child. While the inclusion of a third person may result in a more stable family dynamic, it does not resolve the underlying tension. Further, the third
person is often treated as an outsider, while the two inside members grow closer.

However, the outside position may shift to a different person depending on the levels of stress in the relationship. In a low-stress relationship, the insider who is most uncomfortable may seek to become closer to the outside member, thereby displacing the outsider position. In high-stress insider pairs, one member may seek to become the outsider as that position will contain less stress. Overall, many family systems involve a set of ever-shifting triangle relationships.

**Nuclear family emotional system.** Bowen (1976) notes that there are four different types of negative relationship patterns in families: marital conflict, spouse dysfunction, child impairment, and emotional distance. These dysfunctional patterns arise when there are high levels of tension within the family that go unresolved. In marital conflict the tension that exists in the family manifests in the conflict between the spouses (Bowen, 1976). Each spouse blames the other for the anxiety that exists in the family. This is in contrast to spouse dysfunction, where one partner attempts to maintain harmony generally by engaging in self-sacrifice and submitting to the needs of others (Bowen, 1976). Often, this pattern is found in families at risk for incidents of domestic abuse. In the third pattern of dysfunction, impairment of children, the offspring become the focus of family conflict (Bowen, 1976). Typically the parents will idolize or demonize one or more of their children, which in turn can increase psychological problems in the target. The children who become the focus of the family generally become hypersensitive to the desires of their parents. If there are other children in the family, who are not the focus of their parents, they may become resentful of their sibling for receiving excessive attention. Emotional distancing is the fourth relational pattern,
and this pattern can occur when family members become less connected to the other members (Bowen, 1976). Families can have more than one of these patterns occurring and may shift through different patterns as time and events influence the structure of the family.

**Family projection process.** Bowen (1972, 1976) argued that in unhealthy families, parents transmit their own emotional problems to their children in a three-step process. First, a parent believes that his or her child has a character flaw, such as fearfulness or shyness. Interestingly, Bowen (1976) argues that children do not actually have such flaws, but that their parents are projecting onto them their own insecurities and fears. In the second step, parents interpret the behavior of their child as confirming their fears regardless of the accuracy of such judgments. Lastly, the parent treats the child as if he or she has this trait or behavior. Effectively, parents treat psychologically healthy children as if they have a mental health problem. In doing so, parents confer their own psychological weaknesses onto their offspring, thereby creating a self-fulfilling prophecy.

**Multigenerational transmission process.** As an extension of the family projection process, Bowen (1972, 1976) notes that family dysfunction may be transmitted from one generation to the next through the multigenerational transmission process. Not only are the emotional problems of the family transmitted, but also are the levels of self-differentiation. Parents are actively shaping and reinforcing the behavior of their children to match their own level of self-differentiation. In turn, children select spouses who match their own, and therefore their parents', level of self-differentiation. However, this does not mean that all children have the same level of differentiation as their parents. Indeed, if one child is ignored by his or her parents, he or she may have a self
differentiation level that does not match that of his or her parents. Over several
generations this can result in families that are very similar to or different from previous
generations.

**Emotional cutoff.** In order to deal with the unpleasant emotions that arise in
dysfunctional families, individuals may engage in emotional cutoff and disconnect from
family members (Bowen, 1972, 1976). In such cases people spend less time with their
family or become emotionally distant. However, such emotional distance does not
resolve the underlying tension and may make family dysfunction worse as other members
sense the change in behavior. The distant member may also seek replacement
connections through other relationships such as friends or coworkers. Too much pressure
may be placed on these replacement relationships in order to meet unmet emotional
needs. There is also the risk that these replacement relationships may begin to exhibit the
same familial patterns from which the person was attempting to escape.

**Sibling position.** Basing his work on that of Walter Toman (1965), Bowen (1974)
argues that sibling position has a tremendous impact on development. Bowen and
Toman’s work differs from that of Adler (1956) in that gender interacts with birth order
to influence personality and behavior. For example, firstborns are not as upset when
being “dethroned” by a new child if the sibling is of the opposite gender. However,
according to Bowen (1974) the pattern of birth and gender is complex and each
combination influences development in a unique way based on the gender of the other
siblings. Bowen also places greater importance on whom one will marry as an adult. For
example, the likelihood of oldest sisters marrying decreases as the number of younger
sisters increase, and are best suited for a spouse who is an only child or has many older
siblings because they will prefer having a dominant female partner. However, there is little research to support Bowen’s conception of sibling position.

**Societal emotional process.** Bowen (1972) argued that his family systems theory could also be applied to business, government, and other institutions. The emotional systems that he studied in families could occur in society and were referred to as the societal emotional process, or societal regression. For example, he noted that the juvenile court system of the 1960s acted as parents towards juvenile offenders. Initially the court system would show leniency towards the juvenile, blaming the offender’s behavior on social or outside factors, but eventually the court system, like a parent, would become angry towards and disappointed in repeat offenders. Further, society as a whole could become more or less self-differentiated, with low levels of self-differentiation resulting in an overall increase in social anxiety and stress (Papero, 1990). However, as with many of Bowen’s concepts, there is little research support for this concept (Papero, 1990). Further, measuring anxiety on an overall social level appears to be problematic and complex to say the least.

**Self-differentiation.** Within Bowen’s family systems theory, a key concept is self-differentiation. Bowen (1972) defined self-differentiation as one’s ability to make his or her own decisions based on his or her values, thoughts, and judgments without being overly influenced by others. Individuals are able to become self-differentiated by separating emotionally, socially, and physically from their caregivers. The process of self-differentiation begins at birth, when a child is wholly dependent on family, and continues until adulthood. Over time, as physical and cognitive capabilities increase, a child becomes more independent. This independence includes making choices for him- or
herself and being less reliant on family members, while at the same time maintaining a level of healthy emotional connectedness. According to Bowen (1974) becoming self-differentiated from one’s family is based on the degree to which one can become emotionally separate. In those who have developed a healthy sense of self-differentiation, emotional reactions will be driven by their own wants and needs, and not those of their parents. Further, when people are self-differentiated, they have a better understanding of the source of their emotions (Bowen, 1974).

A person who is self-differentiated will obtain a balance of valuing family influence while at the same time not being overly guided to the point of being dependent on family members. Those who are overly dependent on family members are said to be fused with their family (Bowen, 1974). Highly fused individuals, or those who are low on self-differentiation, tend to be driven by feelings of anxiety as they battle with their own desires and conflicting family influence. Typically, these individuals will sacrifice their own needs and wants in order to appease others, to reduce their own internal anxiety. Conversely, those who are self-differentiated are able to pursue their own desires and do not solely act to maintain harmony or to appease family or friends (Bowen, 1974). Those who are self-differentiated tend to be goal-directed, confident of their choices, cognitively flexible, and able to receive criticism without becoming overly emotional or withdrawn (Bowen, 1978). Such individuals understand that at times they may need to rely on others for support and receive help in a manner where autonomy can still be maintained. This is in contrast to individuals who are not self-differentiated and tend to be overly reliant on family members when making choices. Theoretically, becoming
independent of family includes making career decisions and developing an independent sense of vocational identity.

**Empirical support.** Empirical support has been found for some aspects of Bowen’s theory, though certain aspects, such as societal regression, are difficult to research (Larson & Wilson, 1998). Moreover, there is a growing volume of research that suggests fusion with one’s family leads to maladaptive family relationships. Bartle-Haring, Glade, and Vira (2005) found that clients in family therapy who had higher levels of self-differentiation had fewer psychological symptoms. Further, in a dissertation on differentiation and romantic relationships, Kruse (2007) found lower levels of guilt and shame in those with high levels of self-differentiation. Baum and Shnit (2005) noted that people with low levels of self-differentiation tended to have poor parenting skills. Domestic violence also appears to be more frequent in relationships in which one or both partners are poorly self-differentiated (Rosen, Bartle-Haring, & Stith, 2001). Conversely, increasing self-differentiation through therapy has been effective for improving marriage quality (Griffin & Apostal, 1993; Peleg, 2008).

There also appears to be a relationship between psychological health and self-differentiation. For example, Skowron and Friedlander (1998) found that those low in self-differentiation tended to have higher levels of psychological distress and anxiety. Differentiation also appears to be related to general sense of well-being (Bohlander, 1999), physical health (Harvey, Curry, & Bray, 1991), distress (Kim-Appel, Appel, Newman, & Parr, 2007), social anxiety (Peleg-Popko, 2002), general anxiety (Larson & Wilson, 1998), and overall psychopathology (Jankowski & Hooper, 2012). In all of the research on mental health and self-differentiation, the authors argued that low
self-differentiation resulted in increased stress and emotional discord, which in turn resulted in numerous mental and physical health problems. Further, high levels of self-differentiation are related to the development of healthy social relationships (Jenkins et al., 2005). Additionally, those who have a well-developed sense of spirituality are less likely to be fused with their family of origin (Jankowski & Vaughn, 2009). The body of research suggests that individuals who are fused with their families have a host of emotional, personal, and social problems.

Bowen (1976, 1978) never explained how self-differentiation would be related to career development. However, considering the influence of self-differentiation on other aspects of people’s lives, it makes sense that in order to make an occupational decision that will lead to a fulfilling career, people need to have self-differentiated from their families. Those who have not self-differentiated from their families will make a career choice driven by a need to please others and to reduce the anxiety of making a disapproved choice. One study by Johnson et al. (2014) found individuals with higher levels of self-differentiation were more likely to have a well-formed vocational identity. They argued that those low in self-differentiation have difficulty separating the needs of their families from their own, therefore making vocational identity more difficult. Kinnier et al. (1990) found that college students who were self-differentiated tended to be more likely to make a career decision. Larson and Wilson (1998) found no direct relationship between self-differentiation and career-decision problems, but one mediated by anxiety. Conceptually, Bowen’s family systems theory should have a strong impact on career development because those who are not self-differentiated from their family of origin
make important life choices in order to appease others. It seems reasonable that one type of choice influenced by family members would be career choice.

**Personal authority.** Donald Williamson (1981, 1982a, 1982b) explored Bowen’s theory in a series of articles and offered a similar, but distinct, vision of separating from one’s parents. He argued that individuals who did not differentiate from their caregivers would present with a host of psychological problems such as the inability to be assertive, poor attachment style, negative self-concept, and sexual dysfunction. In turn, these problems lead to marital instability, which further perpetuates the cycle of low self-differentiation. Williamson (1982b) argues that to avoid these problems a person should establish “personal authority.” Personal authority consists of the following: (a) to be in control of one’s cognitions and opinions; (b) to not be influenced by social pressure in the expression of cognitions and opinions; (c) to have respect for one’s own decisions; (d) to take responsibility for consequences of one’s actions; (e) to freely choose to engage, or not to engage, in intimacy and connectedness; and (f) to be able to identify with other people regarding the experience of being human.

Effectively, Williamson (1981, 1982a, 1982b) argues that one does not develop a personal authority until he or she terminates the parent–child relationship. The development of personal authority generally occurs much later in life, typically when one is in his or her early 30s, then Bowen’s conception of self-differentiation. The termination of the parent–child relationship is also what separates Williamson’s personal authority from Bowen’s concept of family systems theory. Bowen notes that a highly self-differentiated individual will be able to maintain a mutual but healthy relationship with his or her family, whereas Williamson argues that one becomes wholly separate
from one’s family of origin. There are several requirements for termination to take place, which include having one’s own romantic partners, resolving gender identity, and abandoning antiquated notions about love (Williamson, 1981). Interestingly, Williamson also states that one’s vocation must first be established, which generally does not occur for most people until their late 20s. The contention that the process of self-differentiation lasts well into adulthood has been advocated by other theorists (Lawson, Gaushell, & Karst, 1993). However, Williamson’s argument has an important implication; if one must have established a career before establishing a personal authority, this means one is still fused with his or her family when making a career decision. According to this reasoning the majority of people choose an occupation due to the overt influence of family. However, there is no empirical data to support Williamson’s assertions, and the majority of theorists (Bowen, 1976; Erikson, 1982; Super, 1957) agree that decisions influencing life direction, including career choice, take place much earlier than one’s 30s.

**Vocational Identity**

According to Erick Erikson (1963, 1982) people go through eight different psychosocial life stages in which they must navigate a different conflict between opposing forces. If the conflict is successfully resolved, the next stage can then be transversed. Further, people carry the resolution of the conflict with them into the next strange. For example, the first stage is conflict between mistrust and trust in others. In individuals who develop a sense a trust, this trait carries with them through the other stages, while those who do not successfully navigate the conflict can become stuck in a stage, preventing further emotional and social development. In particular, his fifth stage, the maturation of identity during adolescence, acts as a development bridge between the
four stages that take place in childhood and the final three stages of adulthood (Munley, 1977). It is during this stage that adolescents experiment with different identities in order to ascertain a sense of self. Part of the development of identity process is adolescents figuring out their social roles, or what is expected of them by society (Erikson, 1982). Although he was traditionally not considered a vocational psychologist, Erikson's theory has had a tremendous impact on the field (Sharf, 2010).

As part of identity development there is often an exploration of career aspirations, and similar to how adolescents might try different social identities, they may experiment with different vocational identities through work and educational opportunities (Munley, 1977). During the process of career identity development an adolescent may decide which occupations are or are not a good fit. Similar to the development of other aspects of identity, adolescents may experience pressure from parents or peers to conform to a particular career expectation. However, this process often will take years and overlap with the next stage of development, intimacy versus isolation.

**Vocational identity defined.** Vocational identity can be thought of as the overall measure and process of career development (Holland et al., 1980). However, it also consists of interest, values, beliefs, and attitudes. Further, vocational identity can be thought of as a process, where one obtains pertinent information, explores, selects, and tries different occupations in a revolving process until he or she settles upon a career. The My Vocational Situation (MVS) was developed by Holland et al. (1980) as a way to measure vocational identity. The development of the MVS has led to research that has helped clarify the process of vocational identity development as well as its relationship to other career variables.
Marcia's four statuses. The influence of Erikson led Marcia (1980) to further refine the process in which a person develops a career identity. Marcia developed four different statuses that represent where a person is in the career identity process. During the decision-making process, defining which status a person is in is based on two factors: the absence or presence of a decision-making crisis and the level of commitment. During the decision-making crisis choices between one or more options are weighed by examining the impact they will have on his or her life. Making a commitment is when one makes a decision and acts accordingly. Commitment to a career means a person will seek training or education in order to achieve his or her goal. In order to navigate the crisis of identity in adolescence, issues with both commitment and crisis have to be resolved.

Based on the concepts of decision-making crisis and commitment, Marcia (1980, 1989, 2002) developed the following four statuses: diffusion, moratorium, foreclosure, and achievement. Diffusion is where one is unconcerned about future employment or the education needed to obtain such work. There is generally a lack of commitment, but a person may or may not be in crisis. When a person is in a career moratorium, he or she does not have a career direction but desires one. This person may have a general but unspecific commitment to choosing a career and is generally in a state of crisis. During this period it is generally helpful for a person to engage in work, hobbies, or activities that are personally meaningful so that he or she can explore a variety of interests. When a person makes a career decision based solely on the desires of others, such as one’s family, regardless of his or her personal abilities or interest, it is referred to as foreclosure. Individuals who have a foreclosed identity have committed to an
occupational area. Finally, the ideal state for a person is achievement, which is when one knows what career he or she desires and the process of reaching that goal. While this person is in a state of crisis as they try to achieve their goal, the individual is also highly committed to resolving the crisis. The movement through these stages is typically not linear; rather, a person shifts between the different phases based on experiences, interactions, and cognitions. For instance, a person may think that a particular area of work is interesting, but after gaining hands-on experience changes his or her mind.

Finally, not all individuals attain a state of achievement, which can result in a person never being satisfied with his or her occupation (Marcia, 1980, 1989, 2002).

Hirschi (2012) empirically confirmed not only the existence of Marcia’s four statuses, but also the nonlinear nature of their development in a study of two cohorts of Swiss high school students who were tracked over several years. In the study several findings are noted. First, there was general movement from an identity status of diffusion towards achievement. Though such movement was not linear, often students went through several phases of each of the identities before attaining achievement. Further, there was no clear order of which state would be entered, indicating that movement between the stages was a highly individualized process. Finally, gender, age, and nationality were not significant predictors of identity states. Archer (1982) noted that Marcia’s statuses could be detected in sixth graders, the majority of whom were in a state of diffusion or foreclosure, but by comparison, twelfth graders were spread more equitably among the four states.

**Developmental-contextual theory of career identity.** Like many other career theorists, Vondracek and Skorikov (2007) argued that the development of career identify,
which does not typically solidify until early adulthood, has its roots in childhood and adolescence. Childhood experiences of other family members’ career events, such as being fired or entering retirement, can have an impact on later career choices. Such events can have a dramatic effect on family life and in turn can lead to negative or positive memories for the child. Further, parental pressure may lead to a child or adolescent choosing a career before having explored his or her options, leading to a state of foreclosure or moratorium.

In response to the complexity intrinsic in the development of career identity, Vondracek and Skorikov (2007) put forth the developmental-contextual theory which argued that political, environmental, and historical forces also impact the individual’s development of vocational identity. These forces can shape the child’s educational and work environments. Like Super’s lifespan stages, developmental-contextual theory notes the importance of interactions between a person and his or her environment. However, Vondracek and Skorikov (2007) argued that the individual is embedded within the context of his or her environment. There are numerous examples of this intertwining between a person and his or her environment. For example, certain educational and labor opportunities may or may not be available, which can influence one’s potential career path. Also, they note that in comparison to the United States many European countries offer more vocational training to adolescents. In turn, having access to more training opportunities may lead to a greater variety of possible vocational identities for youth in Europe. Similarly, some countries are far more restrictive than others regarding who is allowed to seek education outside of the home, and such restrictions can result in the narrowing of occupational choices for some individuals.
Research has been supportive of developmental-contextual theory of vocational development. Reitzle, Vondracek, and Silbereisen (1998) surveyed young adults in 1991 when Germany had recently unified. Participants were from either East or West Germany and had completed education typically expected of adolescents for each country. Survey questions included information pertaining to transitioning to a career, parental education, and parental support during childhood. Results indicated support for all of these contextual factors influencing the development of career identity. Participants who grew up in communist East Germany rarely had to repeat a grade and therefore made career choices sooner than those in West Germany. West Germany youth also tended to take longer making a career choice because there were more options available. The research indicated that different environmental, political, and historical factors between East and West Germany potentially influenced career development. Other research has also found that historical changes influence career development. Schoon and Parsons (2002) surveyed over 17,000 people and found that those born more recently often needed more education to find employment than those born earlier, due to an increased need employers had for those with advanced skills or training. Those born earlier often were settled into positions where further education was not required or could be gained on as-needed basis.

**Vocational identity and gender.** The development of vocational identity appears to differ for males and females. Women have been found to tie interpersonal and vocational identities together (Thorbecke & Grotevant, 1982). Specifically, women indicated that their career was a more accurate representation, compared to men, of who they are as a person. Puffer (1998) found that family variables were not significantly related to the development of vocational identity in men, but for women there was a
positive relationship between family cohesion, attachment to parents, autonomy, low levels of achievement orientation, and career identity. However, such findings are not universal in the literature, with some researchers unable to find differences between gender and vocational identity development (Hirschi, 2012). Similarly, Johnson, Buboltz, and Nichols (1999) did not find differences between vocational identity, gender, and whether a person came from a divorced or intact family. Other studies have found gender differences, but the differences, while significant, were small (Hartung, Lewis, May, & Niles, 2002). Therefore, it is still unclear what, if any, impact gender has on the development of vocational identity.

**Vocational identity and ethnicity.** In a study of Taiwanese college students attending a university in the United States, Shih and Brown (2000) found length of stay in the United States and being older were predictive of low levels of acculturation, and in turn, low levels of acculturation predicted higher levels of vocational identity. The authors argued that identifying with one’s native culture provided a psychologically safe place for one to explore his or her career options. Jackson and Neville (1998) found that a strong sense of ethnic identity was a predictor of vocational identity for African American women, but not for African American men. Villarreal (2007) found differences in the influence family of origin variables had on vocational identity in women from three different cultures. Hispanic women had lower vocational identity than Caucasian women, but no differences were found between African American and Caucasian women. However, not all research has found significant differences between ethnicity and vocational identity.
**Vocational identity and family.** Hargrove, Inman, and Crane (2005) found that an adolescent’s perception of family dynamics did not influence vocational identity, but did influence career-planning attitudes. Specifically, families that were supportive of the expression of emotions and problems appeared to encourage career exploration. Peer individuation and personal authority were related to the development of vocational identity, while there was no relationship between expressiveness and family cohesion and vocational identity (Dodge, 2001). Family unity, adaptability, and parental separation have been found to be related to Marcia’s statuses (Jowdy, 1994). For each of the four statuses, Jowdy (1994) created a model that examined the relationship between several family variables. Specifically, those in the achievement status had healthy separation from their parents. For those in the moratorium identity status there was an unhealthy separation from parents and a decreased sense of family unity. In the foreclosed status there was a positive relationship between unhealthy separation and family cohesion. Finally, in the diffused identity status there was a positive relationship with an unhealthy separation from caregivers. There was also a negative relationship between family cohesion and healthy separation.

**Self-Efficacy**

**Social cognitive theory.** The concept of self-efficacy arose from social cognitive theory (SCT; Bandura, 1977, 1986). SCT posits that much of human learning arises from watching and interacting with others. SCT is a triadic deterministic model which includes behavioral, personal, and environmental components. The process of learning includes an ongoing bidirectional relationship among all three of these factors. Included in the personal portion of the model are a number of factors, including biological structures and
cognitions. One example of how thoughts are important in the process of learning is the concept of self-efficacy, which can be thought of as one’s own belief in his or her abilities (Luszczynska & Schwarzer, 2005). Originally, the concept of self-efficacy was proposed by Bandura (1977, 1986) as an explanation for all action-guided behavior. Generally, a number of factors influence one’s level of self-efficacy: (a) experiencing success in a task, (b) encouragement by others, (c) modeling, and (d) psychological reactions to experience (Bandura, 1997).

**Social learning theory.** Based on Bandura’s work, Krumboltz, Mitchell, and Jones (1976) developed social learning theory, which incorporates both behavioral and cognitive models of learning. Social learning theory applies to all areas and subjects of learning, and not just career development. Krumboltz et al. (1976) argued that learning occurs due to four factors. First are genetic dispositions that will influence certain cognitive and physical abilities as well as social interactions. Genetic factors can include a variety of inherited features such as ethnicity, motor skills, and intelligence. The environment also has an impact on people’s career opportunities through a whole host of routes such as social policy, war, technology, education, economics, and family resources. Despite the massive influence of these issues on career development, they are often outside the control of the individual. Third, individual learning history is important and can be influenced both by direct learning experiences and by observing others. Finally, and partially as an accumulation of the other three factors, are task-approach skills, which include values, attitudes, and cognitions toward a particular subject. Woven into this theory are basic behavioral principles that suggest that actions involving learning that are reinforced will be repeated in the future. Interestingly, social learning theory
bears a strong theoretical resemblance to Vondracek and Skorikov’s (2007) developmental-contextual theory, insomuch as they both take into account historical and political factors in the development of career selection. However, social learning theory applies to all subject matters that involve learning, while developmental-contextual theory is specific to career development.

Social cognitive career theory. As an extension of social cognitive theory, Lent, Brown, and Hackett (1994, 2000) developed social cognitive career theory (SCCT). Their theory consists of three foundational concepts: self-efficacy, outcome expectations, and goals. Their view of self-efficacy is largely similar to that of Bandura and can be thought of as one’s beliefs in his or her abilities as related to issues of career. They also argued that outcome expectations can drive career development. Specifically, a person who believes that he or she can succeed in a certain task is more likely to engage in that behavior, and high outcome expectations can result in a person pursuing more challenging vocations. A person can also influence his or her career trajectory by the setting of goals. Lent et al. (1994, 2000) noted that contextual factors (e.g., educational opportunities) and personal characteristics (e.g., ethnicity, gender, and personality traits) can influence learning experiences. For example, individuals from certain ethnic or economic backgrounds may receive biased messages about what careers he or she should enter, thereby decreasing self-efficacy. SCCT emphasis on contextual factors results in a striking resemblance to Vondracek and Skorikov’s (2007) developmental-contextual theory of career identity. However, SCCT focuses more on self-efficacy and personal factors than social or historical forces.
Brown, Lent, Telander, and Tramayne (2010) not only found support for SCCT but also found that conscientiousness played a role in career performance and goals. SCCT posits that positive learning experiences are likely to increase self-efficacy within career-specific domains. Indeed, research by Tokar, Thompson, Plaufcan, and Williams (2007) found in a sample of college students that positive learning experiences, personality traits, and gender all influenced the participations RIASEC code type. Another study exploring SCCT and Holland’s code types found that women reported negative experiences in realistic, investigative, and enterprising jobs, which are fields that are traditionally dominated by men (Thompson & Dahling, 2012). Further, what makes these studies interesting is that SCCT provides a developmental explanatory framework for traditional models of career identity.

Career decision-making self-efficacy. Hackett and Betz (1981) argued that career decision-making self-efficacy (CDMSE), or career decision self-efficacy (CDSE) in some of the literature, was the source of career exploration, planning, and implementation of career choices. A person with a strong career decision-making self-efficacy has the ability to choose a career that is rewarding and personally meaningful. Research does support the importance of CDMSE in influencing career indecision (Di Fabio, Palazzeschi, Asulin-Peretz, & Gati, 2013). Specifically, those high in CDMSE tend to have less difficulty making a career choice and are better able to overcome barriers, such as a lack of information about potential careers, during the course of making such a decision. CDMSE is influenced by a number of family variables. For example, Hsieh and Huang (2014) found that Taiwanese college students from high SES families tended to have higher CDMSE. Their findings are the latest in a long research
history supporting the positive relationship between CDMSE and SES. Aspects of CDMSE have also been found to partially mediate the relationship between career indecision and family support in Italian male adolescents (Nota et al., 2007). Families that are supportive of their members’ career exploration and choices tend to result in higher levels of CDMSE (Metheny & McWhirter, 2013). Wright, Perrone-McGovern, Boo, and White (2014) noted that career barriers and perceived support mediated the relationship between parental attachment and career-decision self-efficacy.

**CDMSE, culture, and ethnicity.** Culture also has a tremendous impact on the formation of CDMSE. Duffy and Lent (2008) found that students who were involved in religious organizations were more likely to report increased levels of social support and CDMSE. Some research has also explored the relationship between ethnicity and CDMSE. For urban Latino youth, research indicated that ethnic identity was positively related to career decision making (Gushue, 2006). A study by Ojeda et al. (2012) found similar results between ethnic identity and career decision making for Latino adolescents. Further, acculturation was also a positive predictor of CDMSE, but for Latino girls only. Latinos living in rural areas also perceived more career barriers, but had higher CDMSE levels than their Caucasian counterparts (Ali & Menke, 2014). However, other research has found that Latino students living in rural areas have lower career self-efficacy than their Caucasian counterparts (Gloria & Hird, 1999). Gushue, Clarke, Pantzer, and Scanlan (2006) noted that in Latino high school students, higher levels of CDMSE were significantly correlated with increased vocational identity and occupational exploration.

Similar to findings regarding Latinos, CDMSE and acculturation appears to be related to increased career self-efficacy in Asian Americans (Tang et al., 1999). Cheung,
Wan, Fan, Leong, and Mok (2013) compared the influence of parents, schools, and peers on CDMSE in students residing in the United States; Shanghai, China; and Hong Kong. Surprisingly, students in Hong Kong indicated that parents had less influence on CDMSE than students in the other two groups indicated, but this is likely due to parents having lower levels of education and therefore being unable to provide as much as guidance. Students in Hong Kong rated instructors as the most critical when forming career self-efficacy beliefs. However, Kelly, Gunsalus, & Gunsalus (2009) found that Korean American students had very similar CDMSE ratings to their Caucasian counterparts.

For African American girls, higher CDMSE was related to an increased sense of ethnic identity (Rollins & Valdez, 2006). It was also found that as African Americans experienced more frequent occurrences of prejudice, they also had increases in CDMSE. However, a significant relationship between CDMSE and ethnic identity has not always been found by researchers. Gushue and Whitson (2006) found that parental support, but not ethnic identity, was a significant positive predictor of CDMSE in African American high school students. African American youth, like their Caucasian adolescent counterparts, appear to increase their CDMSE when engaging in career exploration activities (Gushue, Scanlan, Pantzer, & Clarke, 2006). Gushue, Scanlan, et al. (2006) also found that higher self-differentiation was linked to greater CDMSE. However, the differentiation measure used in the study was specific to vocational exploration and was not a general measure of self-differentiation from family. Personality variables such as conscientiousness and openness had relatively similar positive effects on CDMSE for both Caucasian and African American college students (Bullock-Yowell, Andrews, & Buzzetta, 2011). Alliman-Brissett, Turner, and Skovholt (2004) found that parental
support increased CDMSE in African American youth. Further, the study by Bullock-Yowell et al. (2011) examined what impact cultural mistrust had on CDMSE scores in African Americans. Results indicated that cultural mistrust did not play a significant role in CDMSE. Abdalla (1995) indicated that Arab college students with increased levels of self-perceived masculine attributes were more likely to make a career decision.

**CDMSE and personality.** Personality variables also play a role in CDMSE. For example, trait anxiety has been found to have a negative impact on CDMSE (Gloria & Hird, 1999; Işık, 2012; Robbins, 1985). Unemployed adults also had CDMSE scores similar to those of undecided college students (Bullock-Yowell, Andrews, McConnell, & Campbell, 2012). Considering the vast amount of research exploring the importance of CDMSE in making a career choice, it is unsurprising to learn that career self-efficacy is a better predictor of vocational choice than academic performance (Bandura, Barbaranelli, Vittorio, & Pastorelli, 2001). A number of studies have explored the influence of the components of the Big 5 on CDMSE and have found that conscientiousness (Ojeda et al., 2012), extroversion (Wang, Jome, Haase, & Bruch, 2006), and neuroticism (Wang et al., 2006) are all related to career self-efficacy in the direction that would be expected.

**CDMSE and gender.** Research has also explored the relationship between gender and CDMSE. For example, a number of studies have found that gender was a significant predictor (Gianakos, 2001; Jantzer, Stalides, & Rottinghaus, 2009; Nota et al., 2007; Rollins & Valdez, 2006). However, other studies have found that gender is not related to CDMSE (Abdalla, 1995; Creed, Patton, & Watson, 2002; Creed, Patton, & Bartrum, 2004; Fouad, Smith, & Zao, 2002; Hampton, 2006; Ojeda et al., 2012). In order to help clarify the relationship between gender and CDMSE, Choi et al. (2012) conducted a
meta-analysis of 14 studies. Overall, they found a weighted $r$ of .0, indicating that CDMSE was not significantly related to gender. Race and career barriers were also not significantly related, but self-esteem, vocational identity, peer support, and career indecision were all statistically significant factors. The Choi et al. (2012) analysis of peer support included parental attachment, but no other measures of family variables, such as self-differentiation, were explored.

**CDMSE and family.** The impact of family on CDMSE is critical to the present study, but only a few studies have explored the relationship between these two variables. Whitson (1996) found that families who are supportive of intellectual curiosity increased CDMSE, with high levels of control having a negative impact on CDMSE. In a study of deaf, hard of hearing, and typically hearing students, Michael et al. (2013) found that perceived parental support resulted in higher levels of CDMSE, with the deaf group receiving the least amount of support compared to the other two groups. However, to date, there has been no research that explored the relationship between self-differentiation and CDMSE. Nawaz and Gilani (2011) explored the relationship between parental and peer attachment and found that increased levels for both were positively associated with CDMSE. These results echo the findings of Germeijs and Verschueren (2009), who found that CDMSE was positively correlated with the perception of having a secure relationship with either parent. CDMSE has also been found to be related to increased levels of emotional, verbal, and instrumental support by parents (Stringer & Kerpelman, 2010). However, previous research by Blustein, Walbridge, Friedlander, and Palladino (1991) failed to find a relationship between attachment with one’s parents and CDMSE.
Further, Nota et al. (2007) found no relationship between family support and CDMSE, and career indecision for female Italian youth.

**Career Indecision**

The other side of the career decision-making coin is career indecision. Career indecision was defined by Gati, Krausz, and Osipow (1996) as any deviation from the ideal career decision maker as a potential problem that may affect the individual’s decision process in one of two possible ways: (a) by preventing the individuals from making a decision or (b) by leading to a less than optimal decision. (p. 511)

A great deal of research has focused on career indecision and its many causes. Bordin and Kopplin (1973) argued that career indecision stems from internal conflicts, such as uncertainty about abilities, which remain unresolved. Super (1957) argued that problems with career decision are developmentally expected and part of the career decision-making process. Further, there is some thought that early career indecision can eventually lead to people finding their chosen occupation, and therefore should be considered healthy (Hall, 1992). Gati et al. (1996) noted that the majority of previous research indicated underlying causes of career indecision are unidimensional in nature and not due to a variety of factors. Further, Gati and colleagues (1996) argued that career indecision has a variety of causes, and such a contention is supported by the research. Creed, Patton, and Prideaux (2006) found that in high school students, changes in CDMSE did not result in changes in career indecision. Their findings indicated that these two variables are distinct constructs and causally unrelated.
Other researchers have attempted to create a typology of career indecision. Kelly and Pulver (2003) argued that there are four types of individuals with career indecision: well-adjusted, neurotic, low ability, and uncommitted. The well-adjusted information seekers are those whose level of career indecision is developmentally appropriate. Neurotic indecisive information seekers are those who have personality characteristics, such as emotional instability, that perpetually sabotage the ability to make a career decision. Low ability information seekers tend to have high extraversion and low openness scores. They also have low math and verbal skills. Uncommitted extraverts are those who are uninterested in career exploration because they have already committed to an occupation and therefore are not in need of intervention.

**Career indecision, gender, and personality.** Rohner, Rising, and Sayre-Scibona (2009) found that women, but not men, experienced a reduction in career indecision when they could recall paternal and maternal acceptance in childhood. However, such findings are not universal in the literature, with several studies finding no relationship between career indecision and gender (Gianakos & Subich, 1986). Personality traits such as fear of commitment (Leong & Chervinko, 1996), certain aspects of perfectionism (Leong & Chervinko, 1996), extraversion (Di Fabio et al., 2013; Lounsbury, Tatum, Chambers, Owens, & Gibson, 1999), conscientiousness (Lounsbury et al., 1999), self-consciousness (Leong & Chervinko, 1996), and emotional stability (Di Fabio et al., 2013; Lounsbury et al., 1999; Meyer & Winer, 1993) all appear to influence career indecision. Overall, there appears to be a tendency for traits that are typically considered positive, such as extraversion and emotional stability, to reduce career indecision, while negative traits, such as perfectionism and fear of commitment, make the career decision process more
difficult. This suggests that career indecision is related to basic healthy mental functioning, and that extreme difficulties in career decision making may suggest more serious problems.

**Career indecision and family.** Among the many aspects of research in this area, one variable that has been explored is family enmeshment, or the overinvolvement with one’s family. Lopez and Andrews (1987) argued that career indecision is due to a lack of psychological separation from one’s parents. Research on this theoretical relationship has been mixed. Lopez (1989) did find that for students, poor vocational identity was related to marital conflict and poor psychological separation from caregivers. Overinvolvement with one’s family delays or prevents the development of a career identity. Family problems with alcohol may increase career indecision (Schumrum & Hartman, 1988). Another study suggested that the children of people with alcohol problems may have avoidant personality tendencies, which in turn fuel career decision-making problems (Pedoto & Hartman, 1992). Conversely, other research has not been supportive of the claim that family dysfunction leads to difficulty making career decisions. Santos and Coimbra (2000) were unable to find a significant relationship between career indecision and psychological separateness. There are two possible reasons for such divergent findings (Santos & Coimbra, 2000). The first is related to how career indecision is measured. They noted that most studies used either the Vocational Identity Scale (VIS; Holland et al., 1980) or the Career Decision Scale (CDS; Osipow, Carney, & Barak, 1976), which are related, but nonanalogous, measures of career interest (Tinsley, Bowman, & York, 1989). Another issue is the different types of career indecision that exist. Some individuals may suffer from chronic indecision that influences all aspects of
their lives, while for others career indecision may be developmentally transient in nature (Betz, 1992; Lewko, 1994).

In a longitudinal study by Guay et al. (2006), they noted that some participants with developmentally expected career indecision slowly experienced an increase in self-efficacy with concurrent reductions in career indecision, while those with chronic career indecision problems did not experience either of those outcomes. Further, they argued the difference between such individuals was that those with developmentally expected career indecision had higher levels of autonomy. The importance of autonomy in making a career decision fits well within the framework of family systems theory, which, as previous noted, considers differentiation from one’s family to be critical in the development of a psychologically healthy person.

**Career indecision and attachment.** One’s attachment to parental figures also appears to influence career indecision. When looking at general attachment to parents, Emmanuelle (2009) found that higher levels of attachment indicated reduced career indecision, with the relationship mediated by global self-esteem. Braunstein-Bercovitz (2014) found that college students who had anxious or avoidant attachment styles were more likely to have higher levels of career indecision. However, the relationship between both attachment styles and career indecision was at least partially mediated by self-criticism. Mojgan, Abdual Kadir, Noah, and Hassan (2012) found that while attachment style towards one’s mother was a significant predictor of career indecision, attachment style towards one’s father was not.
Career Aspirations

Career aspirations can be defined as a person's ideal career goal (DiRenzo, Weer, & Linnehan, 2013). Several studies indicate that high career aspirations are critical to eventual career attainment for adolescents (Ashby & Schoon, 2010; Croll, 2008; Schoon, Martin, & Ross, 2007; Schoon & Parsons, 2002). Career aspirations not only help guide individuals' career choices but also can influence education goals. For example, if a person desires to become a medical doctor, such an aspiration will likely influence the education he or she seeks in order to achieve this goal. However, career aspiration is a complex variable influenced by a number of different factors.

Career aspirations and self-efficacy. Using structural equation modeling (SEM), Tang, Pan, and Newmeyer (2008) found that self-efficacy mediated the relationship between learning experiences and career aspirations in high school students. Aremu and Lawal (2009), also using SEM, found that mentoring, emotional intelligence, self-efficacy, and emotional labor all influenced career aspirations in Nigerian police trainees. Higher levels of self-efficacy were found to be related to higher career aspirations in Latino youths living in rural areas (Ali & Menke, 2014).

Career aspirations, gender, and ethnicity. Research has found that girls tend to aspire to higher levels of education than boys (Howard et al., 2011; Mau, 1995). However, Perry, Przybysz, and Al-Sheikh (2009) found that although Caucasian girls aspire to higher status occupations than boys, they did not have as high educational aspirations. Only boys tended to model their career aspirations on the employed male adults living in their domiciles (Schuette, Ponton, & Charlton, 2012). Female lawyers, regardless of aspiration levels, reported that advancement opportunities are often
constrained by their gender due to discrimination (Walsh, 2012). This study illustrates a point made by Howard et al. (2011) that aspirations for women are largely influenced by historical and social forces. For example, it is only in the last half century that becoming a doctor was a realistic career aspiration for women. Previously, gender discrimination made entering such a field problematic.

Tovar-Murray, Jenifer, Andrusyk, D’Angelo, and King (2012) found that African American college students experienced decreases in career aspirations if they were faced with chronic racism, but only if they had a low sense of ethnic identity. Participants who had a strong sense of ethnic identity actually had higher career aspirations when confronted with chronic racism. Howard et al. (2011) found an interaction between gender, ethnicity, and SES. Native American adolescents reported lower aspirations than adolescents of other ethnicities. African American boys, but not African American girls, had career aspirations that required higher levels of education than Latino and Caucasian boys. Finally, Asian and Pacific Island boys had higher aspirations for higher socioeconomic occupations than Caucasian boys. However, other studies have not found differences between aspirations and ethnicity (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; Csikszentmihalyi & Schneider, 2000; Phinney, Baumann, & Blanton, 2001). Notably, these studies used combined gender samples, which may have obscured potential ethnic differences, while research that used gender separate samples found differences in aspirations and ethnicities (Dillard & Perrin, 1980). Families, along with a number of other variables, have been found to impact career aspirations. For example, research has shown that career aspirations are positively influenced by perceptions of family support in Mexican American high school girls (Flores & O’Brien, 2002;
McWhirter, Hackett, & Bandalos, 1998). Similar to the research on women and career aspirations, research on ethnicity and career aspirations is vulnerable to historical and cultural factors (Perry et al., 2009). For example, minority groups may gain social acceptance or denial to certain occupations with the passage of time.

The Present Study

The purpose of the present study was to better understand the relationship between self-differentiation, career indecision, vocational identity, career decision-making self-efficacy, and career aspirations. Considering there is little research connecting self-differentiation to these other variables, the present study was partially exploratory in nature. However, some general hypotheses were made. It was theorized that highly self-differentiated individuals will likely be more driven to be successful, both in their educational and career pursuits. For similar reasons, highly self-differentiated individuals will also have more confidence, skills, and knowledge when making a career decision. They were expected to have a better sense of their vocational identity and have less career indecision when attempting to make an occupational choice. This study also explored how these variables are related to one another. It is possible that the relationship between differentiation of self to vocational identity and career indecision is not entirely direct and may be influenced by career decision-making self-efficacy and career aspirations. Understanding how these variables relate to one another may guide future research and assist with career counseling.

Hypothesis 1

A significant positive relationship will be found between differentiation of self and vocational identity.
Justification for hypothesis 1

Research by Johnson et al. (2014) found that differentiation of self was a significant positive predictor of vocational identity. Further, three subscales of the Differentiation of Self Inventory were correlated with vocational identity: Emotional Reactivity, I Position, and Emotional Cutoff (Johnson et al., 2014).

Hypothesis 2

A significant negative relationship will be found between differentiation of self and career indecision.

Justification for Hypothesis 2

There is a lack of previous research exploring the relationship between these two variables. However, Lopez and Andrews (1987) argued that career indecision was related to a lack of psychological separation from one’s parents. From a Bowenian family systems perspective individuals who are not psychologically separated from their family of origin struggle with their own vocational desires and those of their family. Therefore, it is likely that poorly differentiated individuals will have higher levels of career indecision.

Hypothesis 3

The relationship between differentiation of self and vocational identity will be partially mediated by career decision-making self-efficacy.

Justification for Hypothesis 3

Previous research by Johnson et al. (2014) found that differentiation of self was a significant predictor of vocational identity. Further, career decision-making self-efficacy has been found to be related to vocational identity (Choi et al., 2012; Gushue et al., 2006;
Koumoundourou, Kounenou, & Siavara, 2012). There has been no research exploring the relationship between career decision-making self-efficacy and self-differentiation. Further, no research has explored if career decision-making self-efficacy acts as a mediator between differentiation of self and vocational identity. Despite the dearth of research between these variables, from a family systems perspective it seems reasonable that being emotionally independent of family members would foster more confidence in one’s ability, and in turn, would increase vocational identity.

**Hypothesis 4**

The relationship between differentiation of self and vocational identity will be partially mediated by career aspirations.

**Justification for Hypothesis 4**

Research by Johnson et al. (2014) found that differentiation of self was a significant predictor of vocational identity. Tsitsika et al. (2014) found that a relationship exists between the development of general self-concept and career aspirations. No research has examined the relationship between either self-differentiation or vocational identity and career aspirations. From a family systems perspective it seems reasonable that those with higher levels of self-differentiation will have higher career aspirations because such goals are driven by their own wants and not those of their family. In turn, higher levels of career aspiration may result in a better sense of vocational identity.

**Hypothesis 5**

The relationship between differentiation of self and career indecision will be partially mediated by career decision-making self-efficacy.
Justification for Hypothesis 5

No previous research has explored the relationship between differentiation of self and either career indecision or career decision-making self-efficacy. However, Choi et al. (2012) found that there is a strong relationship between career indecision and career decision-making self-efficacy. As previously noted, those who are highly self-differentiated may have more confidence in their career decision-making abilities because their confidence comes not from an outside source (e.g., family) but from their own abilities.

Hypothesis 6

The relationship between differentiation of self and career indecision will be partially mediated by career aspirations.

Justification for Hypothesis 6

There has been no research examining the intersection between self-differentiation and career aspirations or career indecision. However, Patton and Creed (2007) found that as career aspirations increased, career indecision decreased. Those who are highly differentiated arguably have higher career aspirations, which in turn may decrease career indecision.

Hypothesis 7

The relationship between differentiation of self and vocational identity will be partially mediated by both career decision-making self-efficacy and career aspirations.

Justification for Hypothesis 7

No previous research has explored the mediating relationship that career decision-making self-efficacy and career aspirations may have on the relationship between self-
differentiation and vocational identity. However, as noted in the previous hypothesis, research has found various individual relationships among these constructs.

**Hypothesis 8**

The relationship between differentiation of self and career indecision will be partially mediated by both career decision-making self-efficacy and career aspirations.

**Justification for Hypothesis 8**

No relationship has been found between differentiation of self and career indecision. However, research has found a relationship between career decision-making self-efficacy and career indecision (Choi et al., 2012), and a relationship between career aspirations and career indecision (Patton & Creed, 2007). Career aspirations and career decision-making self-efficacy may mediate the relationship between differentiation of self and career indecision.
CHAPTER 2

METHODS

Participants

Participants for this study were recruited from undergraduate psychology courses at a medium-sized university. Data were analyzed from a total of 324 participants. The majority of participants were freshmen (54%; \(n = 175\)). Sophomores (26.5%; \(n = 86\)), juniors (14.8%; \(n = 48\)), and seniors (4.6%; \(n = 15\)) were also represented. The majority of the sample was female (59%; \(n = 191\)). Of the 308 participants who indicated their grade point average (GPA), the average was 3.22. The average GPA for the 123 male participants who responded was 3.11. The average GPA for the 185 female participants who responded was 3.29. The overall mean age of the sample was 19.47. The mean age for males was 19.63. The mean age for females was 19.36. The ethnicity of the sample is as follows: Caucasian (77.2%; \(n = 250\)), African-American (15.7%; \(n = 51\)), Other (4.0%; \(n = 13\)), Hispanic (1.9%; \(n = 6\)), Native American (.6%), and Asian-American (.6%). The majority of the sample indicated that their country of origin was the United States (96%; \(n = 311\)) followed by South Korea (.6%; \(n = 2\)) and one person (.3%) each from Bolivia, Canada, China, India, Morocco, Nepal, Philippines, Rwanda, Serbia, and Vietnam.

Procedure

Participants for this study were university undergraduate students who had given informed consent. After approval was gained from the Institutional Review Board (IRB),
participants were recruited via class instructors. See Appendix A for information on IRB approval. After giving informed consent, participants completed a survey at the end of class, which took about 20 minutes. See Appendix B for the consent form. The survey included a paper-and-pencil demographics questionnaire and measures of self-differentiation, career indecision, career decision-making self-efficacy, career aspirations, and vocational identity. At the discretion of the instructor, participants often were given a reward of extra credit for the course for participating in this study.

**Measures**

**Demographics Questionnaire**

Information collected included age, gender, ethnicity, year in school, major, country of origin, and GPA. See Appendix C for the demographic questionnaire.

**Self-Efficacy**

Self-efficacy in making a career decision was measured via the Career Decision Self-Efficacy Scale (CDSES; Taylor & Betz, 1983). The CDSES consists of 50 items that yield both a total score and five subscale scores. The five subscales, each consisting of 10 items, are Self-Appraisal, Occupational Information, Goal Selection, Planning, and Problem Solving. Each item is measured using a 5-point Likert-type scale, with scores ranging from 1 (No Confidence at All) to 5 (Complete Confidence). Self-Appraisal measures the participant’s confidence in his or her ability to select occupations of interest (e.g., “Select one occupation from a list of potential occupations you are considering”). Occupational Information measures the participant’s ability to gather information about potential careers (e.g., “Determine the steps you need to take to successfully complete your chosen major”). Goal Selection measures the participant’s ability to make a career
choice (e.g., “Make a career decision and then not worry about whether it was right or wrong”). Planning measures the participant’s ability to determine and implement his or her ability to enter the occupational field he or she has chosen (e.g., “Determine the steps you need to take to successfully complete your chosen major”). Problem Solving measures the participant’s ability to overcome obstacles of achieving an occupationally related goal (e.g., “Determine the steps to take if you are having academic trouble with an aspect of your chosen major”). Research on the CDSES found reliability coefficients ranging from .86 to .89 for the five subscales and .97 for the overall score (Taylor & Betz, 1983). Test-retest reliability at a 6-week period was found to be .83 for the overall score (Luzzo, 1993). Research also supports the five factor and one factor models of the CDSES in both Asian Americans and European Americans (Miller, Sendrowitz, Brown, Thomas, & McDaniel, 2009). Only total scores were used for this study. The reliability coefficients for this study were .95 for males, .96 for females, and .96 for the total sample. See Appendix D for a copy of the CDSES.

**Career Aspirations**

The career aspirations construct was measured using the Career Aspiration Scale (CAS; Gray & O’Brien, 2007; O’Brien, 1996). The CAS consists of eight items divided among two subscales: Leadership and Achievement Aspirations, and Educational Aspirations. Each item is measured using a 5-point Likert-type scale, with scores ranging from 0 (Not at all true of me) to 4 (Very true of me). Leadership and Achievement Aspirations consists of six items and measures a participant’s desire to excel in his or her chosen field (e.g., “When I am established in my career, I would like to manage other employees”). Educational Aspirations is a measure of one’s desire to pursue education
related to a career (e.g., “I think I would like to pursue graduate training in my occupational area of interest”) and consists of two items. Two questions are fillers not used in scoring. This measure is scored by summing all of the items.

O’Brien (1996) found initial alpha scores of .83 for Educational Aspirations and .79 for Leadership and Achievement Aspirations. A later study explored the factor structure of the CAS with an all female Caucasian and Mexican American population (Gray & O’Brien, 2007). These researchers found that the internal reliability score was .82 for Leadership and Achievement Aspirations, .76 for Educational Aspirations, and .77 for the total scale. Further, they found that the CAS had both divergent and convergent validity with a number of career measures such as the CDS. For the current study only total scale scores were used. The reliability coefficients for this study were .78 for males, .76 for females, and .76 for the total sample. See Appendix E for a copy of the CAS.

**Vocational Identity**

Vocational Identity was measured using the My Vocational Situation (MVS; Holland et al., 1980). The MVS consists of 20 items that fall into three subscales: Vocational Identity, Occupational Information, and Barriers. The Vocational Identity scale contains 18 questions that are scored True or False. These items measure a participant’s level of certainly toward making a career choice (e.g., “Making up my mind about a career has been a long and difficult problem for me”). Scores are obtained for this scaling by summing the number of False responses. Occupational Information has one item that consists of four subquestions that are answered Yes or No. These items measure if a participant needs information about potential careers (e.g., “I need the following information: How to find a job in my chosen career”). Scores for this subscale are
obtained by summing all the subquestions answered No. Finally, the Barriers subscale consists of four subquestions that are answered Yes or No. These items measure perceived problems that prevent a person from making a career decision (e.g., “I have the following difficulties: I am uncertain about my ability to finish the necessary education or training”). Summing all of the No responses on the subscales provides a score.

Holland et al. (1980) found that reliability for male college students ranged from .45 (Barriers) to .89 (Vocational Identity), and reliability scores for female college students ranged from .65 (Barriers) to .88 (Vocational Identity). Holland, Johnston, and Asama (1993) reviewed over 50 studies using the MVS. For test-retest reliability over periods of one to three months, the reliability coefficient was approximately .76. Further, they noted the MVS had strong convergent and divergent validity with other related measures of career and personality such as the Career Satisfaction Scale, NEO, Hope Scale, and the Career Factor Inventory. For this study only the Vocational Identity scores were used in analysis. The reliability coefficients for this study were .86 for females, .85 for males, and .86 for the total sample. See Appendix F for a copy of the MVS.

**Differentiation of Self**

Differentiation of self was measured using the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998). The DSI consists of 43 items that are rated from 1 (Not at all true of me) to 6 (Very true of me). The DSI consists of four subscales. Emotional Reactivity consists of 12 items and measures how emotionally responsive one is to the environment (e.g., “People have remarked that I’m overtly emotional”). Emotional Cutoff consists of 11 items and measures the feeling of being threatened when others try to become close (e.g., “When things go wrong, talking about them usually
makes it worse"). The nine-item Fusion with Others subscale measures being overly emotionally involved with others (e.g., "Whenever there is a problem in my relationship, I’m anxious to get it settled right away"). The I Position subscale consists of 11 items and measures how well a person has developed a sense of "I" (e.g., "No matter what happens in my life, I know that I’ll never lose my sense of who I am"). All of the items in Fusion with Others, Emotional Reactivity, and Emotional Cutoff, along with one item on I Position ("My self-esteem really depends on how others think of me"), are scored in reverse order to obtain a full scale score. Previous research has found alpha scores that ranged from .74 to .88 (Skowron & Friedlander, 1998). Johnson et al. (2014) found alpha scores ranging from .50 to .83 for the subscales and a total score alpha of .75. Factor analysis also supports both the four and single scale construction (Skowron & Friedlander, 1998). Skowron and Friedlander (1998) also noted that the DSI has divergent validity with measures of anxiety and chronic distress. For the study presented here, only total scale scores were used in analysis. The reliability coefficients for this study were .87 for females, .88 for males, and .87 for the total sample. See Appendix G for a copy of the DSI.

**Career Indecision**

Career indecision was measured using the Career Decision-Making Difficulties Questionnaire (CDDQ; Gati, Osipow, Krausz, & Saka, 2000. The CDDQ is based on Gati et al.'s (1996) taxonomy of career indecision. The CDDQ consists of 34 questions that are answered on 9-point Likert-type scale with scores ranging from 1 (*Does not describe me*) to 9 (*Describes me well*). The questions are divided into three domains: Lack of Readiness, Lack of Information, and Inconsistent Information. The Lack of Readiness
domain measures a respondent’s overall lack of readiness in making a career choice. The Lack of Information domain measures a respondent’s lack of information needed to make a career choice, and the Inconsistent Information domain measures the level of conflicts within one’s self and others. Each of the three domains contain several subscales. The original CDDQ factor structures and norms were developed on Israeli students (Gati et al., 1996), but Mau (2001) found a very similar factor structure in both American and Taiwanese Students.

The Lack of Readiness scale consists of three subscales: Lack of Motivation, Indecisiveness, and Dysfunctional Myths. The Lack of Motivation (Rm) subscale has three items and measures the lack of desire to make a career decision (e.g., “Work is not the most important thing in one’s life and therefore the issue of choosing a career doesn’t worry me much”). Indecisiveness (Ri) is a three-item subscale that measures a person’s overall difficulty with making choices (e.g., “I usually feel that I need confirmation and support for my decisions from a professional person or somebody else I trust”). The four-item Dysfunctional Beliefs (Rd) subscale is a measure of maladaptive career beliefs (e.g., “I believe that a career choice is a one-time choice and a life-long commitment”).

The Lack of Information domain has four subscales: Stages of the Career Decision Making Process, Self, Occupations, and Ways of Obtaining Additional Information. The three-item Stages of the Career Decision Making Process (Lp) measures lack of knowledge about the process of choosing a career (e.g., “I find it difficult to make a career decision because I don’t know how to combine the information I have about myself with the information I have about the different careers”). The Self (Ls) subscale has four items and measures a respondent’s level of knowledge about his or her
own abilities, skills, and traits (e.g., “I find it difficult to make a career decision because I do not know what my abilities and/or personality traits will be like in the future”). The three-item Occupations (Lo) subscale measures the level of knowledge about potential careers (e.g., “I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist”). Ways of Obtaining Additional Information (La) is a two-item subscale that measures a respondent’s level of knowledge about how to find out more about a potential career (e.g., “I find it difficult to make a career decision because I do not know how to obtain accurate and updated information about the existing occupations and training programs, or about their characteristics”).

The Inconsistent domain has three subscales: Unreliable Information, Internal Conflicts, and External Conflicts. The three-item Unreliable Information (Iu) subscale measures a respondent’s degree of contradictory information about his or her abilities, traits, and skills or about career opportunities (e.g., “I find it difficult to make a career decision because I have contradictory data about the existence of the characteristics of a particular occupation or training program”). Internal Conflicts (Ii) is a four-item measure of a person’s conflicted feelings or thoughts about one or more careers (e.g., “I find it difficult to make a career decision because I’m equally attracted by a number of careers and it is difficult for me to choose among them”). Finally, the two-item External Conflicts (Ie) subscale measures how much contradictory information an individual is receiving from other people (e.g., “I find it difficult to make a career decision because there are contradictions between the recommendations made by different people who are
important to me about the career that suits me or what career characteristics should guide my decisions").

Subscale means can be calculated by summing the scores and dividing by the number of items. Previous research has found that alpha scores of the three domains range from .70 to .91 and that the total alpha coefficient was .95 (Gati et al., 1996). Gati et al. (1996) found that test-retest reliabilities were acceptable to good, with domain scores ranging from .67 to .72 and a total test-retest alpha coefficient of .80. For this study only total scale scores were used in analysis. The reliability coefficients for this study were .93 for males, .94 for females, and .94 for the total sample. See Appendix H for a copy of the CDDQ.
CHAPTER 3

RESULTS

The purpose of this chapter is to report the findings of the study. First, sample characteristics are presented, followed by descriptive statistics of the variables. Finally, the results of each hypothesis are presented.

Participants

Participants for this study initially included 355 students enrolled in undergraduate courses at a medium-sized university in the South. Of those 355, only 324 were included in the analysis. Some participants were excluded due to random responding noted during data entry ($n = 5$). Several of the measures used in this study, namely the CDSES (Taylor & Betz, 1983), the CAS (Gray & O’Brien, 2007; O’Brien, 1996), and the CDDQ (Gati et al., 1996, were normed on traditionally aged undergraduate students. Therefore, participants were also excluded for falling outside of the 18 to 25 year age range ($n = 13$) and for indicating they were graduate students ($n = 4$). Finally, one participant was excluded for identifying as gender nonconforming ($n = 1$) due to the hypotheses being tested separately for males and females. Finally, following the conservative protocol for screening data set forth by Schafer (1999), participants who did not answer 5% or more of the survey were removed ($n = 8$).
Analysis

A total of 68 (.0013%) data points were missing from the items making up the five constructs used in analysis, with no individual item having more than three missing data points. Downey and King (1998) argued that if missing data were less than 20%, then mean item replacement was superior to person mean replacement. Therefore, mean item replacement was used to complete missing data. Further, in an effort to avoid participant exhaustion effects, the order of the measures was partially randomized into five different orders, labeled A (n = 65), B (n = 68), C (n = 64), D (n = 60), and E (n = 67). A main effect based upon order was not found (Pillai’s Trace = .06, F(20, 1272) = 1.11, p > .05). No significant effects were found for order on career aspirations, F(4, 30.10) = .96, p > .05, differentiation of self, F(4, .65) = 2.55, p > .05, career indecision, F(4, 34.25) = 1.77, p > .05, career decision-making self-efficacy, career indecision, F(4, .13) = .34, p > .05, or vocational identity F(4, 22.78) = 1.05, p > .05.

A MANOVA was conducted to see if statistically significant differences existed between years of school and the constructs being studied. Box’s M value of 43.63 was associated with a nonsignificant p value of .65, which indicated the covariances between these groups were equal. A main effect based upon year of school was not found (Pillai’s Trace = .06, F(15, 954) = .139, p > .05), partial eta squared = .02. Table 1 indicates the means and standard deviations for variables under study based by year in school.
Table 1. Means and Standard Deviations for the CDDQ, DSI, CDSES, CAS, and MVS by Year in School

<table>
<thead>
<tr>
<th></th>
<th>Freshmen</th>
<th></th>
<th>Sophomores</th>
<th></th>
<th>Juniors</th>
<th></th>
<th>Seniors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>CDDQ</td>
<td>11.76</td>
<td>4.43</td>
<td>11.05</td>
<td>4.84</td>
<td>10.31</td>
<td>3.89</td>
<td>10.85</td>
<td>3.88</td>
</tr>
<tr>
<td>DSI</td>
<td>3.70</td>
<td>.49</td>
<td>3.84</td>
<td>.52</td>
<td>3.83</td>
<td>.56</td>
<td>3.71</td>
<td>.42</td>
</tr>
<tr>
<td>CDSES</td>
<td>3.76</td>
<td>.60</td>
<td>3.94</td>
<td>.63</td>
<td>3.93</td>
<td>.67</td>
<td>3.97</td>
<td>.53</td>
</tr>
<tr>
<td>CAS</td>
<td>23.45</td>
<td>5.56</td>
<td>25.70</td>
<td>5.33</td>
<td>24.50</td>
<td>5.81</td>
<td>23.00</td>
<td>5.26</td>
</tr>
<tr>
<td>MVS</td>
<td>11.27</td>
<td>4.62</td>
<td>11.66</td>
<td>4.92</td>
<td>12.52</td>
<td>4.09</td>
<td>11.46</td>
<td>4.92</td>
</tr>
</tbody>
</table>

Note. CDDQ = Career Decision-Making Difficulties Questionnaire; DSI = Differentiation of Self Inventory; CDSES = Career Decision Self-Efficacy Scale; CAS = Career Aspiration Scale; MVS = My Vocational Situation

With regard to career indecision, there were no significant differences based on year in school, $F(3, 30.75) = 1.59, p > .05$, partial eta squared = .01. There were also no significant differences between year of school, $F(3, .485) = 1.86, p > .05$, partial eta squared = .01 for differentiation of self. Similarly, when differences were examined for vocational identity, there were no significant differences based on year in school, $F(3, 19.86) = .92, p > .05$, partial eta squared = .009. No significant differences were found for career decision-making self-efficacy and year in school, $F(3, 1.02) = 2.66, p > .05$, partial eta squared = .02. However, a significant difference, as noted by a Bonferroni comparison, was found between freshmen ($M = 23.45$, $SD = 5.56$) and sophomores ($M = 25.70$, $SD = 5.33$) for career aspirations, $F(3, 106.60) = 3.48, p < .05$, partial eta squared = .03. No significant differences existed for juniors ($M = 24.50$, $SD = 5.81$) and seniors ($M = 23.00$, $SD = 5.26$). Although a statistically significant difference did exist between freshmen and sophomores for career aspirations, the effect size was small. Further, no other differences were found between years of school and the variables in this study. Therefore, freshmen’s, sophomores’, juniors’, and seniors’ data were combined for further analysis.
A MANOVA was conducted to see if statistically significant differences existed between international and domestic students. Box’s M value of 10.97 was associated with a nonsignificant p value of .86, which would indicate that the covariances between these groups were equal. A main effect based upon country of origin was not found (Pillai’s Trace = .007, $F(5, 318) = .42, p > .05$), partial eta squared = .16. Specifically, there were no significant differences between United States ($M = 3.76, SD = .51$) and international students ($M = 3.57, SD = .37$) on differentiation of self, $F(1, 322) = .47, p > .05$, partial eta squared = .006. There were also no significant differences between United States ($M = 24.18, SD = 5.60$) and international students ($M = 24.15, SD = 5.36$) on career aspirations, $F(1, 322) = .001, p > .05$, partial eta squared = .001. Similarly, there were no significant differences between United States ($M = 11.26, SD = 4.42$) and international students ($M = 12.46, SD = 4.08$) on career indecision, $F(1, 322) = .92, p > .05$, partial eta squared = .003. No significant differences were found between international ($M = 3.76, SD = .51$) and United States ($M = 3.85, SD = .63$) students on career decision-making self-efficacy, $F(1, 322) = .26, p > .05$, partial eta squared = .001. Finally, no statistically significant differences were found between international ($M = 10.69, SD = 4.93$) and United States ($M = 11.60, SD = 4.63$) students on vocational identity, $F(1, 322) = .48, p > .05$, partial eta squared = .002. Based on these findings, international and domestic students’ data were combined for further analysis.

A MANOVA was conducted to see if gender differences existed among the constructs. Box’s M value of 23.54 was associated with a nonsignificant p value of .081, which indicated that the covariances between these groups were equal. A main effect between gender was found (Pillai’s Trace = .15, $F(5, 318) = 11.54, p < .001$), partial eta
squared = .15. Statistically significant gender differences existed for all of the variables. Males scored significantly higher on differentiation of self, $F(1, 322) = 15.864, p < .001$, partial eta squared = .05. Females scored significantly lower on career indecision, $F(1, 322) = 6.87, p < .01$, partial eta squared = .02. However, females had significantly higher scores on career aspirations, $F(1, 322) = 13.67, p < .001$, partial eta squared = .04, career decision-making self-efficacy, $F(1, 322) = 8.60, p < .01$, partial eta squared = .03, and vocational identity, $F(1, 322) = 5.88, p < .05$, partial eta squared = .02. Table 2 presents means, standard deviations, and alpha scores for males, females, and the combined sample.

Table 2. Means, Standard Deviations, and Alpha Scores for Males, Females, and the Combined Sample

<table>
<thead>
<tr>
<th>Measure</th>
<th>Male</th>
<th>Female</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$\alpha$</td>
</tr>
<tr>
<td>CDDQ</td>
<td>12.08</td>
<td>4.34</td>
<td>.93</td>
</tr>
<tr>
<td>DSI</td>
<td>3.89</td>
<td>.50</td>
<td>.88</td>
</tr>
<tr>
<td>CDSES</td>
<td>3.74</td>
<td>.65</td>
<td>.95</td>
</tr>
<tr>
<td>CAS</td>
<td>22.83</td>
<td>5.88</td>
<td>.78</td>
</tr>
<tr>
<td>MVS</td>
<td>10.89</td>
<td>4.66</td>
<td>.85</td>
</tr>
</tbody>
</table>

Note. CDDQ = Career Decision-Making Difficulties Questionnaire; DSI = Differentiation of Self Inventory; CDSES = Career Decision Self-Efficacy Scale; CAS = Career Aspiration Scale; MVS = My Vocational Situation

Table 3 presents correlations among all of the variables for both males and females. For both males and females, all of the variables were significantly related to one another.
Table 3. Intercorrelations among Career and Family Variables as a Function of Gender.

<table>
<thead>
<tr>
<th>Measure</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) CDDQ</td>
<td>----</td>
<td>-.49</td>
<td>-.40</td>
<td>-.67</td>
<td>-.79</td>
</tr>
<tr>
<td>(2) DSI</td>
<td>-.53</td>
<td>----</td>
<td>.28</td>
<td>.46</td>
<td>.41</td>
</tr>
<tr>
<td>(3) CAS</td>
<td>-.29</td>
<td>.23</td>
<td>----</td>
<td>.52</td>
<td>.38</td>
</tr>
<tr>
<td>(4) CDSES</td>
<td>-.53</td>
<td>.31</td>
<td>.56</td>
<td>----</td>
<td>.59</td>
</tr>
<tr>
<td>(5) MVS</td>
<td>-.68</td>
<td>.31</td>
<td>.34</td>
<td>.48</td>
<td>----</td>
</tr>
</tbody>
</table>

Note. Correlations for males are presented below the diagonal (n = 133); correlations for females are presented above the diagonal (n = 191); CDDQ = Career Decision-Making Difficulties Questionnaire; DSI = Differentiation of Self Inventory; CAS = Career Aspiration Scale; CDSES = Career Decision Self-Efficacy Scale; MVS = My Vocational Situation; all correlations are significant at the 0.001 level (2-tailed).

Two separate t-tests were conducted to examine possible gender differences for GPA and age. Females (M = 19.36, SD = 1.31) and males (M = 19.63, SD = 1.43) did not significantly differ in age, t(322), -1.79, p > .05. However, females (M = 3.29, SD = .47) had significantly higher GPAs than males (M = 3.12, SD = .56), t(306), 2.94, p < .01.

Hypotheses 1 and 2 were both tested using a Pearson’s product-moment correlation. Hypothesis 1 stated that a statistically significant positive relationship would exist between vocational identity and differentiation of self. For males, the correlation was statistically significant, r(133) = .31, p < .001. Similarly, there was a statistically significant positive relationship between differentiation of self and vocational identity for females, r(191) = .41, p < .001. Results indicated that as differentiation of self increases, vocational identity increases. These results supported hypothesis 1.

Hypothesis 2 stated that a statistically significant negative relationship exists between career indecision and differentiation of self. A Pearson’s product-moment coefficient was used to test this hypothesis. For both females, r(191) = -.49, p < .001, and males, r(133) = -.53, p < .001, hypothesis 2 was supported. Again, for males and females,
the results indicated that as differentiation of self increased, career indecision decreased. Hypothesis 2 was supported by these results.

Hypothesis 3 stated that the relationship between vocational identity and differentiation of self would be partially mediated by career decision-making self-efficacy. This hypothesis was tested using the procedure set forth by Baron and Kenny (1986). The first step of this procedure was to use regression analysis with differentiation of self as the independent variable and vocational identity as the dependent variable. For males, the Durbin-Watson statistic was 2.01. This indicated a lack of positive or negative autocorrelations. Further, for males, increased differentiation of self predicted increased vocational identity, \( b = .31, t(132) = 3.71, p < .001 \). Differentiation of self predicted a significant portion of the variance of vocational identity, \( R^2 = .09, F(1, 131) = 13.77, p < .001 \), for males. For females, the Durbin-Watson statistic was 1.96. Again, this indicated a lack of positive or negative autocorrelations. For females, differentiation of self predicted increases in vocational identity, \( b = .41, t(190) = 6.20, p < .001 \). A significant portion of variance for vocational identity was explained by differentiation of self, \( R^2 = .16, F(1, 189) = 38.32, p < .001 \), for females.

The second step in testing hypothesis 3 was regressing differentiation of self onto career decision-making self-efficacy. For females, the Durbin-Watson score was 1.89, which indicated a lack of positive or negative autocorrelations. For females, differentiation of self significantly predicted increases in career decision-making self-efficacy, \( b = .46, t(190) = 7.16, p < .001 \). A significant portion of variance of career decision-making self-efficacy was predicted by differentiation of self, \( R^2 = .21, F(1, 189) = 51.24, p < .001 \), for females. The Durbin-Watson score for males was 2.14, which
indicated a lack of negative or positive autocorrelations. For males, increases in
differentiation of self predicted increases in career decision-making self-efficacy, $b = .31$, 
t(132) = 3.77, $p < .001$. Differentiation of self predicted a significant portion of
vocational identity, $R^2 = .09$, $F(1, 131) = 14.22$, $p < .001$, for males.

The third step in testing hypothesis 3 was regressing both differentiation of self
and career decision-making self-efficacy onto vocational identity. For females there were
virtually no positive or negative autocorrelations as noted by the Durbin-Watson statistic,
which was 1.97. Both differentiation of self, $b = .18$, $t(190) = 2.68$, $p < .01$, and career
decision-making self-efficacy, $b = .51$, $t(190) = 7.85$, $p < .001$, significantly predicted
vocational identity for females. A significant portion of variance for vocational identity
was explained by differentiation of self and career decision-making self-efficacy, $R^2 =
.37$, $F(2, 188) = 56.07$, $p < .001$. For males, the Durbin-Watson statistic was 2.00, which
indicated no negative or positive autocorrelations. Both differentiation of self, $b = .18$, 
t(132) = 2.20, $p < .05$, and career decision-making self-efficacy, $b = .43$, $t(132) = 5.38$, 
p < .001, significantly predicted vocational identity for males. For males, a significant
portion of variance of vocational identity was explained by differentiation of self and
career decision-making self-efficacy, $R^2 = .25$, $F(2, 130) = 22.80$, $p < .001$.

The fourth step in testing hypothesis 3 was examining the impact that career
decision-making self-efficacy had on the predictive power of differentiation of self on
vocational identity. Specifically, the predictive power of differentiation of self would
decrease when career decision-making self-efficacy was added to the regression equation.
For males, initially differentiation of self predicted increases in vocational identity, $b =$
The predictive power of differentiation of self changed when career decision-making self-efficacy was added to the model, $b = .18$, $t(132) = 2.20$, $p < .05$. A similar finding occurred for females. Differentiation of self predicted increases in vocational identity, $b = .41$, $t(190) = 6.20$, $p < .001$, and this predictive power changed when vocational identity was added to the model, $b = .18$, $t(190) = 2.68$, $p < .01$. For both males and females, the relationship between differentiation of self and vocational identity was partially mediated by career decision-making self-efficacy. Finally, to determine the effect size of the mediation, a Sobel statistic was used. The Sobel was 3.09 with a $p < .01$ for males and 5.28 with a $p < .001$ for females. These results supported hypothesis 3.

Hypothesis 4 stated that the relationship between vocational identity and differentiation of self would be partially mediated by career aspirations. This hypothesis was tested using the procedure set forth by Baron and Kenny (1986). As noted previously, in hypothesis 3 this first step was supported for both males and females—that as differentiation of self increased, so would vocational identity. The next step in testing hypothesis 3 was regressing differentiation of self onto career aspirations. For females the Durbin-Watson statistic was 2.02, which indicated that both positive and negative autocorrelations were not occurring. For females, differentiation of self predicts increases in career aspirations, $b = .28$, $t(190) = 4.03$, $p < .001$. Further, a significant portion of variance of career aspirations was predicted by differentiation of self, $R^2 = .07$, $F(1, 189) = 16.24$, $p < .001$. For males, there were virtually no positive or negative autocorrelations as noted by the Durbin-Watson statistic of 1.85. For males, increases in differentiation of self predicted increases in career aspirations, $b = .23$, $t(132) = 2.65$, $p < .01$.

Differentiation of self predicted a significant portion of variance of career aspirations,
The third step in testing hypothesis 4 was regressing both differentiation of self and career aspirations onto vocational identity. For females, the Durbin-Watson statistic was 1.88, indicating a decreased likelihood of autocorrelations. Both differentiation of self, \( b = .29, t(190) = 5.00, p < .001 \), and career aspirations, \( b = .29, t(190) = 4.40, p < .001 \), significantly predicted vocational identity for females. For females, a significant portion of the variance for vocational identity was explained by differentiation of self and career aspirations, \( R^2 = .24, F(2, 188) = 30.67, p < .001 \). For males, the Durbin-Watson statistic was 2.06, which indicated that autocorrelations were unlikely. Both differentiation of self, \( b = .24, t(132) = 2.98, p < .01 \), and career aspirations, \( b = .07, t(132) = 3.52, p < .001 \), significantly predicted vocational identity for males. For males, a significant portion of the variance for vocational identity was explained by differentiation of self and career aspirations, \( R^2 = .16, F(2, 130) = 13.67, p < .001 \).

The fourth step of testing hypothesis 4 was examining the effect that career aspirations has on the predictive power of differentiation of self on vocational identity. Specifically, the hypothesis stated that the predictive power of differentiation of self would decrease when career aspirations was introduced into the regression model. For both males and females, there was a reduction in the predictive power of differentiation of self when career aspirations was introduced into the regression model. For males, differentiation of self predicted increases in vocational identity, \( b = .31, t(132) = 3.71, p < .001 \). Also, the predictive power of differentiation of self changed, \( b = .24, t(132) = 2.98, p < .01 \), when career aspirations was added to the model. A similar result was seen for females. Differentiation of self predicted vocational identity, \( b = .41, t(190) = 6.20, p < .001 \).
Hypothesis 4 stated that the relationship between differentiation of self and vocational identity will be partially mediated by career aspirations. This hypothesis was tested using the procedure set forth by Baron and Kenny (1986). The first step in testing hypothesis 4 was regressing differentiation of self onto vocational identity. There was a lack of autocorrelations for males as indicated by the Durbin-Watson statistic score of 2.13. For males, vocational identity decreased as differentiation of self increased, $b = -.49$, $t(190) = -7.65, p < .001$. A significant portion of the variance for vocational identity was explained by differentiation of self, $R^2 = .23$, $F(1, 189) = 58.46, p < .001$. For females, the Durbin-Watson statistic was 2.01, which again indicated a lack of autocorrelations. Differentiation of self predicted decreases in vocational identity, $b = -.53$, $t(133) = -7.13, p < .001$, for males. Similar to the results for females, a significant portion of variance for vocational identity was explained by differentiation of self, $R^2 = .27$, $F(1, 132) = 50.80, p < .001$, for the males.

Hypothesis 5 stated that the relationship between differentiation of self and career indecision will be partially mediated by career decision-making self-efficacy. This hypothesis was tested using the procedure set forth by Baron and Kenny (1986). The first step in testing hypothesis 5 was regressing differentiation of self onto career indecision. There was a lack of autocorrelations for females as indicated by the Durbin-Watson statistic score of 2.13. For females, career indecision decreased as differentiation of self increased, $b = -.49$, $t(190) = -7.65, p < .001$. A significant portion of the variance for career indecision was explained by differentiation of self, $R^2 = .23$, $F(1, 189) = 58.46, p < .001$. For males, the Durbin-Watson statistic was 2.01, which again indicated a lack of autocorrelations. Differentiation of self predicted decreases in career indecision, $b = -.53$, $t(133) = -7.13, p < .001$, for males. Similar to the results for females, a significant portion of variance for career indecision was explained by differentiation of self, $R^2 = .27$, $F(1, 132) = 50.80, p < .001$, for the males.

The second step in testing hypothesis 5 was regressing differentiation of self onto career decision-making self-efficacy. For females, the Durbin-Watson statistic was 1.87, which indicated a lack of positive or negative autocorrelations. For females, differentiation of self significantly predicted increases in career decision-making self
efficacy, $b = .56$, $t(190) = 7.16$, $p < .001$. A significant portion of variance for career decision-making self-efficacy was explained by differentiation of self, $R^2 = .21$, $F(1, 189) = 51.24$, $p < .001$, for females. For males, the Durbin-Watson statistic was 2.14, which indicated the absence of autocorrelations. Differentiation of self predicted increases in career decision-making self-efficacy, $b = .31$, $t(133) = 3.80$, $p < .001$, for males. Similar to the results for female participants, a significant portion of variance for career decision-making self-efficacy was explained by differentiation of self, $R^2 = .10$, $F(1, 132) = 14.22$, $p < .001$, for the males.

The third step in testing hypothesis 5 was regressing both differentiation of self and career decision-making self-efficacy onto career indecision. For females, the Durbin-Watson statistic was 2.28, indicating a decreased likelihood of autocorrelations. As increases occurred with both differentiation of self, $b = -.23$, $t(190) = -3.83$, $p < .001$, and career decision-making self-efficacy, $b = -.56$, $t(190) = -9.57$, $p < .001$, career indecision significantly decreased. For females, a significant portion of variance for career indecision was explained by differentiation of self and career decision-making self-efficacy, $R^2 = .48$, $F(2, 188) = 88.98$, $p < .001$. For males, the Durbin-Watson statistic was 2.05, which indicated that autocorrelations are unlikely. Both differentiation of self, $b = -.40$, $t(132) = -5.75$, $p < .001$, and career decision-making self-efficacy, $b = -.41$, $t(132) = -5.87$, $p < .001$, predicted decreases in career indecision for males. For males, a significant portion of variance for career indecision was explained by differentiation of self and career decision-making self-efficacy, $R^2 = .42$, $F(2, 130) = 49.07$, $p < .001$. For both males and females, the predictive power of differentiation of self on career indecision changed when career decision-making self-efficacy was included in the model.
A Sobel test was conducted to test the predictive power of career decision-making self-efficacy as a mediator between differentiation of self and career indecision. For males, the Sobel test was -3.18 with a \( p < .01 \). For females, the Sobel test was -5.76 with a \( p < .001 \). For both males and females, hypothesis 5 was supported.

Hypothesis 6 states that the relationship between differentiation of self and career indecision would be partially mediated by career aspirations. This hypothesis was tested using the procedure set forth by Baron and Kenny (1986). The first step of this procedure was to use regression analysis with differentiation of self as the independent variable and career indecision as the dependent variable. As noted in hypothesis 5, this first step was supported for both males and females, regardless of gender—that as differentiation of self increased, career indecision decreased.

The second step in testing hypothesis 6 was regressing differentiation of self onto career aspirations. For females, the Durbin-Watson statistic was 2.02, which indicated a lack of positive or negative autocorrelations. For females, differentiation of self predicts increases in career aspirations, \( b = .28, t(190) = 4.03, p < .001 \). A significant portion of variance for career aspirations was explained by differentiation of self, \( R^2 = .07, F(1, 189) = 16.24, p < .001 \), for females. For males, the Durbin-Watson statistic was 1.85, which indicated the absence of autocorrelations. Differentiation of self significantly predicted increases in career aspirations, \( b = .22, t(133) = 2.70, p < .01 \), for males. A significant portion of variance for career aspirations was explained by differentiation of self, \( R^2 = .04, F(1, 132) = 7.03, p < .01 \), for the males.

The third step in testing hypothesis 6 was regressing both differentiation of self and career aspirations onto career indecision. For females, the Durbin-Watson statistic
was 2.07, which indicated a decreased likelihood of autocorrelations. As increases occurred with both differentiation of self, $b = -0.41$, $t(190) = -6.43$, $p < .001$, and career aspirations, $b = -0.29$, $t(190) = -4.60$, $p < .001$, career indecision decreased. For females, a significant portion of variance for career indecision was explained by differentiation of self and career aspirations, $R^2 = .30$, $F(2, 188) = 42.95$, $p < .001$. For the males, the Durbin-Watson statistic was 2.07, which indicated that autocorrelations are unlikely. Both differentiation of self, $b = -0.49$, $t(132) = -6.52$, $p < .001$, and career aspirations, $b = -0.18$, $t(132) = -2.48$, $p < .05$, significantly predicted decreases in career indecision for males. For males, a significant portion of variance for career indecision was explained by differentiation of self and career aspirations, $R^2 = .30$, $F(2, 130) = 19.39$, $p < .001$. For both males and females, the predictive power of self-differentiation on career indecision changed when the career aspirations was included in the predictive model. A Sobel test was conducted to test the predictive power of career aspirations as a mediator between differentiation of self and career indecision. For males, the Sobel test was -1.80 with a $p > .05$. This would indicate the mediation effect was not significant for males. For females, the Sobel test was -3.04 with a $p < .05$. For females, but not males, hypothesis 6 was supported.

Hypothesis 7 states that the relationship between differentiation of self and vocational identity would be partially mediated by both career decision-making self-efficacy and career aspirations. The procedure set forth by Boone (2012) was used to test this hypothesis. The first step in this procedure was to use a Pearson's product-moment correlation to explore the relationship between career aspirations and career decision
making self-efficacy. A correlation .2 or higher is required before moving on to step 2. A correlation of \( r = .52, p < .001 \) was found for females and a correlation of \( r = .56, p < .001 \) for males. The second step was following the procedure developed by Boone (2012), which was to conduct a principal component analysis between career aspirations and career decision-making self-efficacy. A first rotation component score of at least .7 is required before moving on to step 3. For the females, the principal component analysis score was .87 and for males the component score was .88.

Because the second step indicated that requirements were met, the analysis continued to step 3. For the following steps, career aspirations and career decision-making self-efficacy were combined into a single construct because principal component analysis indicated scores above .7, and then the procedure set forth by Baron and Kenny (1986) was followed. The next step of this procedure was to use regression analysis with differentiation of self as the independent variable and vocational identity as the dependent variable. For males, the Durbin-Watson statistic was 2.01, which indicated a lack of positive or negative autocorrelations. Further, for males, increases in differentiation of self significantly predicted increases in vocational identity, \( b = .31, t(132) = 3.71, p < .001 \). Differentiation of self predicted a significant portion of the variance for vocational identity, \( R^2 = .09, F(1, 131) = 13.77, p < .001 \). For females, the Durbin-Watson statistic was 1.96, which indicated a lack of positive or negative autocorrelations. For females, differentiation of self predicted increases in vocational identity, \( b = .41, t(190) = 6.20, p < .001 \). A significant portion of the variance of vocational identity was explained by differentiation of self, \( R^2 = .16, F(1, 189) = 38.32, p < .001 \), for females.
Next, regression analysis was used to see if self-differentiation predicts scores on the combined career aspirations and career decision-making self-efficacy variable. For females, the Durbin-Watson statistic was 2.02, which indicated a lack of negative or positive autocorrelations. For females, differentiation of self predicted increases on the combined variable, \( b = .31, t(190) = 4.55, p < .001 \). A significant portion of variance for the combined variable was explained by differentiation of self, \( R^2 = .09, F(1, 189) = 20.67, p < .001 \), for females. For males, there was a lack of negative or positive autocorrelations, as indicated by a Durbin-Watson statistic of 1.87. Differentiation of self predicted increases in the combined variable, \( b = .24, t(133) = 2.88, p < .01 \), for males. A significant portion of variance for the combined variable was explained by differentiation of self, \( R^2 = .05, F(1, 132) = 8.30, p < .01 \), for the males.

The next step in hypothesis 7 was to conduct a regression analysis with differentiation of self and the combined variable as the independent variables and vocational identity as the dependent variable. For males, differentiation of self predicted increases in vocational identity, \( b = .23, t(132) = 3.71, p < .01 \). However, this predictive power of differentiation of self changed when the combined variable was added to the regression model, \( b = .32, t(132) = 2.98, p < .001 \). Overall, differentiation of self and the combined variable explained a significant portion of the variance of vocational identity, \( R^2 = .18, F(1, 131) = 15.09, p < .001 \), for males. For females, differentiation of self significantly predicted vocational identity, \( b = .31, t(190) = 4.68, p < .001 \), but this predictive power changed when the combined variable was added to the regression equation, \( b = .33, t(190) = 4.95, p < .001 \). Again, the regression model explained a significant portion of the variance for vocational identity, \( R^2 = .26, F(1, 189) = 33.82, p < .001 \).
Finally, a Sobel test was conducted to see if the mediation effect was significant. For the female portion of the sample, the Sobel test was $3.68, p < .001$, and for males it was $2.28, p < .05$. The results supported hypothesis 7.

Hypothesis 8 states that the relationship between differentiation of self and career indecision would be partially mediated by both career decision-making self-efficacy and career aspirations. The procedure set forth by Boone (2012) was used to test this hypothesis. The first step in this procedure is to use a Pearson’s product-moment correlation to explore the relationship between career aspirations and career decision-making self-efficacy. A correlation of .2 or higher was required before moving on to step 2. As previously noted in hypothesis 7, an $r = .52, p < .001$ was found for females and an $r = .56, p < .001$ for males. The second step in following the procedure developed by Boone (2012) was to conduct a principal component analysis between career aspirations and career decision-making self-efficacy. A first rotation component score of at least .7 was required before moving on to step 3. The principal component analysis was .87 for the female portion of the sample and .88 for the male portion.

Since the second step indicated that requirements were met, the analysis continued to step 3. For the following steps, career aspirations and career decision-making self-efficacy were combined into a single construct because the principal component analysis was above .7 for both males and females, and the procedure set forth by Baron and Kenny (1986) was followed. The next step of this procedure was to use regression analysis with differentiation of self as the independent variable and career indecision as the dependent variable. This analysis was already conducted as a step in testing hypothesis 5. There was lack of autocorrelations for females as indicated by the
Durbin-Watson statistic score of 2.13. For females, career indecision decreased as
differentiation of self increased, $b = .49, t(190) = -7.65, p < .001$. A significant portion of
variance for career indecision was explained by differentiation of self, $R^2 = .23, F(1, 189)
= 58.46, p < .001$, for females. For males, the Durbin-Watson statistic was 2.01, which
again indicated the lack of autocorrelations. Differentiation of self predicts decreased
career indecision, $b = -.53, t(133) = -7.13, p < .001$, for males. For males, a significant
portion of variance for career decision-making self-efficacy was explained by
differentiation of self, $R^2 = .27, F(1, 132) = 50.80, p < .001$.

Next, regression analysis was used to see if self-differentiation predicted scores
on the combined career aspirations and career decision-making self-efficacy variable.
This step was already completed as a step in hypothesis 7. For females, the Durbin-
Watson statistic was 2.02, which indicated a lack of negative or positive autocorrelations.
For females, differentiation of self predicted increases on the combined variable, $b = .31,
t(190) = 4.55, p < .001$. For females, a significant portion of variance for the combined
variable was explained by differentiation of self, $R^2 = .09, F(1, 189) = 20.67, p < .001$.
For males, there was a lack of negative or positive autocorrelations as indicated by a
Durbin-Watson statistic of 1.87. Differentiation of self predicted increases in the
combined variable, $b = .24, t(133) = 2.88, p < .01$, for males. For males, a significant
portion of variance for the combined variable was explained by differentiation of self,
$R^2 = .05, F(1, 132) = 8.30, p < .01$.

The next step was to regress differentiation of self and the combined career
aspirations and career decision-making self-efficacy variable onto career indecision, with
differentiation of self and the new combined variable as the independent variables and
career indecision as the dependent variable. For females, the Durbin-Watson statistic was 2.07, which indicated a lack of negative or positive autocorrelations. For females, differentiation of self predicted decreases in career indecision, $b = -.38, t(190) = -6.10, p < .001$, as did the combined variable, $b = -.33, t(190) = -5.29, p < .001$. The predictive power of differentiation of self on career indecision changed when the combined variable was added to the model. Further, a significant portion of variance for career indecision was explained by differentiation of self and the combined variable, $R^2 = .33, F(1, 189) = 47.38, p < .001$. The Durban-Watson statistic for males was 2.08, which indicated the lack of significant positive or negative autocorrelations. Increases in both differentiation of self, $b = -.48, t(133) = -6.40, p < .001$, and the combined variable, $b = -.21, t(133) = -2.88, p < .01$, predicted significant decreases in career indecision. The predictive power of differentiation of self on career indecision changed when the combined variable was added to the model. Differentiation of self and the combined variable explained a significant portion of the variance for career indecision in males, $R^2 = .31, F(1, 132) = 30.96, p < .001$. Finally, a Sobel test was conducted to test if the mediation effect is statistically significant. For females the Sobel score was -3.36, $p < .001$, and for males the Sobel score was -2.08, $p < .05$. Hypothesis 8 was supported for both males and females.
CHAPTER 4

DISCUSSION

Previous research has demonstrated that increased levels of differentiation of self are related to a greater sense of vocational identity (Johnson et al., 2014). From a family systems perspective, individuals who have a well-developed sense of self will be able to make career decisions without the internalized pressure of the wants and desires of their parents or family. However, there is a dearth of research exploring the relationship between differentiation of self and career variables. It appears that no research has explored the relationship between differentiation of self, vocational identity, career decision-making self-efficacy, career aspirations, and career indecision. Therefore, the purpose of this study was to examine the relationship between each of the career variables as well as the mediating effect of career decision-making self-efficacy and career aspirations on the relationship between differentiation of self, career indecision, and vocational identity.

Due to significant differences in means between males and females, hypothesis testing was conducted separately for each gender. Overall, the majority of the hypotheses were supported for both genders. Hypothesis 1, which stated that a significant positive relationship would be found between differentiation of self and vocational identity, was supported for both males and females. Similarly, hypothesis 2, which stated that a significant relationship would exist between career indecision and differentiation of self,
was supported for both males and females. Career decision-making self-efficacy was also found to partially mediate the relationship between differentiation of self and vocational identity for both males and females, providing support for hypothesis 3. Hypothesis 4 stated that the relationship between vocational identity and differentiation of self would be partially mediated by career aspirations; this was also supported for both males and females.

Hypothesis 5, which stated that career decision-making self-efficacy would partially mediate the relationship between differentiation of self and career indecision, was supported for both males and females. Hypothesis 6 stated that the relationship between differentiation of self and career indecision would partially be mediated by career aspirations; this was supported only for females and not males. The relationship between differentiation of self and vocational identity was partially mediated by both career aspirations and career decision-making self-efficacy for both males and females, which supported hypothesis 7. Finally, hypothesis 8, which stated that the relationship between differentiation of self and vocational identity would be partially mediated by both career aspirations and career decision-making self-efficacy, was supported for both males and females.

**Means**

In the present study, females had significantly higher scores on the MVS than males, indicating greater ability in developing a career identity. This finding may add some clarity to previous research in which some studies have found gender differences (Hartung et al., 2002; Hirschi, 2012), whereas others have not identified gender differences (Johnson et al., 1999). Females also had significantly higher career
aspirations than their male counterparts. This may indicate that the females in our sample had greater education and career aspirations than males. Females may express more educational and career hope due to positive messages they had received from others. It may be that for females, educational and career aspirations are not assumed as they are for males. The results presented here add to the literature on career aspirations, given that the majority of previous research has focused on female participants (Gray & O’Brien, 2007), despite career aspirations also being important for the development of male occupational development and identity. Female participants also had significantly higher scores than males on career decision-making self-efficacy, indicating greater skills and confidence than males when choosing a career. The present study supported previous research that found gender differences with regard to career decision-making self-efficacy (Gianakos, 2001; Jantzer et al., 2009; Nota et al., 2007; Rollins & Valdez, 2006), and contradicts research that has not found a significant gender difference (Abdalla, 1995; Creed et al., 2002; Creed et al., 2004; Fouad et al., 2002; Hampton, 2006; Ojeda et al., 2012). The results presented here indicate that future research needs to examine gender differences to understand the development of career identity.

Conversely, men had significantly higher scores on measures of career indecision than females, suggesting that they had greater difficulty in choosing a career. Considering that females had significantly higher scores on measures of vocational identity and career decision-making self-efficacy, these findings make sense. However, the results are contrary to previous research that found that females had higher levels of career indecision (Creed et al., 2004). One possible reason for the differences in findings may be cultural differences, because the Creed et al. (2004) study collected data from a sample of
adolescents in Australia. Finally, males had higher scores on differentiation of self than females, which suggests that males are more psychologically and emotionally separate from their families than females are. This finding is consistent with previous research that found that males had higher differentiation of self scores than females (Skowron & Friedlander, 1998). The finding that males had higher differentiation of self scores than females could possibly be due to gender norms and cultural differences. It may be that females are expected to remain attached to their family of origin to a much greater extent than males. Cultural norms may dictate that males be much more independent of their family.

**Correlations**

For males, in addition to an increase in differentiation of self, there were increases in career decision-making self-efficacy, career aspirations, and vocational identity. These findings support previous research that found a positive relationship between differentiation of self and vocational identity (Johnson et al., 2014), and these findings also add to the body of career literature by noting the relationship between career decision-making self-efficacy and differentiation of self. For males, having a strong sense of psychological and emotional independence from their family appears to relate to an increased desire to pursue loftier career goals as well as to greater skill and ability to pursue such dreams. These findings also support the contention by Lopez and Andrews (1987) that higher levels of differentiation of self will result in lower levels of career indecision. The present study also confirms previously found relationships, such as the inverse relationship between career indecision and career decision-making self-efficacy.
The current study also supported the previous finding that as career aspirations increases, career indecision decreases (Patton & Creed, 2007). In terms of the direction of relationships and level of significance, the correlations for females were similar to those of males. Again, for females, these findings support the previous research by Johnson et al. (2014) that found increases in vocational identity were related to increases in differentiation of self. The present study also furthers what is known about the relationship between differentiation of self and career decision-making self-efficacy—that increases in one are related to increases in the other. Lower levels of career indecision are related to increases in differentiation of self, a finding that supported previous research (Lopez & Andrews, 1987). This study replicates previous research that found as career decision-making self-efficacy increased, career indecision decreased (Choi et al., 2012). The findings pertaining to females in the present study support the results of a previous study by Patton and Creed (2007), which demonstrated that increases in career aspirations are related to decreases in career indecision.

**Hypothesis 1**

Hypothesis 1 predicted that there would be a significant positive relationship between differentiation of self and vocational identity. An analysis using a Pearson’s product-moment coefficient supported this hypothesis for both males and females. For males, results of the present study replicate those of previous research that found a positive relationship between vocational identity and differentiation of self (Johnson et al., 2014). From a family systems perspective, this relationship suggests that males who have a poor differentiation of self may have a poor vocational identity due to the internal pressures they feel to choose a career in line with the preference of family members.
Increased level of differentiation of self may allow students to develop a healthier sense of vocational identity, which would allow them to balance their personal desires with what their family may want. Similarly, this study also supported previous research on the subject regarding females (Johnson et al., 2014). Like their male counterparts, females who have a poor sense of vocational identity may have such struggles because of being poorly differentiated from their families. When females are poorly differentiated from their families, they may make career choices that make others happy.

Hypothesis 2

Hypothesis 2 stated that a statistically significant negative relationship exists between differentiation of self and career indecision. A Pearson’s product-moment coefficient supported this hypothesis for both males and females. No previous research could be located that had explored the relationship between these two variables. However, Lopez and Andrews (1987) noted that difficulties in career indecision were due to a lack of psychological separation from one’s parents. For females, it is possible that those who are poorly differentiated from their parents struggle with making a career decision because they are torn between their own desires and the desires of their parents. They may realize that they can either appease their family and be left in a career that they find unfulfilling, or follow their own desires but upset their family. As a result, such individuals become paralyzed in making a career choice. Similarly, for males, decreases in career indecision were related to increases in differentiation of self. Again, males who are better differentiated from their families likely have a better sense of who they are as a person and therefore are more likely to make career decisions based on their wants and needs. Individuals who are not well differentiated from family members may avoid
making career decisions because they do not want to upset or hurt others, whereas those who are strongly differentiated from others are able to balance the needs and wants of their family with their own desires.

**Hypothesis 3**

Hypothesis 3 stated that career decision-making self-efficacy would partially mediate the relationship between differentiation of self and vocational identity. This hypothesis was tested using the procedures set forth by Baron and Kenny (1986). Results supported this hypothesis for males and females. Previous research has found a statistically significant relationship between differentiation of self and vocational identity (Johnson et al., 2014). Past research has also explored the relationship between vocational identity and career decision-making self-efficacy (Choi et al., 2012; Gushue et al., 2006; Koumoundourou et al., 2012). Previous results indicated a statistically significant positive relationship existed between vocational identity and career decision-making self-efficacy. However, no previous study has explored the possibility that the relationship between vocational identity and differentiation of self is mediated by career decision-making self-efficacy.

The results presented in the current study indicate that the relationship between vocational identity and differentiation of self is partially mediated by career decision-making self-efficacy for females. Specifically, higher levels of differentiation of self may increase career decision-making self-efficacy, which, in part, increases vocational identity. Females who are differentiated from their family likely had more confidence in their ability to make a career decision, which results in a stronger vocational identity. These females likely had greater confidence in a variety of aspects of career decision...
making, such as planning, problem solving, gathering information, and goal selection. Having belief in one's own abilities in career decision making may result in a stronger sense of vocational identity.

For males, this hypothesis was also supported and helps explain why differentiation of self influences vocational identity. Increases in career decision-making self-efficacy appear to impact the relationship between differentiation and vocational identity. Males who are confident in their abilities and skills in making career decisions are likely to have a better sense of vocational identity and who they are independent of family. Those who are highly differentiated from family members have a strong sense of vocational identity not only due to being independent of family, but also because of their abilities in overcoming obstacles in choosing a career.

Previous research examining the relationship between gender and career decision-making self-efficacy has been decidedly mixed. Some research has found no relationship (Abdalla, 1995; Creed et al., 2002; Fouad et al., 2002; Hampton, 2006; Ojeda et al., 2012), whereas other studies have found gender to be a significant variable (Gianakos, 2001; Jantzer et al., 2009; Nota et al., 2007; Rollins & Valdez, 2006). The present study suggests that career decision-making self-efficacy is important for both males and females.

**Hypothesis 4**

Hypothesis 4 stated that the relationship between differentiation of self and vocational identity will be partially mediated by career aspirations. This hypothesis was tested using the procedures set forth by Baron and Kenny (1986). The results supported this hypothesis for both females and males. This research confirms previous research
demonstrating that vocational identity was positively predicted by differentiation of self (Johnson et al., 2014). However, the present study offers several new insights. First, higher career aspirations appear to increase vocational identity for males. Having high career aspirations may instill a sense of confidence, helping individuals overcome obstacles to achieving their career goals. Further, the relationship between differentiation of self and vocational identity is partially influenced by career aspirations. The findings presented here suggest that individuals who had a strong independent sense of self are more likely to want to excel in their chosen field. In turn, such individuals are better able to overcome perceived barriers to their chosen occupation. The ability to overcome career barriers may be, in part, due to the desire to excel in a chosen field. Males who are highly differentiated feel untethered from the desires of family members and are able to dream of excelling in their chosen occupational field. Such males worry less about desires of their family of origin, which, in part, is what allows them to have confidence in their career choice.

These findings indicate that for females, the level of one’s career aspirations impacts the relationship between differentiation of self and vocational identity. Although it appears that differentiation of self impacts vocational identity, some of this relationship is partially mediated by career aspirations. The desire to set high educational and career goals may instill a sense of confidence for overcoming barriers to such goals. The process of differentiating from one’s family may be related to setting higher academic and career goals. If a female feels she has to make choices to make her family happy, she may not bother with setting higher career or educational goals. On the other hand, higher differentiation of self may result in higher career aspirations because these females are
choosing careers based on their wants and needs. For both males and females, these findings indicate that to increase someone's vocational identity, it is important not only to increase his or her sense of independent self, but also to encourage the person to set educational and career goals that are meaningful.

Further, this research demonstrates that career aspirations are important for both males and females. Some previous research has found that on average females have higher career aspirations than males (Schoon & Polek, 2011; Watts, Frame, Moffett, & Hein, 2015) and that higher career aspirations for females are critical in participating in higher education (Schoon, & Polek, 2011), though the relationship between gender and career aspirations is complex and is influenced by a number of variables. For example, research has found that career aspirations for females are lower in science and math majors (Cundiff, Vescio, Loken, & Lo, 2013; Riegle-Crumb, Moore, & Ramos-Wada, 2011), particularly if beliefs about these fields are based on gender roles (Cundiff et al., 2013).

**Hypothesis 5**

Hypothesis 5 stated that career decision-making self-efficacy will partially mediate the relationship between differentiation of self and career indecision. This hypothesis was tested using the procedures set forth by Baron and Kenny (1986). The results supported this hypothesis for both males and females. These findings confirm previous research from Choi et al. (2012) that found a strong relationship between career decision-making self-efficacy and career indecision. Further, the present study adds some clarity to the relationship between career decision-making self-efficacy and career
indecision. Specifically, career decision-making self-efficacy is a partial mediator between differentiation of self and career indecision.

For females, career decision-making self-efficacy partially mediates the relationship between differentiation of self and career indecision. Increasing career decision-making self-efficacy seems to decrease career indecision. Females who are high in career decision-making self-efficacy had greater abilities, skills, and confidence in making a career decision. These findings also demonstrate that for females, differentiation of self is important in predicting both career indecision and career decision-making self-efficacy. Increases in differentiation of self lead to decreases in career indecision in part because of increases in career decision-making self-efficacy. Higher career decision-making self-efficacy is an indication of the ability to overcome barriers and obstacles when making a career choice. The effect size was -5.76 for females and -3.18 for males.

**Hypothesis 6**

Hypothesis 6 stated that career aspirations will partially mediate the relationship between differentiation of self and career indecision. This hypothesis was tested using the procedures set forth by Baron and Kenny (1986). The results indicate that career aspirations mediate the relationship between differentiation of self and career indecision for females only. The mediating influence was not statistically significant for males. For females, the strength of the influence of differentiation of self on career indecision is partially influenced by career aspirations. Females who aspire to achieve educational and career greatness appear to have fewer struggles in choosing a career. It may be that career aspirations and the ability to choose a career are conceptually intertwined. If a female has
strong career aspirations, she may already have a career field in mind. However, it is also possible that females simply aspire to be successful even though they are unsure of a specific career.

Interestingly, for males, career aspirations did not appear to influence the relationship between differentiation of self and career indecision, though differentiation of self and career aspirations independently predicted decreases in career indecision. Differentiation of self also predicted increases in career aspirations. Therefore, it appears that these variables are independent of one another for males. Perhaps, due to cultural norms surrounding gender and career, males are automatically expected to be able to choose a career when they become independent of family, regardless of their aspirations. For males, their families may automatically assume that they want to strive for high educational and career goals. Success may be an expectation, and therefore direct messages are redundant. Another reason is that perhaps career aspirations are less important for males because males already receive positive messages about aspiring toward high career achievement. Again, it may be assumed that males will strive for educational and career success, and therefore positive career messages have less impact.

Hypothesis 7

Hypothesis 7 stated that both career decision-making self-efficacy and career aspirations would partially mediate the relationship between differentiation of self and vocational identity. This hypothesis was tested by following the procedures set forth by Boone (2012). The results support this hypothesis. First, in regard to psychometrics, these findings indicate that career decision-making self-efficacy and career aspirations can be treated as a single variable when testing for mediation effects. This does not mean that
these two variables are tapping into the same underlying psychological processes. Rather, it may be that individuals who score high or low on one of these measures are likely to have a similar high or low score on the other measure. Those who had very high career aspirations are likely to have a great deal of career decision-making self-efficacy and vice versa. However, this is still useful for future research because studying one variable may act as a proxy for understanding the other.

For females, results suggest that the strength of the relationship between differentiation of self and vocational identity is influenced by both career decision-making self-efficacy and career aspirations. These findings indicate that it is not differentiation of self alone that influences the perception of barriers to career selection. For females, the belief in one's own ability to choose an occupation, which includes appraisal, exploration, problem solving, planning, and selection, also appears to influence the strength of the impact that differentiation of self has on vocational identity. Similarly, career aspirations also positively impacts the relationship between vocational identity and differentiation of self. The impact of differentiation of self on vocational identity is due, in part, to both career aspirations and career decision-making self-efficacy. Females who are well differentiated from their families may feel freer to strive for educational and career achievement, which in turn increases their sense of vocational identity. Similarly, females with a strong sense of differentiation may have more confidence in their own ability to find and choose a career, which also results in a better sense of vocational identity.

For males, the results appear to be very similar to those of their female counterparts. Much of the impact that differentiation of self has on vocational identity
may in part be explained by career aspirations and career decision-making self-efficacy. Highly differentiated males are well served by also having skills, abilities, and aspirations when developing their vocational identity. Again, the Sobel mediation effect was large for both females (3.68) and males (2.28).

**Hypothesis 8**

Hypothesis 8 stated that both career aspirations and career decision-making self-efficacy would partially mediate the relationship between differentiation of self and career indecision. The procedure described by Boone (2012) was used to test this hypothesis. For both males and females, this hypothesis was supported. For females, the combined variable of career aspirations and career decision-making self-efficacy mediates the strength of the relationship between differentiation of self and career indecision. The higher the scores on the combined variable, the greater the reduction in career indecision difficulties. These results indicate that career indecision can be influenced by a number of different variables. For males, the findings are similarly supported; both career aspirations and career decision-making self-efficacy influence the relationship between differentiation of self and career indecision. Again, the mediating effect was stronger for females than males. The level of career indecision a female student has seems to be strongly influenced by career aspirations, career decision-making self-efficacy, and differentiation of self.

**Summary**

After looking at the totality of the results presented in the study, several conclusions can be drawn. One possible interpretation of the results presented here is that differentiation of self is an important variable to understand when exploring occupational
choice, though it is influenced by career aspirations and career decision-making self-efficacy. This research supported Bowen's (1974; 1978) argument that those who were well differentiated from their families were emotionally healthy and capable of making independent choices. These findings add to body of literature that suggests those high in differentiation of self are psychologically healthy and driven by a desire to fulfill their own needs in a mature and responsible manner. One of these needs is the desire to choose a meaningful career. Individuals who are differentiated from their family members appear to pursue greater educational and career goals. Further, Bowen (1974; 1978) noted that individuals who are not fused with their families are able to accept input and feedback from family members when making choices while maintaining their sense of independence. This ability to make emotionally healthy decisions appears to extend to choices involving career. Higher levels of differentiation of self are associated with higher career aspirations, career decision-making self-efficacy, and vocational identity and fewer problems with career indecision. Again, the relationship between differentiation of self, career indecision, and vocational identity is partially mediated by career decision-making self-efficacy and career aspirations. This would suggest that Bowen underestimated the complexity between differentiation of self and career variables. Self-differentiation is important not only because of the direct influence it has on other variables, but because it appears to be related to other constructs that support healthy development.

These findings may also undermine Williamson's (1981, 1982a, 1982b) argument that healthy choices, including those about career, cannot be made until the parent–child relationship becomes one were each member is fully independent from the other, which
typically does not occur until individuals are in their late 20s or early 30s. The
participants in the current study, all of whom were ages 18 to 25, would imply that the
processes surrounding career decision making, career aspirations, and vocational identity
take place far before when Williamson would suggest. Further, this research is in
agreement with the majority of career theorists who argue that the career decision-making
process begins in childhood and continues throughout adulthood (Bowen, 1976; Erikson,
1982; Super, 1957). Late adolescence through early adulthood appears to be an important
period of time in which career decisions are made.

Implications for Career Counseling

These findings also have implications for career counseling. First, they provide
guidance for career counselors on how to assist students who are having trouble selecting
a career. Although the causal relationships between the variables in the present study are
still unknown, these findings may suggest that career indecision can be reduced by
increasing career decision-making self-efficacy and career aspirations, either together or
independently. Similarly, increasing career aspirations and career decision-making self-
efficacy increases one’s ability to identify and overcome barriers to making an
occupational choice. Career counselors who focus on career decision-making self-
efficacy and career aspirations are also likely to increase the effect that differentiation of
self has on decreasing career indecision and increasing vocational identity. Further, the
impact that mediating variables have on differentiation of self for females appears to be
much stronger than for males. Therefore, when assisting female students with career
selection struggles, it may be helpful to focus on career aspirations and career decision-
making self-efficacy.
This research also places great importance on exploring a student's family of origin when discussing career concerns. Students who come from families in which members are fused with one another are not only going to have difficulty developing a sense of vocational identity or making a career decision, but they are likely to struggle with developing career aspirations and career decision-making self-efficacy. Further, these findings suggest that career counselors should pay attention to all of these variables and how they relate to one another. Failure to do so may result in students making poorer academic and career choices.

**Limitations and Future Research**

The participants in this study were largely Caucasian, underclassmen, and from the United States. Preliminary analysis indicated that differences in the year in school and country of origin did not impact the findings presented in this study. However, the sample size for both international students and upperclassmen was relatively small. Similarly, data were collected from only psychology courses, which may have limited the diversity of students completing surveys. This study also excluded students falling outside the age range of traditionally aged college students as well as graduate students. In both cases, the number of participants from each of those groups was very small, and therefore they were excluded from analysis. However, older students and those in graduate programs may have very different levels and types of career struggles. Therefore, the results presented here may not be an accurate reflection of other, more diverse student bodies. It may be beneficial for future studies to focus on participants who were underrepresented in the present sample.
Another area of concern is that the variables and theories explored in this study are constructed from a very specific cultural viewpoint. In particular, family systems theory notes that healthy individuals eventually seek emotional and physical separation from their families. Such a perspective is clearly based on a Western perspective that emphasizes the individual over the family and the community. This is in contrast to an Eastern perspective that places emphasis on how individual desires and behaviors are in harmony with others, particularly the family. Differentiation of self, which was developed from a family systems theory perspective, is a clear example of this study using constructs created through a Western lens. A similar argument of cultural bias could be made for the Career Aspiration Scale (CAS). The CAS focuses on the career aspirations of the individual and his or her desires. Of course, the CAS does not explore the motive for one’s career desires, so potentially individuals could be motivated by the desires of their families, but the questionnaire was developed with a focus on individual desires. Considering the possibility of cultural bias, future studies that include a sample from collectivistic cultures may yield very different results.

The present study also analyzed and explored the variable constructs using total scores and did not analyze subscales. This decision was made, in part, due to following the procedure set forth by Boone (2012). Following this procedure did offer several benefits, such as increased alpha scores and a broad understanding of how the constructs in question interact with each other. However, by analyzing the data on the total scale level some nuance is likely lost. For example, previous research found that three of the four subscales of Differentiation of Self correlated with Vocational Identity (Johnson et al., 2014). In future studies, researchers may want to explore these variables as they relate
to one another at the subscale level. Doing so may allow for a better understanding of how struggles with career indecision and vocational identity can be eased.

**Conclusion**

The purpose of this study was to better understand the relationship between differentiation of self, career aspirations, career decision-making self-efficacy, vocational identity, and career indecision. The results presented here indicate that both career decision-making self-efficacy and career aspirations mediate the relationship between differentiation of self, career indecision, and vocational identity. Largely, the hypotheses in the present study were supported for both males and females. The analysis conducted in the present study suggests that both career aspirations and career decision-making self-efficacy can be combined into a single variable or one can be treated as a proxy for the other. These findings also provide guidance for career counselors and their work with college students. Specifically, increasing career aspirations and career decision-making self-efficacy may reduce career indecision and increase vocational identity. Finally, limitations and future research directions were discussed.
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TO: Dr. Walter Buboltz and Mr. Jay Middleton
FROM: Dr. Stan Napper, Vice President Research & Development
SUBJECT: HUMAN USE COMMITTEE REVIEW
DATE: April 9, 2015

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:


HUC 1290

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. This approval was finalized on April 8, 2015 and this project will need to receive a continuation review by the IRB if the project, including data analysis, continues beyond April 8, 2016. Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Dr. Mary Livingston at 257-2292 or 257-5066.
MEMORANDUM

TO: Mr. Jay Middleton and Dr. Walter Bubolz
FROM: Dr. Stan Napper, Vice President of Research & Development
SUBJECT: Human Use Committee Review
DATE: April 21, 2016
RE: Approved Continuation of Study HUC 1290

The above referenced study has been approved as of April 21, 2016 as a continuation of the original study that received approval on April 8, 2015. This project will need to receive a continuation review by the IRB if the project, including collecting or analyzing data, continues beyond April 21, 2017. Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Mary Livingston at 257-5066.
APPENDIX B

CONSENT FORM

PURPOSE OF STUDY/PROJECT: The purpose of this study is to better understand how family variables influence career aspirations and the career decision-making process.

PROCEDURE: This study will examine the relationships between family background variables, career aspirations, and career decision-making behaviors. The survey will take approximately 30 minutes and there are no known risks to you for participating. Your data will be combined with other participants in order for us to learn more about how family influences one's ability to make a career decision. Your name and identifying information will not appear anywhere on your data sheets. Your participation in this study is voluntary, and you may withdraw your consent and discontinue your participation at any time, without penalty.

INSTRUMENTS: This study includes demographic questions. The measures that are to be completed include questions about family background, career aspirations, and career decision-making behavior.

RISKS/ALTERNATIVE TREATMENTS: The participant understands that Louisiana Tech is not able to offer financial compensation nor to absorb the costs of medical treatment should you be injured as a result of participating in this research. However, the risk of participating in this study is minimum. If any psychological discomfort occurs you may contact Louisiana Tech counseling services via phone at (318) 257-2488 or via email at counseling@latech.edu. They are located in 310 Keeny Hall.

BENEFITS/COMPENSATION: If extra credit is offered to students participating in research, an alternative extra credit that requires a similar investment of time and energy will also be offered to those students who do not choose to volunteer as research subjects.

I, __________________________, attest with my signature that I have read and understood the following description of the study, "The Mediating Influence of Career Aspirations and Career Decision-Making Self-Efficacy on Self-Differentiation, Vocational Identity, and Career Indecision.", and its purposes and methods. I understand that my participation in this research is strictly voluntary and my participation or refusal to participate in this study will not affect my relationship with Louisiana Tech University or my grades in any way. Further, I understand that I may withdraw at any time or refuse to answer any questions without penalty. Upon completion of the study, I understand that the results will be freely available to me upon request. I understand that the results of my survey will be confidential, accessible only to the principal investigators, myself, or a legally appointed representative. I have not been requested to waive nor do I waive any of my rights related to participating in this study.

______________________________  ___________________________  ______________
Signature of Participant or Guardian  Print Name  Date
CONTACT INFORMATION: The principal experimenters listed below may be reached to
answer questions about the research, subjects’ rights, or related matters.
Jay Middleton (913-967-9386), jim045@latech.edu
Dr. Walter Buboltz Jr. (318) 257-4039, buboltz@latech.edu

Members of the Human Use Committee of Louisiana Tech University may also be
contacted if a problem cannot be discussed with the experimenters.
Dr. Stan Napper (257-3056) or Dr. Mary M. Livingston (257-2292 or 257-5066)
1. Age? __________

2. Gender? __________

    Hispanic Native American Other: ________________

4. Major? _______________________

5. GPA? __________

6. Year in school? (circle): Freshman Sophomore Junior
    Senior Graduate Student Other: ________________

INSTRUCTIONS: For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the following 5-point continuum. Mark your answer by circling a number on the answer sheet.

<table>
<thead>
<tr>
<th>No Confidence at All</th>
<th>Very Little Confidence</th>
<th>Moderate Confidence</th>
<th>Much Confidence</th>
<th>Complete Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. List several majors that you are interested in.
   1 2 3 4 5

2. Use the internet to find information about occupations that interest you.
   1 2 3 4 5

3. Select one major from a list of potential majors you are considering.
   1 2 3 4 5

4. Make a plan of your goals for the next five years.
   1 2 3 4 5

5. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
   1 2 3 4 5

6. Accurately assess your abilities.
   1 2 3 4 5

7. Find information about companies who employ people with college majors in English.
   1 2 3 4 5

8. Select one occupation from a list of potential occupations you are considering.
   1 2 3 4 5

9. Determine the steps you need to take to successfully complete your chosen major.
   1 2 3 4 5

10. Persistently work at your major or career goal even when you get frustrated.
    1 2 3 4 5

11. List several occupations that you are interested in.
    1 2 3 4 5

12. Find information about educational programs in engineering.
    1 2 3 4 5

13. Choose a career that will fit your preferred lifestyle.
    1 2 3 4 5

14. Prepare a good resume.
    1 2 3 4 5

15. Change majors if you did not like your first choice.
    1 2 3 4 5
16. Determine what your ideal job would be.
   1 2 3 4 5

17. Talk to a faculty member in a department you are considering for a major.
   1 2 3 4 5

18. Make a career decision and then not worry about whether it was right or wrong.
   1 2 3 4 5

19. Get letters of recommendation from your professors.
   1 2 3 4 5

20. Change occupations if you are not satisfied with the one you enter.
   1 2 3 4 5

   1 2 3 4 5

22. Ask a faculty member about graduate schools and job opportunities in your major.
   1 2 3 4 5

23. Choose a major or career that your parents do not approve of.
   1 2 3 4 5

24. Get involved in a work experience relevant to your future goals.
   1 2 3 4 5

25. Resist attempts of parents or friends to push you into a career or major you believe is beyond your abilities.
   1 2 3 4 5

26. Figure out whether you have the ability to successfully take math courses.
   1 2 3 4 5

27. Describe the job duties of the career/occupation you would like to pursue.
   1 2 3 4 5

28. Choose a career in which most workers are the opposite sex.
   1 2 3 4 5

29. Find and use the Career Services on campus.
   1 2 3 4 5

30. Move to another city to get the kind of job you really would like.
   1 2 3 4 5

31. Determine the academic subject you have the most ability in.
   1 2 3 4 5

32. Find out the employment trends for an occupation in the next decade.
   1 2 3 4 5
33. Choose a major or career that will fit your interests.
   1  2  3  4  5

34. Decide whether or not you will need to attend graduate or professional school to achieve your career goals.
   1  2  3  4  5

35. Apply again to graduate school after being rejected the first time.
   1  2  3  4  5

36. Determine whether you would rather work primarily with people or with information.
   1  2  3  4  5

37. Find out about the average yearly earnings of people in an occupation.
   1  2  3  4  5

38. Choose a major or career that will suit your abilities.
   1  2  3  4  5

39. Plan course work outside of your major that will help you in your future career.
   1  2  3  4  5

40. Identify some reasonable major or career alternatives if you are unable to get your first choice.
   1  2  3  4  5

41. Figure out what you are and are not ready to sacrifice to achieve your career goals.
   1  2  3  4  5

42. Talk with a person already employed in the field you are interested in.
   1  2  3  4  5

43. Choose the best major for you even if it took longer to finish your college degree.
   1  2  3  4  5

44. Identify employers, firms, institutions relevant to your career possibilities.
   1  2  3  4  5

45. Go back to school to get a graduate degree after being out of school 5-10 years.
   1  2  3  4  5

46. Define the type of lifestyle you would like to live.
   1  2  3  4  5

47. Find information about graduate or professional schools.
   1  2  3  4  5

48. Choose the major you want even though the job market is declining with opportunities in this field.
   1  2  3  4  5

49. Successfully manage the job interview process.
   1  2  3  4  5
50. Come up with a strategy to deal with flunking out of college.
APPENDIX E

CAREER ASPIRATIONS SCALE
INSTRUCTIONS: In the space next to the statements below please circle a number from “0” (not at all true of me) to “4” (very true of me). If the statement does not apply, circle “0.” Please be completely honest. Your answers are entirely confidential and will be useful only if they accurately describe you.

<table>
<thead>
<tr>
<th>Not at All True of Me</th>
<th>Slightly True of Me</th>
<th>Moderately True of Me</th>
<th>Quite a Bit True of Me</th>
<th>Very True of Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. I hope to become a leader in my career field.  
2. When I am established in my career, I would like to manage other employees.  
3. I would be satisfied just doing my job in a career I am interested in.  
4. I do not plan to devote energy to getting promoted in the organization or business I am working in.  
5. When I am established in my career, I would like to train others.  
6. I hope to move up through any organization or business I work in.  
7. Once I finish the basic level of education needed for a particular job, I see no need to continue in school.  
8. I plan on developing as an expert in my career field.  
9. I think I would like to pursue graduate training in my occupational area of interest.  
10. Attaining leadership status in my career is not that important to me.
APPENDIX F

MY VOCATIONAL SITUATION
Try to answer each of the following statements as mostly TRUE or mostly FALSE. Circle the answer that best represents your present opinion.

In thinking about your present job or in planning for an occupation or career:

1. I need reassurance that I have made the right choice of occupation.  
   True          False

2. I am concerned that my present interests may change over the years.  
   True          False

3. I am uncertain about the occupations I could perform well.  
   True          False

4. I don't know what my major strengths and weaknesses are.  
   True          False

5. The jobs I can do may not pay enough to live the kind of life I want.  
   True          False

6. If I had to make an occupational choice right now, I'm afraid I would make a bad choice.  
   True          False

7. I need to find out what kind of career I should follow.  
   True          False

8. Making up my mind about a career has been a long and difficult problem for me.  
   True          False

9. I am confused about the whole problem of deciding on a career.  
   True          False

10. I am not sure that my present occupational choice or job is right for me.  
    True          False

11. I don't know enough about what workers do in various occupations.  
    True          False

12. No single occupation appeals strongly to me.  
    True          False

13. I am uncertain about which occupation I would enjoy.  
    True          False

14. I would like to increase the number of occupations I would consider.  
    True          False

15. My estimates of my abilities and talents vary a lot from year to year.  
    True          False

16. I am not sure of myself in many areas of life.  
    True          False

17. I have known what occupation I want to follow for less than one year.  
    True          False
18. I can’t understand how some people can be so set about what they want.
   True   False
APPENDIX G

DIFFERENTIATION OF SELF INVENTORY
INSTRUCTIONS: 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. If you believe that an item does not pertain to you (e.g., you are not currently married or in a committed relationship, or one or both of your parents are deceased), please answer the item according to your best guess about what your thoughts and feelings would be in that situation. Be sure to answer every item and try to be as honest and accurate as possible in your responses.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all true of me</th>
<th>Very true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. People have remarked that I'm overly emotional.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2. I have difficulty expressing my feelings to people I care for.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3. I often feel inhibited around my family.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4. I tend to remain pretty calm even under stress.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5. I'm likely to smooth over or settle conflicts between two people whom I care about.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6. When someone close to me disappoints me, I withdraw from him or her for a time.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>7. No matter what happens in my life, I know that I'll never lose my sense of who I am.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>8. I tend to distance myself when people get too close to me.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>9. It has been said (or could be said) of me that I am still very attached to my parent(s).</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>10. I wish that I weren't so emotional.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>11. I usually do not change my behavior simply to please another person.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>12. My spouse or partner could not tolerate it if I were to express to him or her my true feelings about some things.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>13. Whenever there is a problem in my relationship, I'm anxious to get it settled right away.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>14. At times my feelings get the best of me and I have trouble thinking clearly.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>15. When I am having an argument with someone, I can separate my thoughts about the issue from my feelings about the person.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>
16. I'm often uncomfortable when people get too close to me.  
17. It's important for me to keep in touch with my parents regularly.  
18. At times, I feel as if I'm riding an emotional roller coaster.  
19. There's no point in getting upset about things I cannot change.  
20. I'm concerned about losing my independence in intimate relationships.  
21. I'm overly sensitive to criticism.  
22. When my spouse or partner is away for too long, I feel like I am missing a part of me.  
23. I'm fairly self-accepting.  
24. I often feel that my spouse or partner wants too much from me.  
25. I try to live up to my parents' expectations.  
26. If I have had an argument with my spouse or partner, I tend to think about it all day.  
27. I am able to say no to others even when I feel pressured by them.  
28. When one of my relationships becomes very intense, I feel the urge to run away from it.  
29. Arguments with my parent(s) or sibling(s) can still make me feel awful.  
30. If someone is upset with me, I can't seem to let it go easily.  
31. I'm less concerned that others approve of me.  
32. I would never consider turning to any of my family members for emotional support.  
33. I find myself thinking a lot about my relationship with my spouse or partner.  
34. I'm very sensitive to being hurt by others.  
35. My self-esteem really depends on how others think of me.  
36. When I'm with my spouse or partner, I often feel smothered.  
37. I worry about people close to me getting sick, hurt, or upset.  
38. I often wonder about the kind of impression I create.
39. When things go wrong, talking about them usually makes it worse.

40. I feel things more intensely than others do.

41. I usually do what I believe is right regardless of what others say.

42. Our relationship might be better if my spouse or partner would give me the space I need.

43. I tend to feel pretty stable under stress.
APPENDIX H

CAREER DECISION-MAKING DIFFICULTIES QUESTIONNAIRE
Circle 1 if the statement does not describe you and 9 if it describes you well. Of course, you may also circle any of the intermediate levels.

Please do not skip any question.

**For each statement, please circle the number which best describes you.**

1. I know that I have to choose a career, but I don’t have the motivation to make the decision now ("I don’t feel like it").

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

2. Work is not the most important thing in one’s life and therefore the issue of choosing a career doesn’t worry me much.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

3. I believe that I do not have to choose a career now because time will lead me to the "right" career choice.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

4. It is usually difficult for me to make decisions.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

5. I usually feel that I need confirmation and support for my decisions from a professional person or somebody else I trust.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

6. I am usually afraid of failure.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

7. I like to do things my own way.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

8. I expect that entering the career I choose will also solve my personal problems.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

9. I believe there is only one career that suits me.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well
10. I expect that through the career I choose I will fulfill all my aspirations.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

11. I believe that a career choice is a one-time choice and a life-long commitment.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

12. I **always** do what I am told to do, even if it goes against my own will.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

13. I find it difficult to make a career decision because I do not know what steps I have to take.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

14. I find it difficult to make a career decision because I do not know what factors to take into consideration.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

15. I find it difficult to make a career decision because I don't know how to combine the information I have about myself with the information I have about the different careers.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

16. I find it difficult to make a career decision because I still do not know which occupations interest me.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

17. I find it difficult to make a career decision because I am not sure about my career preferences yet (for example, what kind of a relationship I want with people, which working environment I prefer).
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

18. I find it difficult to make a career decision because I do not have enough information about my competencies (for example, numerical ability, verbal skills) and/or about my personality traits (for example, persistence, initiative, patience).
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

19. I find it difficult to make a career decision because I do not know what my abilities and/or personality traits will be like in the future.
Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well
20. I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

21. I find it difficult to make a career decision because I do not have enough information about the characteristics of the occupations and/or training programs that interest me (for example, the market demand, typical income, possibilities of advancement, or a training program's perquisites).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

22. I find it difficult to make a career decision because I don't know what careers will look like in the future.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

23. I find it difficult to make a career decision because I do not know how to obtain additional information about myself (for example, about my abilities or my personality traits).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

24. I find it difficult to make a career decision because I do not know how to obtain accurate and updated information about the existing occupations and training programs, or about their characteristics.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

25. I find it difficult to make a career decision because I constantly change my career preferences (for example, sometimes I want to be self-employed and sometimes I want to be an employee).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

26. I find it difficult to make a career decision because I have contradictory data about my abilities and/or personality traits (for example, I believe I am patient with other people but others say I am impatient).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

27. I find it difficult to make a career decision because I have contradictory data about the existence or the characteristics of a particular occupation or training program.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

28. I find it difficult to make a career decision because I'm equally attracted by a number of careers and it is difficult for me to choose among them.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well
29. I find it difficult to make a career decision because I do not like any of the occupation or training programs to which I can be admitted.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

30. I find it difficult to make a career decision because the occupation I am interested in involves a certain characteristic that bothers me (for example, I am interested in medicine, but I do not want to study for so many years).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

31. I find it difficult to make a career decision because my preferences cannot be combined in one career, and I do not want to give any of them up (e.g., I'd like to work as a free-lancer, but I also wish to have a steady income).

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

32. I find it difficult to make a career decision because my skills and abilities do not match those required by the occupation I am interested in.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

33. I find it difficult to make a career decision because people who are important to me (such as parents or friends) do not agree with the career options I am considering and/or the career characteristics I desire.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

34. I find it difficult to make a career decision because there are contradictions between the recommendations made by different people who are important to me about the career that suits me or about what career characteristics should guide my decisions.

Does not describe me 1 2 3 4 5 6 7 8 9 Describes me well

Finally, how would you rate the degree of your difficulty in making a career decision?

Low 1 2 3 4 5 6 7 8 9 High