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An investigation of the relationships among the family of origin, need for achievement, and career development

David G. Arcement

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**AN INVESTIGATION OF THE RELATIONSHIPS AMONG
THE FAMILY OF ORIGIN, NEED FOR ACHIEVEMENT,
AND CAREER DEVELOPMENT**

by

David G. Arcement, B.A., M.A.

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

COLLEGE OF EDUCATION
LOUISIANA TECH UNIVERSITY

August 2013

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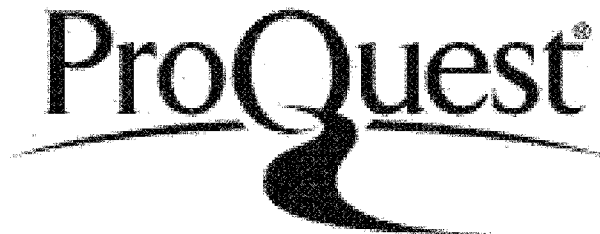


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LOUISIANA TECH UNIVERSITY

THE GRADUATE SCHOOL

June 29, 2013

Date

We hereby recommend that the dissertation prepared under our supervision
by David G. Arcement

entitled An Investigation of the Relationships Among the Family of Origin,
Need for Achievement, and Career Development

be accepted in partial fulfillment of the requirements for the Degree of
Doctor of Philosophy

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ABSTRACT

The study was designed to examine, from a family system theory and a contextual approach, the impact of family environment on career thoughts, career indecision, and vocational identity. It further expanded career development research to include the need for achievement by examining the relationship between need for achievement and career-related variables. A sample of 211 undergraduate college students was administered the Family Environment Scale, Career Decision Scale, Career Thoughts Inventory, My Vocational Situation, and Personal Values Questionnaire. The results revealed a limited relationship between the family of origin and career development outcome measures. Specifically, independence and expressiveness in the family of origin environment were positively related to vocational identity. Independence was also negatively related to career indecision. Thus, some aspects of the family environment were shown to be important in career development.

Career thoughts were shown to be important factors that influence an individual's career decision-making process and overall vocational development. Dysfunctional career thoughts (commitment anxiety, decision-making confusion, and external conflict) mediated some relationships among family environment variables, career indecision, and vocational identity. Need for achievement was not found to be related to career indecision or vocational identity. Though additional research is suggested, the need for achievement was not shown to be a salient factor in career

development. Overall, the results of the study suggested that there are different mechanisms interacting between individual (e.g., dysfunctional career thoughts) and contextual factors (e.g., family expressiveness) that influence career decision making and the development of vocational identity

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Date 06/25/2013

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CHAPTER ONE

INTRODUCTION

Families are often thought to have a significant influence on the career development process (Penick & Jepsen, 1992). For many years, a series of related studies has investigated the relationship between family of origin and the career decision-making process of young adults (Brachter, 1982; Eigen, Hartman, & Hartman, 1987; Kinnier, Brigman, & Noble, 1990; Lopez & Andrews, 1987; Penick & Jepsen, 1992, 1992; Zingaro, 1983). A family systems perspective of career decision making emphasizes the importance of family members' interactional patterns and emotional interdependencies in understanding young adults' career decision making problems (Lopez & Andrews, 1987). In a comprehensive review of literature, Whiston and Keller (2004) found that adolescent career development was influenced by two interdependent family contextual factors: (a) family structural variables (e.g., parents' education and occupation, socioeconomic status), and (b) family process variables (e.g., family relationships, parental aspirations, family support and advocacy).

Family structure is a broad concept that includes several demographic variables, including parents' education, occupation, and socioeconomic status (SES; Whiston & Keller, 2004). Family structural variables may play a role in influencing career development. Family SES seems to be an especially strong predictor of later access to career opportunities and options (Blustein et al., 2002). People from higher status

backgrounds often aspire to higher status or more prestigious occupations (Fouad & Brown, 2000; Jacobs, Karen, & McClelland, 1991) and have higher occupational expectations (Rojewski & Kim, 2003). One possible explanation for this effect of SES on career development, beyond lower levels of parent education and occupational attainment, is differential access to resources. Blustein et al. (2002) reported that parents of higher SES families are more likely to provide both instrumental (e.g., job leads, career information) and emotional support, whereas young adults from lower SES families experience a greater number of relational disruptions and less structured involvement from parents in the career development process.

Family process variables appear to have a more powerful influence on career development than family structural variables (Whiston & Keller, 2004). Young and Friesen (1992) described the family role in career exploration and planning, and concluded that psychological variables such as emotional support and expectations may influence adolescent career development to a greater degree than family demographic or structure variables. These complex patterns of family interactions, including parenting style and parental attitudes, also influence adolescent vocational identity development and career decision making (Lopez, 1989; Penick & Jepsen, 1992).

Career development can be defined in a number of different ways, including choice of college major and career, career self-efficacy, career indecision, and vocational identity. The current study employed the variables of career indecision and vocational identity as two important aspects of career development. Indecision may be viewed as a developmental phase through which individuals pass on their way to reaching a decision. Thus, career indecision is considered a temporary state which comes and goes over time

as a decision is made, is implemented, grows obsolete, and eventually leads to the need to make a new decision (Osipow, 1999). It has been speculated that over the life span, the time period over which the cycle occurs gradually widens, so that the frequency of the need to make a career decision occurs less often (McInnes & Chen, 2011). Chronic indecision or indecisiveness is a different process. Whereas indecision is a normal state of human development, chronic indecision or indecisiveness is a personal trait which generalizes across situations demanding decisions (Osipow, 1999). It has been suggested that a number of variables influence career indecision. Career indecision has been associated with anxiety (Fuqua, Newman, & Seaworth, 1988), submissiveness, passivity, excessive need for approval, self-criticism (Cooper, Fuqua, & Hartman, 1984), identity confusion (Holland & Holland, 1977), perfectionism, self-consciousness, and fear of commitment (Leong & Chervinko, 1996).

Career development goes well beyond making a choice or a series of choices. One of the central tasks of human development is the formation of identity (Erikson, 1963), which includes the struggle to solidify a self-image, gain a better understanding of one's emotions, beliefs, and values, and seek a sense of meaning or purpose in one's life while looking to the future and constructing an adult identity (Gushue, Clarke, Pantzer, & Scanlan, 2006). Erikson (1968) indicated that the inability to settle on an occupational identity disturbs young people more than any other area. Possessing a secure vocational identity, or a "clear and stable picture of one's goals, interests, personality, and talents" (Holland, Daiger, & Power, 1980, p. 1), contributes to appropriate vocational decision-making and confidence in one's ability to make career-related decisions. It has been suggested that a number of variables are related to vocational identity. Vocational

identity has been associated with occupational commitment, life satisfaction, well-being and adjustment, and career decision-making self-efficacy readiness (Nauta, 2010).

The study of how and why people make career choices is essentially the study of human motivation, which is the process by which activities are started, directed, and continued so that physical or psychological needs or wants are met (Petri, 1996). The word itself comes from the Latin word *movere*, which means “to move” (Reber, 2009, p. 472). Motivation is what moves people to do the things they do (McAdams, 2006). What moves people through their own career development and through the career decision-making process? What moves people to choose a college major and a career? The psychoanalytic view suggests that basic drives for sexuality and aggression are the well-springs of human behavior. The humanistic view contends that all people strive to become self-determining and self-actualizing organisms. Yet another view of motivation, sometimes called a diversity view, argues that human beings are motivated by many different needs (McAdams, 2006). Henry Murray proposed a theory of needs (1938), defining a need in this way:

A need is a construct (a convenient fiction or hypothetical concept) that stands for a force (the physical-chemical nature of which is unknown) in the brain region, a force that organizes perception, apperception, intellection, conation, and action in such a way as to transform in a certain direction an existing, unsatisfying situation (1938, pp.123-124).

According to Murray’s broad definition, nearly any psychologically based desire that comes from a drive to quench an unsatisfied goal could be considered a need. Murray proposed 20 basic psychogenic needs, including achievement, affiliation, dominance,

play, order, and so on (Murray). David McClelland proposed a theory of motivation highlighting three of these psychological needs: achievement, affiliation, and power (1953).

Achievement motivation, or need for achievement (nAch), was explored in this study as it relates to the family of origin, dysfunctional career thoughts, career indecision, and vocational identity. It has been found that people high in achievement motivation tend to prefer, and show high performance in, tasks of moderate challenge that provide immediate feedback concerning success and failure (Atkinson, 1957; Raynor & Smith, 1966); they tend to be persistent and highly efficient in many kinds of performance (Feather, 1961); they tend to exhibit high self-control and delay gratification (Mischel, 1961; Mischel & Gilligan, 1964); they thrive on personal challenge (Atkinson & Raynor, 1978); and they tend to shown upward occupational mobility (Crockett, 1962). These findings raise the question of whether those high in achievement motivation are better equipped to face the challenges associated with career decision making and career development, but additional empirical support is needed to answer such a question. Much of the research investigating the convergence of achievement motivation and career development has focused on the relationship between achievement motivation and occupational choice. For example, Collins, Hanges, and Locke (2004) found that achievement motivation was significantly correlated with the choice of an entrepreneurial career. Other studies indicate that those who pursue careers that involve high degrees of performance and competition, such as with music and athletics, tend to have high need for achievement (Schmidt & Zdzinski, 2006; Halvari & Thomassen, 2007). This study

took a distinctive approach as it expanded the achievement motivation literature beyond the realm of simple occupational choice and into other areas of career development.

The purpose of this study was to examine the relationships among family of origin environment, career thoughts, career indecision, vocational identity, and need for achievement. This study further explored the mediating role of dysfunctional career thoughts and the need for achievement in the relationships among the family of origin environment, career indecision, and vocational identity.

Statement of the Problem

The world of work has undergone dramatic changes in the 20th and the 21st centuries, including, but not limited to, significant technological innovation, economic globalization, and a shift from the production of goods to the delivery of services (Karoly, 2009). There has been increased specialization of work, and there are now more occupational options than ever before. In fact, the U.S. Department of Labor's online database known as the Occupational Information Network (O*NET) describes over 1,100 occupations (Mariani, 1999). Before it was replaced with O*NET, the Dictionary of Occupational Titles included over 20,000 occupational titles (Zunker, 2011). These changes in the world of work seem to complicate the process of career decision making.

This study was concerned with the two career-related tasks of deciding on a career path and developing vocational identity. Many career theorists and counselors once focused on the problem of career decision making of students, but they now consider career indecision and career developmental tasks as issues that occur throughout the lifespan. As there are changes in the U.S. and global economies, there appears to be an increased frequency of events, such as job layoffs, that require people to revise their

career decisions over their life span. Instead of facing the need to make a career decision only during late adolescence and early adulthood, revised career plans are needed at a variety of life transitions. Each of these transitions poses the potential for career indecision to occur. The awareness of this lifelong need further increases the need to develop ways to understand, measure, and intervene in career decision problems.

Not only has the world of work undergone changes, but the nature and structure of families have changed over time. These changes likely have economic and occupational ramifications. For example, by the end of the 20th century, almost one-third of family households with children were maintained by a single parent, of which nine out of ten were women (Berry, 1999). The results of this shift may include a family having one income as opposed to having two incomes. An employed single parent may have less time to spend with their children. Single parent households often mean the diminished influence of one of the parents on the children. Another change that has occurred is that, among many families, people have become more geographically separated from their extended family, which may reduce their influence on multiple aspects of life. Could it be that these changes within families have influenced individual career development and choice? Career counselors are often acutely aware that family interactions have an important influence on client's career development, but more detailed information concerning the relationship between family interaction and career development could be beneficial in counseling clients.

Career theorists and researchers have explored the obstacles that people face in making career-related decisions and that obstruct them in finding and expressing personal meaning in life. These obstacles exist both outside and within the individual decision

maker. One set of such obstacles is how one thinks about career decision making. Dysfunctional career thinking has been characterized as misconceptions (Thompson, 1976), self-defeating assumptions (Dryden, 1979), myths (Dorn & Welch, 1985), private rules (Krumboltz, 1983), self-defeating statements (Strawser & Figler, 1986), dysfunctional cognitions (Corbishly & Yost, 1989), and dysfunctional career beliefs (Krumboltz, 1990). While research suggests that negative career thoughts can seriously impede college students' career decision making and problem solving (Sampson, Reardon, Peterson, & Lenz, 2004), the literature connecting dysfunctional career thoughts, career decidedness, and career identity with family factors is limited and is in need of further exploration. Finding relationships among these variables may provide important information about a client's willingness and ability to participate in the career decision-making process, to consider career alternatives, and to participate in individual counseling services.

The intersection of achievement motivation and career development remains a somewhat untested area of research. As such, there is a duty among researchers to examine whether these constructs belong in the same conversation. Logically, those high goals, interests, personality, and talents" (Holland, 1982, p. 5). This study explored whether the need for achievement is related to career indecision and vocational identity. In addition, an aim of the current research was to add to a body of literature concerning the antecedents (e.g., family environment) of need for achievement.

Justification

There is significant cost to career planning and preparation. According to the College Board (Baum & Ma, 2010), published in-state tuition and fees at public four-year

institutions averaged \$7,605 in 2010-11, and average total charges, including tuition, fees, and room and board, were \$16,140. With such high costs associated with college, indecisiveness can drain college savings accounts as students restart course sequences or transfer schools, losing credits in the process. Ultimately they risk extending their college days beyond the four years parents planned to finance and/or scholarships allow. According to a longitudinal study conducted by the National Center for Education Statistics (Radford, Berkner, Wheelless, & Shepherd, 2010), 58 percent of 2003–04 beginning students who first enrolled in a 4-year institution had received a bachelor's degree, five percent had received an associate's degree, and two percent had received a certificate within six years from any institution. An additional 12 percent had not yet received a degree but were currently enrolled somewhere and 24 percent had not received a degree and were not enrolled at any institution. This study created an opportunity to inform counselors, school administrators, and educators as they develop interventions to improve retention and graduation rates.

Even more important than the financial and temporal cost of career planning and preparation are long-term career and life satisfaction. Raines and Day-Lower (1986) pointed out that work is more than a means of making a living or acquiring wealth. They stated, "In work and through work we humans express our human essence. And over time we transform and evolve that essence—biologically, technologically, and also religiously. We begin to see, therefore, just what it means to speak of work. Work is not first of all what we do to 'make' a living. Work is human living, human being, and human becoming" (pp. 15-16). As we better understand career development, we become better equipped to help people find a path with meaning and purpose.

A practical goal of this study was to disseminate results among career counselors and others who are influential in the career development process so that interventions are developed and implemented with those who are at risk for experiencing chronic career indecision and low vocational identity. When a career counselor is working with a client who is having difficulty making a career decision, inquiry concerning family-of-origin issues may help clarify the situation. For example, it was suggested by Lopez and Andrews (1987) that the client's indecision may be partly due to the over involvement of parents (fusion) or to conflicting information or pressure received from each parent (triangulation). Brachter (1982) recommended that counselors obtain a detailed family history that focuses on family values and the extent to which the client feels constrained by them. Zingaro (1983) proposed a three-step process designed to guide individuals toward higher levels of differentiation. They involve "teaching the characteristics of family systems, helping the client understand his or her part in the total system, and teaching the client how to observe patterns of his or her own emotional reactions in the parental system" (p. 26). It was a hope that the current study would yield additional suggestions for career counselors.

This research also has implications for parenting and child-rearing. For example, while enmeshment may impede successful career decision making, emotional closeness may facilitate it. In addressing this issue, Wechter (1983) advised parents to encourage autonomy in their children's decision making. Perhaps rather than directing, prescribing to, or pressuring their children, parents should be supportive of their children's independent career exploration and decision making.

Literature Review

Based on the research questions of the current study, a selective literature review of theory and research surrounding the relationships between the family of origin, career development, and need for achievement follows. It includes a review of the literature on the role of family in career theories, specifically the theories of Roe, Super, and Krumboltz. The career development variables of interest (dysfunctional career thoughts, vocational identity, and career indecision) were defined, and the relevant research was discussed. The literature review also explored two family theories of functioning, including Structural Family Theory and Bowenian Theory, and how they may relate to career-related factors. The research linking the family constructs of attachment, and parenting style with career decision making and development was examined. Finally, literature regarding achievement motivation and how it may relate to family environment and career decision making and development was considered.

The Role of Family in Career Theories

Roe's needs-theory approach. Early relations within the family and their subsequent effects on career direction were the main focus of Anne Roe's work (1956). She emphasized that early childhood experiences play an important role in finding satisfaction in one's chosen field. Her research led her to investigate how parental styles affect need hierarchy and the relationships of those needs to later adult lifestyles. She drew heavily on Maslow's hierarchy of needs in the development of her theory. The need structure of the individual, according to Roe, would be greatly influenced by early childhood frustrations and satisfactions. For example, individuals who desire to work in contact with people are primarily drawn in this direction because of their strong needs for

affection and belongingness. Those who choose the nonperson-type jobs would be meeting lower-level needs for safety and security. Roe hypothesized that individuals who enjoy working with people were reared by warm and accepting parents and those who avoid contact with others were reared by cold or rejecting parents.

Roe (1956) classified occupations into two major categories: person-oriented and nonperson-oriented. Examples of person-oriented occupations are (1) service (concerned with service to other people); (2) business contact (person-to-person contact, primarily in sales); (3) managerial (management in business, industry, and government); (4) general culture (teaching, ministry, and journalism); and (5) arts and entertainment (performing in creative arts). Examples of nonperson-oriented jobs are in the arenas of: (1) technology (production, maintenance, and transportation); (2) the outdoors (agriculture, forestry, mining, and so on); and (3) science (scientific theory and application).

Within each occupational classification are progressively higher levels of functioning. Roe (1956) contended that the selection of an occupational category was primarily a function of the individual's need structure and that the level of attainment within the category was more dependent on the individual's level of ability and socioeconomic background. The climate of the relationship between child and parent was the main generating force of needs, interests, and attitudes that were later reflected in vocational choice.

Within this framework, there are six different parenting styles: overprotective, over demanding, neglect, rejection, casual acceptance, and loving acceptance (Roe, 1957). These parenting styles were thought to have peculiar characteristics and influence on the vocational choice of the child later in life. Roe described two parenting styles in

which there is emotional concentration on the child, overprotecting and over demanding. An overprotective parent encourages dependence in the child and restricts curiosity and exploration. The overprotective parent tries to attend to all the needs of the child, may pamper him/her, and builds up a "fence" around him/her. An over demanding parent may request perfection from the child, asking for excellent performance and setting high standards of behavior. If the child does not meet these standards of behavior, then the parent may punish the child.

Parents demonstrate avoidance of the child through two methods: neglect and rejection (Roe, 1957). A neglected child may be ignored for a myriad of reasons, such as parents' concern with their own problems, other children, and work. An emotionally rejected child may be criticized or punished by his or her parents and not given love and affection. Roe indicated two forms of acceptance of the child: casual acceptance and loving acceptance. Accepting parents encourage independence rather than dependence and do not ignore or reject the child, creating a relatively tension-free environment. Casual acceptance refers to the low-key attitude of the parent, offering a minimum of love. Loving acceptance, on the other hand, shows a warmer attitude of the parent toward the child, while not interfering with the child's resources by fostering dependency.

Roe's theory is usually referred to as a needs-theory approach to career choice (Zaccaria, 1970; Bailey & Stadt, 1973). According to Roe, combinations of early parent-child relations, environmental experiences, and genetic features determine the development of a need structure. The individual then learns to satisfy these developed needs primarily through interactions with people or through activities that do not involve people. Thus, Roe postulated that occupational choice primarily involves choosing

occupations that are person-oriented, such as service occupations, or nonperson-oriented, such as scientific occupations. The intensity of needs is the major determinant that motivates the individual to the level hierarchy with an occupational structure (Zaccaria, 1970).

An early test of Roe's theory was Grigg's (1959) study of twenty women in nursing graduate school and another twenty doing graduate work in science. He found no significant difference in questionnaire answers regarding early family experience. Roe commented about this finding by pointing out that nurses who return to graduate school are more likely to be scientifically oriented. Hagen's study (1960) of 248 men was more extensive, involving an 18 year longitudinal study which included a complete file of vocational data in addition to retrospective attitude data. He also found no relation between occupational choice and perceived family attitudes. Brunkhan (1965) using only retrospective attitude data as correlated to probable choice, found the same negative result.

Roe (1990) realized that there were problems with the theory, specifically with the categories of family attitudes and occupations. Using a much less rigid approach, she found support for her hypothesis that the person orientation of her subjects (students and working adults) was related to childhood experience. She found that her occupational categories were inaccurate, and that the choice of, say, engineering was not the result of a desire to avoid personal contacts, as she had previously theorized. With regard to categories of family attitudes, she found support for her new hypothesis that proposed that a child from a rejecting background may seek jobs with an orientation toward

persons in the hope of filling unsatisfied needs. She also found that early social experience with peer groups was an important factor in orientation.

Six studies reported by Roe and Lunneborg (1990) support partial validity of the classification system in that approximately two-thirds of job changes by the individuals studied occurred with the same occupational classification group. Roe modified her theory after studies refuted her claim that different parent-child interactions result in different vocational choices (Green & Parker, 1965). In modifying her theory, she took the position that early orientation of an individual is related to major life decisions, particularly in occupational choices, but that other variables not accounted for in the theory are also important factors (Roe & Lunneborg, 1990). Though there is little evidence that early child-raising patterns predict later occupational entry precisely as Roe described, the notion that parent-child interactions affect career development may have merit and may be further explored (Osipow, 1999). Notwithstanding, Roe made a great contribution to career counseling in having directed considerable attention to the developmental period of early childhood.

Super's lifespan theory. In an early discussion of the dynamics of vocational development, Donald Super (1957) recognized the interplay of various factors, which may include attitudes, interests, personality, economic factors, disability, chance or uncontrolled factors, and the family in vocational development. Super (1963) later stated that possible determinants of career patterns include psychological and physical characteristics and experiences of the individual, the parental family background, one's own family situation, the country's economic conditions and so forth. The most important determinants of career development and resultant career choice, success, and satisfaction

can be represented by means of the Archway model (Super, 1990). The archway, based on the architectural design of a Roman arch or a Norman church door, consists of the following basic divisions: the base, two columns, their capitals, and an arch that links the two columns. According to this model, biographical and geographical factors form the basis of any career decision. The two columns and capitals show that career decisions are further determined by both the individual and the social context. The principle factors associated with the individual are the personality, needs, values, interests, intelligence, and general and special aptitudes in career development. As seen in the identical size and shape of the columns, social or environmental factors play an equally important role in determining careers. The family is among these social and environmental factors. According to the superimposed arch, one's specific life stage and role self-concepts codetermine career decisions, outcomes, and behaviors. The self is depicted at the center of the arch (Super, Osborne, Walsh, Brown, & Niles, 1992), and one may infer that a person is still an active agent in career decisions and outcomes. As decision-maker, the adult needs to synthesize the effects of all the determinants of his career (Super, 1994).

Super described career development as the process of developing and implementing a self-concept, which he defined as a "picture of the self in some role, situation, or position, performing some set of functions, or in some web of relationships" (Savickas, 2002, p. 62). Self-concept is formed through social, experiential, and interactive learning, plus reflective self-awareness. Super (1963) described processes such as self-differentiation, role playing, exploration, and reality testing, which lead to the development of the self-concept. Interaction with others, including family, brings about the development of an individual's self-concept.

John Crites (1962), a mentee of Super, explored how family serves as a determinant in self-concept and career development. He hypothesized that a father's masculinity, father's job satisfaction, mother's satisfaction with father's job, son's perception of father's job satisfaction, son's perception of mother's satisfaction with father's job, son's masculinity, and son's self-esteem would influence the degree of similarity between father and son vocational interests. Specifically it was predicted that high father's job satisfaction, high mother evaluation of the father's work, and high son self-esteem would produce greatest interest similarity. Crites (1962) utilized a large sample of college males to assess the relationship between parental identification and patterns of vocational interest. Results indicated that degree of identification with father, but not with mother, was related to different patterns of interests. Sons identifying strongly with fathers had business detail interests and sons with slight identification had literary interests. Though there are a number of limitations of the 1962 study, it further examined the nature of parental influence on individual career choice.

Another of Super's important contributions is his formalization of five vocational developmental stages through which people pass. One of the stages, the exploratory stage (ages 15-24), is defined as a tentative phase in which choices are narrowed by not finalized. Some research has looked at how family influences career exploration. A study by Ketterson and Blustein (1997) examined the effects of parent-adolescent attachment relationships in the career exploration process. In their study undergraduates aged 17 to 32 years completed measures of parent attachment and career exploration. The results showed that there was a positive relationship between attachment to parents and

exploration of the career environment, such that those securely attached engaged in more career exploration.

Kracke (1997) sought to examine the role of the family in promoting career exploration within the framework of attachment and individuation theory. The sample consisted of German ninth graders whose families were categorized as possessing authoritativeness, openness, individuated parent-child relationship, and support. Results indicated that, regardless of gender or parental education level, each parent behavior variable correlated positively with adolescent career exploration. This supports the notion that a family environment in which parents use an authoritative parenting style, there is an individuated parent-child relationship, and parents support career exploration tends to foster more active career exploration among adolescents.

Keller (2006) sought to test Super's assertion that individual and environmental variables interact to shape one's career development. He specifically focused on exploration stage of Super's life-span theory. Keller used Marcia's (1966) theoretical ego identity statuses (achieved, moratorium, foreclosed, and diffuse) and the Bowen family systems theory (1978) construct of differentiation of self to operationalize the individual and environmental variables respectively. It was hypothesized that differentiation of self would account for a significant amount of variance in general career exploration above and beyond ego identity status in a sample of university students. Results supported this hypothesis, indicating that differentiation of self explained a statistically significant amount of variability in career exploration after accounting for ego identity status. An achieved ego identity status and more of an ability to take an I-position in relationships were uniquely predictive of higher amounts of career exploration.

Another of Super's (1977) constructs is vocational maturity, which he defined as one's ability to handle the vocational or career developmental tasks with which one is confronted. Vocational maturity is conceptualized as an individual's ability to cope with these tasks compared with others who are at the same life stage and dealing with the same developmental tasks (Savickas, 2002). Vocational maturity indicates whether or not vocational development is appropriate for the person's age, and how far below or beyond his or her vocational development is relative to chronological age (Super, 1955).

A study by Lee and Hughey (2001) provided support for the idea that parental attachment plays an important role in some elements of career maturity of college-aged adolescents. A sample of college students between the ages of 16 and 24 completed a set of measures including the Inventory of Parent and Peer Attachment (IPPA) to assess attachment. They were also given the Career Planning and Career Exploration subscales of the Career Development Inventory (CDI) to measure the attitudinal component of career maturity. They found a significant relationship between parental attachment and career development such that individuals who were securely attached engaged in more career development behaviors, specifically exploration and planning. They concluded that "studies of parental attachment and career development seem to provide support for the notion that a secure relationship between parent and child may facilitate progress in one's career development" (Lee & Hughey, 2001, p.289).

Gallo (2009) further researched whether parental attachment is related to all aspects of vocational maturity. Parental attachment was measured by the Secure Attachment scale of the Measure of Attachment Qualities (MAQ), and the dimensions of career maturity were measured by the Career Development Inventory (CDI). These career

maturity dimensions include career planning, career exploration, decision-making skills, world of work information, and knowledge of preferred occupations. Each of the four subscales of the CDI was significantly positively correlated with the Secure Attachment scale.

Social learning and social cognitive theories. The social learning theory of career decision making proffered by John Krumboltz and his colleagues (Krumboltz, Mitchell, & Jones, 1976; Mitchell, Jones, & Krumboltz, 1979) was the first adaptation of Bandura's (1977) social learning theory to the career field. Bandura's social learning theory expanded the domain of learning to encompass observational learning and cognitive processes, paying close attention to the complex and recursive ways in which person variables, environmental variables, and behavior itself influence one another. Social learning theory of career decision making extends Bandura's theory into career development research by suggesting that individuals learn about themselves, their preferences, and the world of work through both direct and indirect experiences.

According to the social learning approach, there are four categories of factors which influence an individual's career decision-making process: genetic endowment and special abilities, environmental conditions and events, learning experiences and task approach skills (Krumboltz, 1994; Mitchell & Krumboltz, 1996). The first category, an individual's genetic endowment and special abilities, includes gender, ethnicity, appearance, ability or disability, and other qualities. Krumboltz (1994) made it clear that certain talents, such as musical ability and muscular coordination, may only be developed if the exposure to environmental events is favorable. For example, a young girl with musical ability raised in a low income family may not be able to develop her ability

because of the prohibitive costs of the musical instrument and related instruction. The second factor of influence raised in the theory is environmental conditions and events. Krumboltz (1979) listed twelve such conditions and events, which may be planned or unplanned and may be attributable to human action or nature. These environmental conditions and events include family based experiences.

Learning experiences are the third category of influence. Each person is posited to have a unique pattern of learning experiences which result in a career (and life) path. Krumboltz (1979) discussed a process whereby antecedents, that is the special characteristics and genetic endowments, the environmental conditions, and the characteristics of a particular task, interact in an overt or covert way with the individual who responds and receives consequences from the environment. For example, a person learns through experience from an early age that they have a sense of humor. Finally, the fourth influence, task approach skills, results from an interaction of the first three influences. They include performance standards, work habits, perceptual and cognitive processes, mental sets, and emotional responses.

Through the interaction of these factors, according to Krumboltz (1994), individuals develop beliefs about themselves (self-observation generalization) and their environment (world-view generalization). These beliefs about oneself are central in the forming of a person's career beliefs (Krumboltz, 1994; Mitchell & Krumboltz, 1996; Szymanski & Parker, 1996). The theory is additionally significant to the development of career theory for its recognition of the importance of a wide range of influences on career choices rather than focusing on a single influence. Mitchell and Krumboltz (1990) acknowledged the importance of context in the social learning approach to career

decision making. “The social learning theory of career decision making suggests that maximum career development of all individuals requires each individual to have the opportunity to be exposed to the widest array of learning experiences...” (Mitchell & Krumboltz, 1990, pp. 167-168). Thus they acknowledge the influence on career choice of the interaction between many contextual elements, including those that are family-based.

Social cognitive career theory developed out of Bandura’s social cognitive theory, which that posits that cognitions mediate social learning (Lent, Brown & Hackett, 1994). Some basic assumptions of social cognitive theory include the idea that individuals learn by watching others, that learning is an internal process that may or may not exert an effect on behavior, that behavior is goal directed, and that behavior will become self-regulated (Lent et al., 2002). An important social cognitive construct applied in the career decision making is self-efficacy. According to Bandura’s seminal work (1977), self-efficacy is a person’s beliefs about his or her ability to perform tasks or behaviors successfully. Self-efficacy theory posits that individuals develop self-efficacious beliefs via four primary sources: performance accomplishments, physiological or emotional arousal, vicarious learning and modeling, and verbal persuasion. Individuals, as the “perceivers” of their own self-efficacy beliefs, subjectively identify and evaluate these sources of self-efficacy information (Betz, 2000).

Hackett and Betz first applied the construct of self-efficacy to the behavioral referent of career decision making, and coined the term *career decision self-efficacy*. Career decision self-efficacy is defined as an individual’s belief that he or she can effectively accomplish the tasks necessary to make career decisions (Taylor & Betz, 1983). An individual’s reported self-efficacy toward career decision making describes the

amount of confidence an individual has in his or her ability to make a career decision. Self-efficacy beliefs about career decision making have the potential to strongly influence an individual's career decision-making process. Self-efficacy beliefs about career decision making can influence an individual's dedication to career planning as well as the execution of career choices (Chung, 2002). Self-efficacy beliefs inform not only the range of occupations individuals perceive as viable career options, but influence the level of persistence and success that individuals have in their chosen career fields (Hackett & Betz, 1981). Weak self-efficacy beliefs about career decision making are linked to career indecision as well as career choice anxiety, which can impede the process of career decision making (Hackett, 1995).

Researchers have employed social cognitive career theory to explore contextual variables in relation to career decision-making self-efficacy. Hargrove, Creagh, and Burgess (2002) examined relationships among family process variables and career decision-making self-efficacy in university students. Results indicated that a number of family process factors (i.e., degree of conflict, frequency of expressed anger, aggression, conflict among family members) were negatively associated with career decision-making self-efficacy, while other factors were positively associated with career decision-making self-efficacy (i.e., level of expressiveness, achievement in school and work, and orientation toward intellectual-cultural activities). However, when examining family environment variables, Whiston (1996) found that only one variable, intellectual-cultural orientation, influenced career decision-making self-efficacy in college students. In a study conducted by Gushue and Whitson (2006) with high school students, parental support was positively related to career decision-making self-efficacy. This is consistent

with previous research in which positive relationships among career decision-making self-efficacy and a multitude of family relationship variables (i.e., attachment to mother, functional independence from mother, attitudinal independence from mother, attitudinal independence from father) were found (O'Brien, 1996).

Of course, parents are not the only members of families to influence the individual's career decision-making self-efficacy. Ali, McWhirter, and Chronister (2005) found that for low SES high school students, sibling support for educational and vocational plans highly influenced the career decision-making self-efficacy of inner-city adolescents. The authors concluded that sibling support may have a greater impact than parental support on the development of self-efficacy beliefs in low SES students. This is consistent with qualitative research conducted with college students indicating siblings can serve as a primary source of support for vocational decisions by providing career information, role modeling, and emotional support for career decision making (Schultheiss, Palma, Predragovich, & Glasscock, 2002).

Sumari, Louis, and Sin (2009) examined the relationship between family interaction patterns and career decision self-efficacy. Their sample of Malaysia college students completed the Family Environment Scale (FES) and the Career Decision Self Efficacy Scale. They found that college students who reported a higher confidence in making accurate self-appraisal, finding occupational information, selecting career goal, planning a career, and solving career-related problem perceived their families as more open to the expression of feelings and as being more cohesive. Those high in career decision self-efficacy further viewed their families as encouraging independence, emphasizing achievement in school and work, encouraging involvement in intellectual

and cultural activities, encouraging participation in social and recreational activities, emphasizing moral and religious values, and endorsing clear organization and structure in family activities.

Career Development Variables

Career thoughts. Krumboltz (1983) postulated unfounded or inappropriate private rules people use to make career decisions that cause failures in the process of making career choices. He proposed these troublesome beliefs about career choice were based on (a) faulty generalizations, (b) self-comparisons with a single standard, (c) exaggerated estimates of the emotional impact of an outcome, (d) false causal relationships, (e) ignorance of relevant facts, (f) giving undue weight to low probability events, or (g) self-deception. Later Mitchell and Krumboltz (1987) identified two categories of beliefs that caused problems in career decision making. The first category included maladaptive beliefs and generalizations grouped under four following areas: (a) faulty self-observations, (b) inaccurate world views, (c) poor decision-making self-efficacy, and (d) unrealistic conditions required for a satisfactory career choice.

The second category of beliefs Mitchell and Krumboltz (1987) discussed was composed of seven myths specifically identified for their adverse impact on career decision making. These myths and their underlying irrational ideas were first introduced by Lewis and Gilhousen (1981) as a way to aid counselors to expose and challenge maladaptive thoughts common in inappropriate career exploration. One of Mitchell and Krumboltz's myths is: "If I change, I have failed" (p. 171). Lewis and Gilhousen called this the "Quitters Never Win" myth (p. 297). The implication is that once a career choice is made, it must be followed regardless of the consequences.

Within the context of career decision making, career thoughts are conceptualized as cognitions that are on a continuum from functional to dysfunctional (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). The importance of career thoughts is highlighted in the cognitive information processing approach to career counseling (CIP; Peterson, Sampson, Reardon, & Lenz, 1996), which draws from Beck's cognitive therapy (Beck, 1976; Beck, Emery, & Greenberg, 1985). According to the theory, dysfunctional career thoughts interfere with rational thinking and career-related activities such as seeking out information about careers, making a decision about a given career, and making a commitment to a career choice. The primary hypothesis of CIP theory is that dysfunctional career thinking interferes with and impedes the ability to make a career choice. This hypothesis has been supported in the literature (Saunders, 1998; Saunders, Peterson, Sampson, & Reardon, 2000; Osborn, 1999). One study found that 71% of the variance in career indecision could be accounted for by dysfunctional career thoughts after partialing out the variance accounted for by secondary variables (Saunders, 1998). Individuals can have difficulty initiating or maintaining the career decision-making process because of emotional barriers or difficulty in understanding how to make a decision. They can also have difficulty committing to a career choice because of the anxiety associated with potential outcomes. They can have problems effectively assimilating the ideas and opinions of others with regard to their career decision. These three dysfunctional career thoughts were termed decision-making confusion, commitment anxiety, and external conflict, respectively (Sampson et al., 1996).

Dysfunctional career thoughts have been associated with a variety of problematic cognitive, affective, and behavioral consequences. For example, one study has found that

perfectionism is associated with dysfunctional career thinking (Osborn, 1999). Other research has provided evidence that dysfunctional career thoughts are related to diminished feelings of self-worth and subjective well-being (Judge & Locke, 1993), depression (Saunders et al., 2000), and anxiety (Newman, Fuqua, & Seaworth, 1989). Reed (2005) examined the relationship between neuroticism and dysfunctional career thoughts. A sample of undergraduate students was administered the NEO Five Factor Inventory to measure Neuroticism and the Career Thoughts Inventory (CTI; Sampson et al., 1996) to measure dysfunctional career thoughts. Results indicated significant positive correlations between neuroticism and dysfunction career thoughts.

Dysfunctional career thoughts have been investigated in populations for whom dysfunctional career thinking would be expected. These populations include criminals, substance abusers, learning disabled students, and college students who are undecided in their college major. Among criminal, differences were found among probationers, first-time offenders, and repeat offenders in their degree of dysfunctional career thoughts. That is, higher degrees of criminality were associated with greater dysfunctional career thoughts (Railey, 1997). Substance abusing adults were found to have dysfunctional career thinking most similar to high school students (Slatten, 1999). Learning disabled college students were found to score higher on one subscale of the CTI, External Conflict, indicating that learning disabled students are more likely than non-learning disabled students to have difficulty balancing their own perceptions and those of significant others in the career decision-making process (Dipeolu, 1998). Students who were undecided in their college major were found to possess greater dysfunctional career thoughts than decisive students (Kilk, 1998). Dysfunctional career thoughts were found

to influence a student's ability to decide on a major field of study. Each of these groups (i.e., criminals, substance abusers, learning disabled students, and undecided college majors) demonstrated dysfunctional career thoughts. These findings support the notion that dysfunctional career thoughts impede the ability to choose a career and commit to a career choice.

Dodge (2001) examined the hypothesis that personal authority in the family and its seven variables (i.e., intergenerational intimacy, intergenerational individuation, personal authority, intergenerational intimidation, intergenerational triangulation, peer intimacy, and peer individuation) are negatively related to career dysfunctional thinking and its three subscales. He used the Personal Authority in the Family System Questionnaire (PAFS-Q) to measure personal authority and the CTI to measure dysfunctional career thoughts. In addition, he used the Family Environment Scale's (FES) three subscales of Cohesion, Expressiveness, and Conflict to measure the impact of family environment with career thoughts. Dodge found that there is a reliable relationship between scores on the CTI subscale of External Conflict and scores on the PAFS-Q subscale of Intergenerational Individuation. External Conflict, Decision-Making Confusion, and Commitment Anxiety scores were found to relate to Intergenerational Individuation, Intergenerational Intimidation, Intergenerational Triangulation, and Peer Individuation scores. Dodge interpreted his findings to mean "the developmental task of individuation from peers and parents is associated with less impairment in career decision making" (p. 81). Dodge also found that "dysfunctional career thoughts associated with openly expressed anger and conflict among family members" (p.86).

Smith (2011) investigated the influences of family dynamics, family system maintenance forces, and role models on the dysfunctional career thoughts of Black young adult college students. The instruments included The Career Thoughts Inventory and The Family Environment Scale. Family dynamics, family maintenance forces, and the presence of a role model were found to be associated with dysfunctional career thoughts. Conflict in the family of origin was also associated with greater levels of dysfunctional career thoughts. This provides further support for the extension of family systems theory into the career development literature.

Vocational identity. One of the central tasks of adolescence and young adulthood is the formation of identity (Erikson, 1963), which is accompanied by the struggle to solidify a self-image, gain a better understanding of one's emotions, beliefs, and values, and seek a sense of meaning or purpose in one's life while looking to the future and constructing an adult identity (Gushue et al., 2006). An integral component of this process of identity formation is the establishment of vocational identity, including a clearer and more stable sense of one's interests, abilities, and talents, as well as the ability to establish goals and make career-related decision (Holland, Daiger, & Power, 1980). Super, Savickas, and Super (1996) observed that the establishment of a vocational identity, the assessment and knowledge of a person's objective vocational traits, serves as the basis for making occupational choices that are a good fit and consequently ensuring optimal adjustment.

Erik Erikson's (1956, 1963, 1968) theory of human development is broad with several implications for career development. It has been suggested that his life-stage approach influenced more career theorists than any other single developmental theory

(Sharf, 2005). His identity stage is the fifth of eight stages and serves as a bridge between the four stages occurring in childhood and the three stages that arise in adulthood. According to Erikson (1968) a coherent ego identity refers to “a self-sameness and continuity...[in] the style of one’s individuality” (p. 50). Adolescents between the ages of 13 and 19 are increasingly aware of their self-identities. During late adolescence (approximately 17-19 years of age) an individual pursues the formation of a coherent ego, which indicates a set of values, belief systems, goals, and attitudes that provides individuals with a sense of coherence and continuity in their adult lives (Blustein & Noumair, 1996; Erikson, 1968). The ability to resolve the identity versus identity diffusion stage results in a stable ego identity. An inability to resolve this identity conflict results in an inability to perform many of the necessary developmental tasks that are required by individuals in this stage of development, one of which is the career development process. In fact, Erikson observed that the attainment of identity in the area of career development as being one of the most difficult obstacles and that “in general, it is the inability to settle on an occupational identity which most disturbs young people” (Erikson, 1968, p. 132).

Several theorists such as Grotevant (1987), Waterman (1988), Marcia (1988), and Blustein (1989) have expanded upon the idea of the identity formation process by providing further insights and expansion of the concept. James Marcia (1966) operationalized Erikson’s identity versus identity diffusion psychosocial developmental task by measuring how adolescents form an inner sense of identity. Those who are classified as being more identity diffused tend to have a more poorly organized sense of self, resulting in individuals who are much more present-oriented rather than future-

oriented (Marcia, 1993). These individuals also tend to avoid dealing with personal problems, conflicts, and decisions (Berzonsky, 1992,1993).

According to Marcia (1966), the identity versus identity diffusion task is resolved in four distinct ways: diffusion, foreclosure, moratorium, and achievement. These four resolutions also represent different ego identity statuses. Furthermore, these four statuses are classified according to how an individual explores (sorting through a variety of potential identity choices) and commits (deciding on one or more sets of interpersonal beliefs, goals, and values). In identity diffusion, the individual has neither explored nor made a commitment to a set of interpersonal beliefs and values (low exploration, low commitment). Individuals who are in the foreclosure stage tend to make a commitment based on external influences, with little or no exploration of alternatives (low exploration, high commitment). Moratorium describes individuals who are currently exploring but have yet to make any firm commitment to a set of beliefs and values (high exploration, low commitment). Finally, Identity Achieved indicates those who have been through Moratorium and have formed stable commitments based on their new sense of identity (high exploration, high commitment).

Marcia's formulation of the four ego identity statuses has been considered parsimonious and to possess adequate construct validity (Waterman, 1988). Studies have shown that the variations in Marcia's ego identity statuses are associated in expected ways with several other constructs, including parental relationship factors (Guerra & Braungart-Rieker, 1999; Lucas, 1997; Marcia, 1980), attachment to caregivers (Blustein, Devenis, & Kidney, 1989; Lucas, 1997), and anxiety and depression for the moratorium identity status (Kidwell, Dunham, Bacho, Pastorino, & Portes, 1995), among other

constructs. Marcia's model has been applied to adolescent career development in previous studies (e.g., Skorikov & Vondracek, 1998).

The most consistent research on vocational identity has been done by Fred Vondracek and his colleagues. As individuals advance in their vocational identity development they tend to have positive attitudes and an openness to a variety of occupations. They are also more willing to explore occupations and feel more confident about being successful in their work (Vondracek & Skorikov, 1997). In studying occupational exploration of 13- to 19-year-olds, Schmitt-Rodermund and Vondracek (1999) found that those in the identity diffusion status explored activities in leisure, school, technology, and music areas the least and those in the achievement phase explore them the most. They also found that doing activities with parents predicted more exploratory behavior. Skorikov and Vondracek (1998) asserted that vocational identity tends to precede the development of identity in the other domains, setting a tone for how the other aspects of identity will develop. They suggest that vocational development in early adolescence is particularly important as it influences other areas of development.

Lubenko and Sebre (2007) studied the associations between aspects of family environment, attachment to parents, and adolescent identity achievement status among their sample of Latvian students ages 17 through 19. The participants completed the Extended Version of the Objective Measure of Ego Identity Status (EOMEIS-2), the Inventory of Parent and Peer Attachment (IPPA) and the Family Environment Scale (FES). Achieved identity status ratings were associated with various aspects of family environment and relationships with parents. The achieved identity status of adolescent females was predicted by family cohesion, less family conflict, and family achievement

orientation. The achieved identity status of adolescent males was predicted by family achievement orientation, family intellectual-cultural orientation, and family control.

John Holland incorporates the notion of identity achievement in his theory of career choice and career adjustment. For Holland, identity refers to the clarity and stability of a person's current and future goals. Identity is different from any of the other concepts relevant to Holland's system because it does not directly relate to his typology. On a theoretical level, Vondracek (1991, 1992) has criticized Holland's definition of identity as being oversimplified and less complex than identity as described by Erikson and Marcia. However, what is overly simplistic to some represents parsimony to others. The clarity and simplicity of Holland's view of identity aides the researcher's empirical endeavors and the theorist's rational quests. Savickas (1985) demonstrated a relationship between Holland's vocational identity and each of the four ego identity statuses by assessing both the Medical Career Development Inventory and the Vocational Identity Scale on freshmen and sophomore college students with the same career aspirations. The relationship between vocational identity and the ego identity statuses existed on both the degree of career development and the progression toward ego identity achievement.

Possessing a secure vocational identity contributes to appropriate career decision-making and confidence in one's ability to make career-related decisions. Failure to form a stable vocational identity often results in career indecision (Holland et al., 1980). Conneran and Hartman (2001) found that chronically career-undecided high school students showed lower levels of vocational identity than those students who were not chronically undecided. Ladany, Melincoff, Constantine, and Love (1997) showed that students' level of commitment to their career choices was related to their vocational

identity, their need for occupational information, and the barriers that they felt hindered them in pursuing career goals. Hirschi and Lage (2007) revealed that vocational identity is strongly related to measures of career-choice readiness attitudes. Especially noteworthy was the correlation they found between vocational identity and career decidedness (.76).

Penick and Jepsen (1992) used family systems theory to investigate how family functioning was related to adolescents' vocational identities. Vocational identity was assessed using the Vocational Identity Scale (VIS). Family functioning was defined as "judgment of the usefulness of the structural or behavioral patterns of the family in achieving objectives" (p. 209) and was examined in terms of relationship dimensions (i.e., cohesion, expressiveness, conflict, sociability, idealization, and disengagement) using the Family Environment Scale (FES). The measures were given to a sample consisting of high school students and their parents. Results showed that family members' perceptions of family functioning explained more variance in vocational identity than achievement, gender, and SES. Relationship dimensions were predictors of adolescents' certainty that their career choices were most fitting. The findings specifically suggested that families that are high in expressiveness, low in conflict, and have high levels of cohesion have adolescents that are more certain about their abilities to choose careers that are in line with their vocational identities.

Hargrove et al. (2002) also studied the association of family functioning with vocational identity and career decision-making self-efficacy in a sample of undergraduate students from a private university. Again, the FES was used to assess family functioning, and the VIS was used to assess vocational identity. The Career Decision Self-Efficacy Scale (CDSE) was used to assess career decision self-efficacy. Results indicated that

having higher confidence in selecting career goals, gathering occupational information, making career plans, solving career-related problems, and making accurate self-appraisals were correlated with perceiving the family of origin as more involved (i.e., cohesion) and more open to expression of positive and negative feelings (i.e., expressiveness). System maintenance dimensions (independence orientation and control) were not related to the vocational outcomes.

Johnson, Buboltz, and Nichols (1999) also found results that support family systems theory and the role of the relationship dimension in emerging adult career decision making in a sample of undergraduate students. The FES was used to assess family functioning, and the VIS was used to assess vocational identity. Results showed that cohesion, conflict, and expressiveness were related to vocational identity. Multiple regression analyses revealed that expressiveness was the best predictor of vocational identity in participants.

Horne (2010) tested a model that considered factors impacting hope in freelance production crew for film and television, particularly the relationship between career anchors, negative career thoughts, vocational identity, and hope. Participants completed the Career Orientations Inventory, The Career Thoughts Inventory, The Vocational Identity (VI) Scale from My Vocational Situation, and The Hope Scale. Among the results was a strong and significant relationship among negative career thoughts and vocational identity.

Career indecision. Career decision was originally described as a status that is differentiated by either certainty or indecision regarding one's career choice (Osipow, Carney, & Barak, 1976), and researchers theorized primarily on the differences between

the undecided and the decided individual (e.g., Osipow, 1983; Sepich, 1987). However, career indecision has been conceptualized not as a dichotomous variable, but as one with multiple dimensions (e.g., Holland & Holland, 1977; Larson, Heppner, Ham, & Dugan, 1988) that includes various interrelated components, including lacking career-related information, needing more career-related information, trait indecision (chronic and pervasive difficulty in making decisions), identity diffusion (struggle to crystallize a consistent self of self), and choice anxiety (difficulty in processing and acting on career-related information; Kelly & Lee, 2002). Specifically, in terms of career indecision, research delineates between developmental indecision, which stems from a lack of information about the self and career, and chronic indecisiveness, which is a personality disposition (Chartrand & Nutter, 1996; Dysinger, 1950; Salamone, 1982; Santos & Coimbra, 2000). In other words, not all individuals experience the same kind of career indecision. Some need information about themselves and the world of work (developmental indecision), whereas others are simply too anxious to make decisions about their career choices (chronic indecisiveness; Guay, Ratelle, Senécal, Larose, & Deschênes, 2006). Although career undecidedness is a developmental stage in an individual's career development, career indecision is a more complex problem (Slaney, 1988) that is associated with intra-individual constructs such as anxiety (e.g., Fuqua et al., 1988), submissiveness, passivity, excessive need for approval, self-criticism (e.g., Cooper et al., 1984), identity confusion (e.g., Holland & Holland, 1977), perfectionism, self-consciousness, and fear of commitment (e.g., Leong & Chervinko, 1996).

Moreover, there has been a shift from a traditional, trait-focused perspective to a contextually sensitive view of career indecision as it occurs within the family (Lopez &

Andrews, 1987). Researchers have called for an increased understanding of the influences of family issues and context on career development processes and outcomes, such as career decision making and career aspiration, especially among populations in which communalism and interdependence are valued (Leong, Kao, & Lee, 2004).

Brachter (1982) proposed that family systems played a role in career indecision, and Zingaro (1983) extended this notion, asserting that young adults may have difficulty making career decisions due to enmeshment with the nuclear family and an inability to differentiate their own expectations from their parents' expectations.

Lopez and Andrews (1987) more definitively theorized career indecision as the outcome of a larger set of transactions between children and their families, and these transactions collectively represent either successful or unsuccessful transformations in family functioning. They tied career decision making to two major developmental tasks of young adulthood, namely adult identity formation and psychological separation from the family. They proposed that certain family interactions enhance effective career decision making, whereas other family interactions promote indecision. If adolescents are prevented from constructing an identity separate from their parents, they may exhibit, career indecision as a way to maintain the close attachment relationship. In addition, they posited that individuals' career indecision may serve important regulatory functions within the family system, such as postponing the important transformation of young adult separation, detouring conflict elsewhere in the family, and perpetuating unresolved multigenerational issues.

Nota, Ferrari, Solberg, and Soresi, (2007) sought to verify whether career search self-efficacy could mediate the relationship between family support and career

indecision. Their sample of Italian youth completed Social Provisions Scale, the Career Search Self-Efficacy Scale, and the Career Decision Scale. They found that, for male adolescents attending a university-preparation high school, career search self-efficacy partially mediated the relationship between family support and career indecision. On the other hand, for female adolescents there was no direct relationship between family support and career indecision. Family support was directly associated with career search self-efficacy, and career search self-efficacy was associated with career indecision.

Whiston's (1996) study on career indecision found that female undergraduate students reported high levels of organization and control in their families-of-origin and also reported low levels of needing support in their career decision. The author suggested that for women there is an inverse relationship between maintaining the family system and career indecision factors. Guerra and Braungart-Rieker (1999) related students' view of the parental relationship to career indecision with a sample of college students. Results indicated that students who experienced mothers as having encouraged independence in childhood exhibited less career indecision than overprotective mothers, whereas paternal encouragement did not have any influence on career indecision. Ego identity status was also predictive of career decision making, although to a lesser extent.

Ma and Yeh (2005) found that high intergenerational conflict was predictive of career indecision in their sample of Chinese American youths. Other studies have demonstrated that higher levels of career indecision are associated with lower degrees of family cohesion and functioning. In particular, Constantine and Flores (2006) tested a path model with 329 African American, Asian American, and Latin American college students, which was developed to examine the relationship among psychological distress,

perceived family conflict, and three career-related variables: career indecision, career certainty, and career aspiration. They found that greater levels of psychological distress predicted higher levels of career indecision, which in turn were associated with lower career certainty and greater perceived family conflict; lower levels of perceived family conflict were predictive of high career aspiration. Thus, career indecision was indirectly related to career aspiration through its association with perceived family conflict across all three groups.

Family Theories of Functioning

Some efforts have applied a family systems perspective to the understanding of career development. Family systems theory proposes that the family operates as a system or unit, where patterns of interacting evolve and are maintained. The family is a dynamic network of interdependencies that exerts influences on the behaviors of individual members. Minuchin (1974) said this about the family:

The individual influences his context and is influenced by it in constantly recurring sequences of interaction. The individual who lives within a family is a member of a social system to which he must adapt. His actions are governed by the characteristics of the system, and these characteristics include the effects of his own past actions. The individual responds to stresses in other parts of the system to which he adapts; and he may contribute significantly to stressing other members of the system. The individual can be approached as a subsystem, or part of the system, but the whole must be taken into account. (p. 9)

Bratcher (1982) proposed that family systems play a crucial role in the career decision making of individuals. This notion was further extended by Zingaro (1983), who

contended that people may have difficulty making career decisions due to a low level of differentiation from the nuclear family and may not be able to differentiate their own expectations from their parents' expectations. Lopez and Andrew (1987) theorized that certain family interactions enhance effective career decision making, whereas other family interactions promote and maintain indecision. Kinnier et al. (1990) found support concerning the relationship between family-of-origin enmeshment and the problem of career indecision. They found that participants who were enmeshed in their families were more likely than those who were not enmeshed to experience difficulties in making career decisions.

Indecisiveness has been linked to the personality characteristics of poor identity formation, low self-esteem, external locus of control, and anxiety (Lopez & Andrews, 1987). Similar characteristics were observed by Hoffman (1984) and Hoffman and Weiss (1987) in college students who remained highly dependent on their parents. It was suggested by Bowen (1978), Framo (1972), and others working with transgenerational models of family therapy that family-of-origin enmeshment may be a precursor to chronic indecisiveness for the individual. Having considered family systems in general, two specific theories of family functioning will now be discussed.

Structural family theory. Structural family therapy is a clinical model, developed by Salvador Minuchin, in which clinicians identify the internal organization of subsystems and boundaries of a family system. They further explore the manner in which these structural elements define interactional patterns and behaviors. Of particular interest to researchers on family process have been the constructs of enmeshment and the disengagement (Goldenberg & Goldenberg, 2012).

Enmeshment refers to an extreme form of proximity and intensity in family interactions in which members are over concerned and overinvolved in each other's lives. Subsystem boundaries in enmeshed families are poorly differentiated and diffuse. Children may act like parents and parental control may be ineffective. Excessive togetherness and sharing lead to a lack of separateness. Members, overly alert and responsive to signs of distress, intrude on each other's thoughts and feelings. Members of enmeshed families place too high a value on family cohesiveness, to the extent that they yield autonomy and have little inclination to explore and master problems outside the safety of the family.

On the other extreme, members of disengaged families may function separately and autonomously but with little sense of family loyalty. Interpersonal distance is great, the member frequently lack the capacity for interdependence or to request support from others when needed. Communication in such families is strained and guarded, and the family's protective functions are limited. When an individual family member is under stress, the enmeshed family responds with the excessive speed and intensity while the disengaged family hardly seems to notice. As Minuchin (1974) illustrates, the parents in an enmeshed family may become enormously upset if a child does not eat dessert, while in a disengaged family they may feel unconcern about the child's hatred of school.

As previously described, Penick and Jepson (1992) found that family relationships, such as enmeshment or disengagement, were stronger predictors of career development than gender, socioeconomic status, or educational achievement. Kinnier, et al. (1990) found support concerning the relationship between family-of-origin enmeshment and the problem of career indecision. They found that participants who were

enmeshed in their families were more likely than those who were not enmeshed to experience difficulties in making career decisions. There is very little research specifically linking Minuchin's structural family theory and career-related variables. Of the family systems approaches, Bowen's family systems model has been the theory most explored in relation to career development.

Bowen's family systems model. Transgenerational models of family therapy offer historical perspectives to current family living problems by attending specifically to family relational patterns of decades. While other models are ahistorical and cross-sectional, concerned with ongoing, moment-to-moment family transactions, transgenerationalists believe current family problems reflect unresolved issues in the family of origin. That is not to say that these problems are caused by earlier generations, but rather they tend to be unsettled and thus persist in ongoing patterns that span generations. How current family members manage intimacy, deal with power, resolve conflict, make decisions, and so on, may mirror to some extent earlier family patterns.

An especially important family theory for studying family environment in career development is Bowen's family systems theory (Bowen, 1978; Kerr & Bowen, 1988). Bowenian theory is recognized as one of the most carefully elaborated of the family systems theories (Nichols & Schwartz, 1995). Bowen's model can be classified as one of several theories of intergenerational transmission (Benson, Larson, Wilson, & Demo, 1993). These theories emphasize various mechanisms for transmission, such as genetic inheritance (DiLalla & Gottesman, 1991), social status inheritance (e.g., Glass, Bengtson, & Dunham, 1986), and psychological processes. Bowen's theory is distinct from other approaches in emphasizing emotion as the mechanism of transmission and in

conceptualizing the transmission process at both the family and individual levels. The principal emotion that generates the transmission process is anxiety. According to Bowen, anxiety is a property of both individuals and families. Anxiety in the family and in the individual serves to regulate the amount of emotional closeness and distance within the family. If family members experience excessive distance within the family, anxiety increases as a result of fears of rejection and abandonment. Family members then attempt to reduce the anxiety by seeking increased togetherness. On the other hand, if family members experience excessive togetherness, anxiety increases over fears of loss of autonomy and independence. Anxiety over such excessive closeness prompts family members to extend their emotional distance from each other. Anxiety is the mechanism for monitoring and managing emotional distance in the family.

In addition to this regulating function, anxiety is also the mechanism of intergenerational transmission of functional and dysfunctional family patterns. Functional or healthy families have tolerance for normal variations in closeness and distance, and low degrees of anxiety are sufficient to return the family to a balance between closeness and distance. In dysfunctional families, however, minor variations in closeness or distance frequently arouse anxiety. Highly intense anxiety and persistent reliance on anxiety to regulate closeness and distance result in chronic anxiety within the family because the state of chronic anxiety in the family is stressful, the family seeks to divert, or project, the anxiety onto one or more individuals in order to relieve family-level anxiety. Individuals in the family collude in this process by integrating or incorporating the anxiety as part of themselves (i.e., introjection). To the extent that individuals

incorporate the anxiety, they carry the anxiety into subsequent relationships. Through projection and introjection processes, anxiety is transmitted across generations.

Several features within the family of origin serve to heighten this projection-introjection process. One is the degree of fusion, or enmeshment, within the family. In fused families, members are so emotionally reactive to each other that their interactions and responses are nearly automatic. A second feature that may heighten the family projection process is triangulation. Triangulation is a process by which a third party, a child for instance, becomes the focus of tension in the marital dyad. Triangulation serves to decrease anxiety with the couple relationship itself but increase anxiety in the individual who is triangulated. A third feature that may heighten the family projection process is intimidation. Rigid expectations and excessive control by the parents over the child's behavior serve to alleviate the anxiety in the marital dyad, but these control processes merely shift the anxiety to the child.

In parent-child relationships characterized by fusion, triangulation, or intimidation, young adults experience chronic anxiety and have difficulty developing a clear sense of their own identity. They have few firmly held convictions and beliefs; they seek acceptance and approval above any other goal. There is little psychological energy left for self-determined, goal-directed activity. Decisions are emotionally based rather than rationally based and are reactive to the perceived wishes of the parents (Kinnier et al., 1990). Thus, the developmental task of career decision making for the young adult in these families will be thwarted, as this task requires a low level of anxiety, high self-awareness, and rational thought processes (Hartman, Fuqua, & Blum, 1985). An early attempt to study the relationship between family functioning and career decision

problems was Eigen et al.'s (1987) research with high school seniors. They found some evidence that strict family rules (a possible symptom of intimidation), accompanied by a high level of attachment (fusion), may tend to prevent differentiation and contribute to career decision problems.

The process of differentiation of self is in contrast to fusion within the family of origin. Differentiation refers to the ability of the individual to act in a goal-directed, objective manner, even in the face of mounting anxiety and tension within the self or within the family. For an individual who is well differentiated from the family of origin, the child's relationship with each parent and the parents' relationship are not dominated by subjectivity and emotionality. Low pressures for togetherness allow the child to learn to think, feel, and act for himself. The child's self-image is not created through a need to gain acceptance and approval. Rather, the child's beliefs, convictions, and values are arrived at through introspection and are consistent with one another. The individual is able to make decisions objectively and to act according to thought rather than affect.

Bowen (1978) describes individuals with high level of differentiation as possessing the following characteristics; being principle-oriented and goal-directed, certain of their convictions, but not rigid in their thinking, able to hear and evaluate viewpoints of others to discard old beliefs, sure enough in themselves not to be affected by praise or criticism, and respectful of self and identity of others without becoming critical or emotionally involved in trying to modify the life course of another. They assume total responsibility for self, are sure of their responsibility to family and society, and are realistically aware of their dependence on their fellow humans without exploiting or manipulating others to satisfy their needs.

Zingaro (1983) and Lopez and Andrews (1987) were among the first researchers to extend the family systems theory of Bowen into the area of career development. They theorized that college-aged adults who experience difficulty with career indecision do so because of low levels of differentiation of self from parents. These individuals were hypothesized to be experiencing difficulty separating their own desires and goals from the desire and goals of important people in their lives. Kinnier et al. (1990), also applying an intergenerational systems model, examined the relationship between career indecision and family-of-origin factors. They found that differentiation was significantly related to scores on the Career Decision Scale. They concluded that those who were more decided tended to be more differentiated and less triangulated with their families of origin. Thus, there is some support for a relationship between family of origin dynamics and career decision problems.

Larson and Wilson (1998) tested the ability of Bowenian family systems theory to explain career decision problems in young adults. A sample of 1,006 young adults completed self-report measures of fusion, triangulation, and intimidation, trait anxiety, and career decision problems. Path analysis was used to test a model wherein anxiety mediates the effects of dysfunction family patterns on career decision making problems. The research supported the mediating role of anxiety for fusion, intimidation, and career decision problems; however, triangulation was not related to career decision problems.

As previously noted, Dodge (2001) found support for the extension of Bowen family systems theory and Williamson's theory of personal authority in the family system into the realm of career development. Personal authority, a construct related to differentiation, was found to be associated with vocational identity and career decision-

making self-efficacy. Conflict in the family of origin was associated with lower career decision-making self-efficacy, lower differentiation, and greater levels of dysfunctional career thoughts.

Other Family Variables

Attachment theory. John Bowlby (1969) reasoned that a child's emotional connection, or attachment, to his or her caregiver(s) creates a blueprint that informs responses to essential relationships throughout life. He further defined parental attachment as a stable connection that provides a feeling of safety and security for the child. Ainsworth, Blehar, Waters, and Wall (1978) provided further evidence that a person's attachment response pattern can be secure, avoidant, or preoccupied. A securely attached person feels able to explore, yet is also ready to recognize and respond to attachment system activation by giving or seeking care. The person with avoidant attachment, often called "dismissing" attachment, tends to deactivate the anxiety associated with attachment activation (caregiving/careseeking) by focusing on self-sufficiency instead. The person with anxious attachment, also called "preoccupied" attachment, maximizes caregiving/careseeking concerns, being unsure whether attachment needs will be rebuffed or met with concern (Bowlby, 1988).

Attachment theory describes an affectional relationship between two persons through which one provides support, protection, and a secure base for the other. The most obvious example of attachment, is the bond of love between the mature caregiver and the infant. However, the dynamics of attachment may be played out in many other relationships throughout the human lifespan (Ainsworth, 1989; Bowlby, 1980). Outside the realm of interpersonal relationships, attachment styles appear to be implicated in the

way in which people understand themselves as individuals and how they make sense of their lives in the past, present, and anticipated future. Individuals with secure attachment styles tend to construct a more complex and coherent image of themselves compared with avoidant and ambivalent persons, and secure and avoidant people have generally more positive views of themselves and their lives compared with ambivalent individuals (Mikulincer, 1997). People with secure attachment styles describe themselves as more curious and exploratory, compared with avoidant and ambivalent individuals, and they hold more positive attitudes about being open-minded and curious (Mikulincer, 1997). Both ambivalent and avoidant attachment styles are associated with low levels of self-esteem and with higher levels of depression (Roberts, Gotlib, & Kassel, 1996).

Blustein, Prezioso, and Schultheiss (1995) suggested that attachment relationships significantly influence an individual's career exploration in that insecure relationships fail to provide a dependable base from which individuals can explore career options without fear or anxiety. Blustein, Walbridge, Friedlander, and Palladino (1991) found that young adults who had strong attachment relationships with their parents were more likely to engage in career exploration and more likely to pursue satisfying careers. Secure attachment among young adults has been shown to support career commitment and greater career exploration while protecting against premature decision formation (Ketterson & Blustein, 1997; Lee & Hughey, 2001; Wolfe & Betz, 2004). Tokar, Withrow, Hall, and Moradi (2003) concluded that insecure attachment most likely has a greater effect on measures of chronic indecisiveness than on informational indecision. A link between secure attachment styles and lower career thought dysfunction was

supported by a significant, positive correlation between avoidant and anxious attachment styles and scores on a measure of career thought dysfunction (van Eecke, 2007).

Questioning the cross-cultural validity of the existing career related research, Bacarro (2010) studied the influence of psychological separation and attachment on career maturity and career commitment among Filipino American college students. She also sought to determine how culture-specific constructs, such as acculturation and interdependence, relate to separation and to what extent these cultural variables influence the relationships between separation and attachment and the career variables. She found that acculturation and interdependence related differently to psychological separation from parents. In addition, separation and attachment had limited impact on career maturity and career commitment. Greater interdependence was associated with lower separation, as measured by a composite of emotional and attitudinal independence. Higher acculturation was related to lower conflictual independence for mother only. The relationship between the separation composite and career maturity was stronger for lower acculturated Filipino Americans. Participants who reported greater conflictual independence had higher scores on career maturity, and participants who reported greater conflictual independence and attachment reported greater career commitment.

Parenting style. Parenting style is one variable that has been researched extensively with regard to human development. Baumrind's conceptualization of parenting style laid the foundation for examining the type of parenting conducive to the successful socialization of children (Baumrind, 1967, 1991). Parents' values and the beliefs they hold about their roles as parents define naturally occurring patterns of affect,

practices, and values. Baumrind proposed three types of parenting styles: authoritarian, permissive, and authoritative.

The authoritarian parenting style is a highly restrictive parenting style in which adults tend to impose many rules, expect strict obedience, and may rely on physical punishment to gain compliance (Baldwin, McIntyre, & Hardaway, 2007). Authoritarian parents tend to be demanding but not responsive (Maccoby & Martin, 1983). The permissive parenting style is a lax parenting style in which adults make few demands, encourage their children to express their feelings, and rarely use force to gain control over their behavior (Baumrind, 1989). Parents characterized by this style tend not to require mature behavior from their children, encouraging independence instead. According to Baumrind (1991), the authoritative parenting style consists of a constellation of parent attributes that include high standards, emotional support, encouragement of bi-directional communication, and consistent enforcement of the rules they establish. In other words, they tend to be demanding but not restrictive (Maccoby & Martin, 1983).

Baumrind's (1971) early work suggested that authoritative parenting has beneficial effects for families in promoting adolescents' psychological health and academic achievement. Other researchers also have found beneficial effects of the authoritative style compared to the authoritarian or permissive styles on many child and adolescent outcomes such as psychological competence, adaptive functioning, self-esteem, self-reliance, and academic competence (Carlson, Uppal, & Prosser, 2000; Furnham & Cheng, 2000; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Elmen, & Mounts, 1989; Walker, 2008). Authoritative style has repeatedly been found to

be correlated with positive self-perceptions, while authoritarian style has repeatedly been found to be correlated with negative self-perceptions (Buri, Louiselle, Misukanis, & Mueller, 1988; Klein, O'Bryant, & Hopkins, 1996; Lamborn et al., 1991; Pawlak & Klein, 1997). Authoritative parenting style of the mother also has been found to be positively associated with connected knowing, which is defined as the ability for empathic concern, perspective-taking, and the tendency to be sensitive to the behavior of others (Knight et al., 2000). Milevsky, Schlechter, Netter, and Keehn (2007) found that authoritative mothering was related to higher self-esteem and life-satisfaction and to lower depression. A paternal parenting style was also related to psychological adjustment, although the advantage was less defined than that of maternal parenting style. Permissive parenting also has been associated with low self-esteem, less persistence on learning tasks, low tolerance for frustration, and extrinsic motivational orientation (Ginsburg & Bronstein, 1993; Maccoby & Martin, 1983).

One study (Arcement, Buboltz, Soper, & Calvert, 2009) examined the impact of perceived parenting styles on vocational identity among a sample of undergraduate students. The Parental Authority Questionnaire (PAQ) was used to measure parenting style, and the My Vocational Situation (MVS) was used to measure vocational identity. completed by a sample of undergraduate students. Analyses revealed significant relationships between (1) maternal permissiveness and low vocational identity and (2) paternal authoritativeness and high vocational identity. The data suggest that the quality of parent-child interactions in our families of origins influences the career development process.

Divorce. Johnson et al. (1999) conducted a study to assess the effects of parental marital status and family functioning on the vocational identity of college students. They sought to examine the relative effects of specific dimensions of family functioning (i.e., conflict, cohesion, and expressiveness) on vocational identity. In addition to demographic questions, their measures included the Family Environment Scale (FES) and the Vocational Identity (V.I.) subscale of My Vocational Situation (MVS). No significant difference in vocational identity was found between students from intact families and students from divorced families. Significant correlations between vocational identity and the family conflict subscale, the family cohesion subscale, and the family expressiveness subscale were found. Accounting for only about 3% of the variance, expressiveness appeared to be the family relationship variable most predictive of vocational identity for their population.

Gender and Career Development

Several authors have reported important gender differences in factors associated with family influence on career decision making. Blustein et al. (1991), for example, found that career indecision among women was associated with a different pattern of parent-child interaction from that of men. Specifically, career decisiveness among females in late adolescence was associated with mutual trust and positive communication with both parents, along with such psychological factors as freedom from guilt, anxiety, and resentment of parents. Career decisiveness among late adolescent males tended to be associated most strongly with measures of attachment with their fathers, along with attitudes, values, and beliefs shared with those of their fathers. Thus, in the research of Blustein, et al. (1991), the father-son relationship appeared to be especially salient for

males in late adolescence, whereas relationships with both parents were important for females. Huang (2001) found that women's self-efficacy was an important factor influencing their educational and career choices, whereas men's self-efficacy was important only indirectly. Finally, when studying mother-daughter relationships, Castle-Kroll (2004) found that career indecision was greatest when daughters felt their mothers were unsupportive of their autonomy. Indecision could be related to sex stereotypes of careers and lack of a supportive female role model (Ziegler & Stoeger, 2008).

Many of the psychological and parenting factors associated with the problems men and women have with career decision making are consistent with experiences of parental acceptance and rejection in childhood. For example, perceived parental acceptance tends to include positive attachment to parents, mutual trust, positive communication, and low resentment (Hughes, Blom, Rohner, & Britner, 2005). Similarly, most of the psychological factors thought to be associated with career indecision are also associated with the form of psychological maladjustment known to be associated with perceived parental rejection (Rohner, 2004). For example, negative self-esteem, low self-confidence, anxiety, excessive need for approval, external locus of control, negative sense of self-efficacy, and pessimism or negative worldview are all known to be associated with perceived parental rejection.

One study demonstrated that psychological adjustment and patterns of family interactions tended to be associated with career indecision among women versus men (Rohner, Rising, & Sayre-Scibona, 2009). Career indecision among women, but not men, was significantly correlated with remembered maternal and paternal acceptance in childhood, as well as with self-reported psychological adjustment and age. Forty-three

percent of the variance in women's career decision making problems was accounted for by a linear combination of these four variables. However, only psychological adjustment made a unique or independent contribution to variations in women's reports of career indecision. None of the factors assessed in this study were associated significantly with decision-making difficulties among men. These findings indicate that studies of career development should examine differences between men and women.

Multicultural Considerations

Just as an appreciation of gender is essential in gaining a more complete picture of the impact of family environment on career thoughts, career indecision, and vocational identity, it is important to consider the cultural context of these relationships. Culture, shared and learned behavior transmitted from one generation to the next, impacts families in a variety of ways, some trivial, others central to family functioning (Goldenberg & Goldenberg, 2012). The nature of family relationships and how families are structured and organized often differ between cultural and ethnic groups.

A common quality of traditional Latino families helps highlight how families differ between cultural groups. The term *familismo* refers to emphases in traditional Latino culture on family cohesiveness, interdependence, loyalty, and responsibility to care for one another (Gaines, Rios, & Buriel, 1997). To many Latinos, familismo (familism) means placing the family before one's personal needs and assuring that all family members are emotionally supported (Sarkisian, Gerena, & Gerstel, 2006, 2007). There appears to be considerable contrast between familismo and one of the most influential aspects of family functioning in European American culture, family

differentiation, which refers to the levels of distinctiveness and connectedness among family members (Sabatelli & Mazor, 1985).

Some scholars have argued that there is a moderating effect of culture on these family processes. For example, some researchers suggest that a lack of family differentiation, which is problematic in an individualistic context, could have a weaker or even opposite effect in a collectivist environment (Chun & MacDermid, 1997). Fuhrman and Holmbeck found that African American adolescents displaying greater emotional autonomy showed more behavioral problems and lower grade point averages. These results suggest that the impact of family differentiation on identity and well-being may vary across cultures. Likewise, the impact of family environment factors on the career variables of the current study may vary across cultures.

Multicultural comparisons have been made using the Family Environment Scale, which is a measure used in the current student. For example, Handal and colleagues (Dancy & Handal, 1981; Enos & Handal, 1985) noted that African American youth reported more emphasis on moral-religious values and organization and less on independence and recreational orientation than a sample of predominantly Caucasian adolescents. According to Tolson and Wilson (1990), a sample of African American families was also higher than a predominantly Caucasian sample on achievement, moral-religious emphasis, and organization, and was less expressive and oriented toward independence. Compared with Caucasian families and the FES norms, Latino families are higher on achievement orientation, moral-religious emphasis, and organization, and are less expressive. In addition, Latino families may be more cohesive and lower on conflict (Arnold & Orozco, 1989). Compared to American families, Chinese families were seen

as more cohesive, achievement-oriented, and well-organized, and as lower on conflict, independence, recreational orientation, and control (Phillips, West, Shen, & Zheng, 1998). An analysis of the Japanese version of the FES showed that average family profiles were quite similar between Japanese and American families, except that Japanese families were lower in achievement and recreational orientation than American families (Nomura, Noguchi, Saito, & Tezuka, 1995; Saito, Nomura, Noguchi, & Tezuka, 1996). These findings further indicate that studies of family environment should examine differences between ethnicities and cultures.

As populations change from homogeneous groups to a mosaic of people with diverse customs and cultures, career theorists and counselors must shift their perspectives from monoculturalism to multiculturalism (Hartung, 2002; Leong & Hartung, 2000). Carter and Cook (1992) asserted that "from a cultural frame of reference, work is a functional aspect of life in that individuals contribute their skills and labor to their cultural societies and the maintenance of their families" (p. 199). As such, the meaning of work, the value placed on it, and the expectations about who should perform what types of work reflect the culture in which work is organized. Some researchers (e.g., Cheatham, 1990; Smith, 1983) have argued that the concept of work holds different meanings across groups as a function of their sociocultural, historical, and political experiences.

The literature attests to the problems of applying Western frameworks of career development theories and counseling techniques to populations whose values and cultural norms are in contrast to those of the dominant culture (e.g., Gysbers, Heppner, & Johnston, 2003; Leong & Hartung, 2000). Stead (2004) argued that career development models are cultural constructions that make only occasional reference to cultural issues.

He pointed out that these models “seldom demonstrate an in-depth perspective of how cultural issues play a role in career choice and career decision making” (p. 397). Many of the mainstay career development models emerged at a time when the typical worker was thought to be young, male, white, able-bodied, heterosexual, and ethnically homogenous (Cook, Heppner, & O’Brien, 2005). Recognition of cultural influences on career development has prompted a call for expanded theoretical and practical perspectives to increase the cultural validity of career development practices (Leong & Brown, 1995). Theories need to elucidate the interplay between individual and systemic levels of cultural influences and provide direction for career counseling interventions.

Leong and Brown (1995) observed that research on contextual variables in vocational psychology has focused on establishing either cultural validity or culture specificity for career theories. From the cultural validity perspective, researchers have tested the adequacy of current majority theories across different ethnic populations, whereas those from the culture specificity perspective have examined the application of culture-specific variables relevant to a given ethnic group. Ideally, vocational psychological theories would be informed both by testing current theories for their relevance across populations and by identifying specific cultural variables that shape the vocational behavior of different groups.

The research of Smith (2011) is an excellent example of an attempt to establish cultural validity of existing career theory, specifically Social Cognitive Career theory, as well as cultural specificity. She drew from Chetham’s Africentricity theory of African American career development, Social Cognitive Career theory, and Bowen Family Systems theory when she examined the influences of family dynamics, family system

maintenance forces, and role models on the dysfunctional career thoughts of African American college students. She found that the family environment and the presence of a role model were associated with dysfunctional career thoughts among her African American sample. Smith's study adds to the literature that supports the use of the construct of dysfunctional career thoughts among ethnically diverse groups (Osborn et al., 2007).

Shin (2010) investigated similarities and differences in the development of vocational identity and the role of its antecedents between Western and Eastern cultures. The author compared American and Korean college students in exploring the relationships among vocational identity, optimism, intrinsic/extrinsic motivation, and family environment. Optimism/pessimism, career decision making autonomy, family supports were shown to be significant antecedents in forming vocational identity regardless of culture, but different mechanisms in interacting between individual (e.g., optimism/pessimism and motivation) and contextual factors (e.g., family support) were shown to exist in developing vocational identity with American and South Korean college students. One difference was that pessimism was a significant predictor of vocational identity formation only with Americans. Another difference was that family maintenance variables (e.g., emphasizing on organization and control to run family life) were unique moderators with Korean students to strengthen the effect of pessimism on extrinsic motivation. Shin's study adds to the literature that supports the use of the construct of vocational identity among ethnically diverse groups (Scalan, 2006). These findings further indicate that studies of career development should examine differences between ethnicities and cultures.

Achievement Motivation

Need for achievement and fear of failure. McClelland, Atkinson, Clark, and Lowell (1953) proposed that need for achievement and fear of failure are motivational dispositions which represent the ways in which individuals are moved to act. Need for achievement describes a tendency for people to experience positive affect toward situations which they perceive to be challenging and to approach situations which allow them to demonstrate competence (McClelland et al.). Individuals with a high need for achievement are thus motivated by the anticipated feelings of success associated with overcoming a difficult task. Those with high need for achievement tend to choose moderately difficult tasks, feeling that they are challenging, but within reach. Those with low need for achievement may choose very easy tasks, in order to minimize risk of failure, or highly difficult tasks, such that a failure would not be embarrassing.

Fear of failure represents a tendency to experience negative feelings in response to failure (McGregor & Elliot, 2005) and avoid situations where one's competence may be judged (Atkinson & Feather, 1966; Birney, Burdick, & Teevan, 1969). Beyond the experience of shame, Conroy (2001) suggests a number of other intrapersonal and social components align with fear of failure, such as fear of devaluing one's self-estimate, fear of having an uncertain future, fear of important others losing interest, and fear of upsetting important others. Lastly, fear of failure has also been operationalized as test anxiety or fear of failure as manifest in a specific testing situation. These constructs have often been used interchangeably and research has demonstrated that they are not only conceptually, but functionally similar (Conroy, 2001). Elliot and McGregor (1999), for example, found that both fear of failure and (trait) test anxiety measures were highly

correlated and both predicted the adoption of performance-avoidance goals (i.e., the manifestations of fear of failure at the more proximal goals level of achievement motivation).

The conceptual origin of the need of achievement and fear of failure constructs can be traced back to the work of Murray (1938), who established a taxonomy of universal needs including the need for affiliation, power, achievement, and autonomy. Need for achievement, according to Murray, represents a mix of mastery and competitive elements or a need to master ones' physical and social environment, as well as a need to demonstrate competence relative to others. Inavoidance (i.e., fear of failure) is an avoidance-based need to avoid demonstrating incompetence and the emotions of shame and humiliation which accompany it. While individuals with a need for achievement are likely to approach achievement-oriented situations in which they can demonstrate competence, individuals high in fear of failure are apt to avoid situations where one's ability may be judged and in which one has failed in the past.

The development of need for achievement and fear of failure has been linked to socialization practices in childhood (Birney et al., 1969; Conroy, 2003; Elliot & Reis, 2003; Elliot & Thrash, 2004; McClelland et al., 1953). McClelland et al. (1953), for example, stressed the association between affect and early experiences in life. Need for achievement, according to McClelland et al., is fostered by the association of positive affect tied to early, successful engagement in achievement-relevant activities. More specifically, positive affect tied to early achievement situations results in the evocation of such affect in later achievement situations. Conversely, limited opportunities for such mastery experiences or frequent challenges beyond ones' ability have the opposite effect.

That is, these experiences lay the groundwork for the corresponding lack of strong affect or negative affect which build an aversion to later achievement opportunities.

Researchers also note that the response of a parent or teacher to the success and failure of a child can influence the development of achievement motivation. Specifically, Birney et al. (1969) highlight the roles of reinforcement patterns with respect to a child's effort and performance in achievement contexts. Research indicates that neutral responses to both lack of effort and failure coupled with rewarding effort on success leads to the development of need for achievement, whereas a neutral response to effort and success and punishment for lack of effort and failure leads to fear of failure (Hermans, ter Laak, & Maes, 1972; Teevan & McGhee, 1972).

Research by Conroy (2003) further characterizes the parent-child interaction patterns as well as teacher-child interaction patterns which impact the development of fear of failure. Conroy (2003) suggests that children who are socialized to associate achievement with affection and failure with punishment develop shame and anxiety in response to failure, thus leading to fear of failure. The author found among a primary high school age sample that high fear of failure participants described their parents and teachers as less affirming, less loving, less protective, and more blaming and ignoring. Conroy (2003) has also noted that a child may internalize the punishment of failure by a parent resulting in a self-punitive response to failure by the child. For example, individuals high fear of failure describe themselves as more self-blaming and self-attacking as well as less self-affirming. Similar results were obtained by Elliot and Thrash (2004) who found that a mothers' love withdrawal in response to failure partially mediated the relationship between mother and child fear of failure. In other words, the

child was likely to have the same achievement motivation (i.e., fear of failure) as the mother if the mother's response to failure involved withdrawal of love. Elliot and Thrash (2004) further found that parent's fear of failure was related to achievement goal adoption as both the mother's and father's fear of failure predicted child performance-avoidance goal adoption.

With respect to the development of need for achievement and fear of failure, research by Elliot and Reis (2003) suggests the genesis of such motivational tendencies may occur much earlier and outside of an achievement context when attachment styles are formed. As previously noted, a secure attachment style represents a trusting interpersonal style developed in infancy via a caring a response parent or caregiver. Conversely, a less trusting interpersonal style (i.e., anxious/ambivalent attachment style) develops as a result of an infant-caregiver relationship marked by inconsistency or neglect. The authors found that those with a secure attachment style have a higher need for achievement and less fear of failure than those with an anxious/ambivalent or avoidance attachment style. With regard to goals, results suggested that secure individuals were more likely to adopt mastery-approach goals (associate with need for achievement), while insecure participants were more likely to adopt performance-avoidance goals (associated with fear of failure). Elliot and Reis (2003) have offered a more cognitive than affective interpretation of fear of failure, suggesting that an "attachment schema" derived from early interactions is activated in achievement situations influencing the nature of achievement strivings. In other words, those with an anxious/ambivalent schema are prone to interpret an achievement setting as wrought with the threat of failure. Those with a secure attachment style or schema will feel secure

enough to risk failure (having supportive and reassuring attachment figures to rely on). However, the natural exploratory tendencies of those with anxious/ambivalent schemas may be stunted by a lack of security and thus anxiousness with respect to potential failure.

It has been assumed that approach and avoidance motives would result in distinct patterns of achievement-related behavior and ultimately performance. Research has shown that those high in need for achievement report high levels of flow (i.e., intrinsically motivated involvement in a task; Csikszentmihalyi, 1975) and may outperform failure-motivated individuals at certain tasks (Elliot & Church, 1997; Sokolowski, Schmalt, Langens, & Puca, 2000). Moreover, fear of failure has been shown to be associated with more failure-related than success-related thoughts after decision making (i.e., decision to engage in a task; Puca & Schmalt, 2001), great extrinsic motivation (Conroy, 2003), and has been shown to be negatively related to performance (Herman, 1990).

Achievement goal theory. One approach to understanding achievement motivation is achievement goal theory, which proposes that individuals have different purposes, or goals, for engaging in achievement behavior (Dweck, 1986; Pintrich & Schunk, 2002). These different goals provide a framework for how individuals approach and react when in an achievement setting. Much of the initial research using an achievement goal theory framework originated from research in educational domains, and advances in achievement goal theory and scale development continue to emerge from research conducted in educational domains.

Achievement goal theorists (Dweck & Leggett, 1988; Nicholls, 1984) once proposed a two-factor model of achievement goals consisting of two goal orientations, which some (Ames, 1992; Elliot, 2005) have called mastery goals and performance goals. A mastery goal represents a mind-set in which an individual is concerned with developing his or her competence or mastering a task. In contrast, a performance goal represents a mind-set in which an individual is concerned with demonstrating his or her competence relative to others.

Researchers initially found that students endorsing mastery goals were likely to experience adaptive outcomes (Ames & Archer, 1988; Meece, Blumenfeld, & Hoyle, 1988) and students endorsing performance goals were likely to experience maladaptive outcomes (Elliott & Dweck, 1988; Meece et al., 1988). However, other researchers found that performance goals were not always linked to negative outcomes, with some research showing null effects and other research showing positive effects on adaptive outcomes (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997).

Elliot and his colleagues separated performance goals into separate constructs of performance approach goals and performance-avoidance goals (Elliot & Church, 1997; Elliot & Harackiewicz, 1996). A performance-approach goal was defined as striving to demonstrate competence relative to others, whereas a performance-avoidance goal was defined as striving to avoid incompetence relative to others. Empirically, distinguishing performance approach goals from performance-avoidance goals helped better account for the pattern of conflicting relationships between performance goals and various adaptive and maladaptive outcomes (Elliot & Church, 1997; Elliot & McGregor, 2001; Elliot, McGregor, & Gable, 1999).

In 2001, Elliot and McGregor argued that a fourth goal should be added to the achievement goal framework: mastery-avoidance (see also Elliot, 1999; Pintrich, 2000). Mastery-avoidance was defined as “a focus on avoiding self-referential or task-referential incompetence” (Elliot, 2005, p. 61). This addition to the achievement goal literature was justified (for reviews, see Elliot, 2005; Elliot, McGregor, & Thrash, 2002) by viewing achievement goals as a function of an individual’s definition of competence and valence toward competence.

Achievement motivation and career development. Much of the research investigating the convergence of achievement motivation and career development has focused on the relationship between achievement motivation and occupational choice. One conclusion based on such research is that people who are high in achievement motivation tend to be drawn to careers in business. In one study, for example, men with high achievement motivation in college tended to become employed in small businesses years later (McClelland, 1965). Research also suggests that high achievement motivation is associated with certain indices of success in the business world (Andrews, 1967; Jenkins, 1987; McClelland & Boyatzis, 1982; McClelland and Franz, 1992; Tekiner, 1980). Collins et al. (2004) found that achievement motivation was significantly correlated with the choice of an entrepreneurial career. McClelland argued that business is a good match for the achievement motive, because business requires that people take moderate risks, assume personal responsibility for their own performance, pay close attention to feedback in terms of costs and profits, and provide innovative ways to make products or provide services. These hallmarks of entrepreneurship characterize the behavior and attitudes of people high in achievement motivation (McClelland, 1985).

One study showed that the level of sports career achieved was significantly facilitated by a strong motivation to succeed and impeded by a strong motivation to avoid failure (Halvari & Thomassen, 2007). Interestingly, ball-game athletes' careers were more strongly influenced by their motivation to succeed than by their motivation to avoid failure, while the reverse was the case among athletes in individual-endurance sports.

In research with salespeople, mastery goal orientations were found to be associated with an adaptive behavior pattern (Silver, 2000). Sujan and colleagues found the mastery goal orientations of salespeople to be correlated to motivation to work hard and work smart (Sujan, Weitz, & Kumar, 1994). In another study (Coad, 1999) the findings implied that management accountants with a high mastery orientation are more inclined to initiate and pursue the introduction of new management accounting systems, whereas those with a high performance orientation are likely to avoid such actions. An examination of the effects of a performance-oriented versus a mastery-oriented post-training session on trainees' negotiation skill maintenance showed that mastery-oriented trainees engaged in more interim skill maintenance activities, planned to exert more effort, and showed more positive affect than performance-oriented trainees (Stevens & Gist, 1997).

Achievement motivation and family. Some researchers have considered achievement goal orientations as classroom-dependent and they actively investigate the contextual effect on students' goal orientations (e.g. Ames, 1992). Other researchers have viewed goal orientations as a kind of individual variable, which may develop under the influence of family factors such as parenting involvement and parenting styles (Pintrich and Schunk, 2000). Furthermore, there has been evidence showing the impact of parental

involvement on students' learning (Epstein, 1989). Some parents may see the importance of a mastery of goal orientation and will then work with the school to promote this orientation in their children, while other parents may believe that a mastery of goal orientation will not help to prepare their children for competition in the “real world” (Pintrich and Schunk, 2000).

In addition to examining the direct relationship between parenting styles and children's academic achievement, researchers have examined parental influence on children's academic achievement through a number of mediating variables, such as self-regulation, intrinsic and extrinsic motivation and achievement goal orientation (Ginsburg and Bronstein, 1993; Grolnick and Ryan 1989; Grolnick, Ryan, & Deci, 1991). One study (Fang, Xiong, and Guo, 2003) explored the effect of parenting styles on children's academic achievement with the structured equation modeling method, and reported that parenting styles affected children's academic achievement in different ways through two media variables, children's achievement goal orientation and academic self-concept. The findings affirmed the mediating effect of goal orientation between parenting styles and academic achievement.

In a study of high-school students, Gonzalez, Greenwood, and Wen Hsu (2001) reported a clear relationship between perceived parenting style and students' goal orientation. Mastery or learning goals were positively and significantly related to perceptions of authoritative parenting by both parents, and there were positive and significant correlations between high-school students' performance orientations and perceptions of maternal and paternal authoritarianism. They also reported that perceptions of permissive mothers were positively and significantly related to

performance orientation. In a study of undergraduate students, Gonzalez et al. (2001) reported that maternal authoritativeness was significantly related to mastery/learning orientation and paternal authoritarianism was related to performance orientation. However, no significant correlation between parental permissiveness and either goal orientation was found. Evidence that these relationships exist across cultural lines was found. Chan and Chan (2005) examined the relationships among Hong Kong teacher education students' achievement goals and their perceived parenting styles. They found that learning goal, also known as task or mastery goals, was significantly and positively related to authoritative parenting style, and performance goal was significantly and positively related to authoritarian parenting style. Permissive parenting style was not significantly related to either learning or performance goals.

Rivers (2008) sought to test the relationship between parenting style and academic achievement, and to examine the mediating effects of motivation, goal orientation and academic self-efficacy on this relationship. The Parenting Style and Parental Involvement Questionnaire were used to measure high school students' perceptions of parenting style. The Intrinsic vs. Extrinsic Orientation Scale was used to measure students' motivation. The Patterns of Adapted Learning Survey was used to measure both goal orientation and academic self-efficacy. The researcher found a significant correlation between parenting style and the motivation subscales. Authoritative parenting was positively related to intrinsic motivation; however, no significant correlations existed between parenting style and goal orientation.

Hypotheses

The following hypotheses were tested to illuminate the relationships among perceived family environment, dysfunctional career thoughts, need for achievement, vocational identity, and career indecision.

Hypothesis 1

Family environment as measured by the Family Environment Scale (FES) will be significantly related to vocational identity as measured by the My Vocational Situation (MVS).

Hypothesis 1A: Cohesion and expressiveness will be positively related and conflict will be negatively related to vocational identity.

Hypothesis 1B: Independence and achievement orientation will be positively related vocational identity.

Hypothesis 1C: Organization will be positively related and control will be negatively related to vocational identity.

Justification for Hypotheses 1A – 1C

It was proposed that family environment factors are correlated with vocational identity. Penick and Jepsen (1992) found that family system maintenance variables (democratic and authoritarian family styles and enmeshment) and to a lesser extent, expressiveness (positive) and conflict (negative) were significant predictors of vocational identity. Johnson et al. (1999) reported direct (cohesion, expressiveness) and inverse relations (conflict) to vocational identity. Personal authority, a construct related to differentiation and independence, was found to be associated with vocational identity (Dodge, 2001). Achieved identity status of adolescent females as measured by the

Extended Version of the Objective Measure of Ego Identity Status (EOMEIS-2) was predicted by family cohesion (Lubenko & Sebre, 2007). The achieved identity status of adolescent males was predicted by family achievement orientation and family control.

Hypothesis 2

Family environment as measured by the FES will be significantly related to career indecision as measured by the CDS.

Hypothesis 2A: Cohesion and expressiveness will be negatively related and conflict will be positively related to career indecision.

Hypothesis 2B: Independence will be negatively related to career indecision.

Hypothesis 2C: Organization will be negatively related and control will be positively related to career indecision.

Justification for Hypotheses 2A – 2C

Research suggests the family environment is correlated with career indecision. Hargrove, Inman, and Crane (2005) revealed that the degree to which family members are encouraged to express feelings and problems predicted career planning activities of adolescents. Nota et al. (2007) found that family support was directly associated with career search self-efficacy and career search self-efficacy was associated with career indecision. Sumari et al. (2009) found evidence that the cohesion subscale of the FES was positively correlated with career decision-making self-efficacy, which has been negatively correlated with career indecision. Schroeder and Kelley (2010) found that parental support was associated with children's ability to plan-organize and inhibit thoughts and behaviors, which may be considered critical components of decision-making processes. Kinnier et al. (1990), in applying an intergenerational systems model,

found that differentiation, a concept akin to cohesion and independence was significantly related to scores on the Career Decision Scale.

Hypothesis 3

Family environment as measured by the FES will be significantly related to dysfunctional career thoughts as measured by the CTI.

Hypothesis 3A: Cohesion and expressiveness will be negatively related and conflict will be positively related to decision-making confusion, commitment anxiety, and external conflict.

Hypothesis 3B: Independence and achievement orientation will be negatively related to decision-making confusion, commitment anxiety, and external conflict.

Hypothesis 3C: Organization will be negatively related and control will be positively related to decision-making confusion, commitment anxiety, and external conflict.

Justification for Hypotheses 3A – 3C

According to Krumboltz (1994), individuals develop beliefs about themselves and their environment through the interaction of various factors, including family-based factors. Among these beliefs are, presumably, thoughts related to career decision making. Some empirical data have emerged to suggest correlations between family environment and dysfunctional career thoughts. Dodge (2001) found that conflict in the family of origin was associated with greater levels of dysfunctional career thoughts. The research of Smith (2011) indicated that family relationship dynamics and family maintenance forces were associated with dysfunctional career thoughts. Like Dodge, Smith found

conflict to be the family of origin variable most strongly associated with dysfunctional career thoughts.

Hypothesis 4

Family environment as measured by the FES will be significantly related to need for achievement as measured by the Personal Values Questionnaire (PVQ).

Hypothesis 4A: Family cohesion and expressiveness will be positively related and conflict will be negatively related to need for achievement.

Hypothesis 4B: Independence and achievement orientation will be positively related to need for achievement.

Hypothesis 4C: Organization will be positively related and control will be negatively related need for achievement.

Justification for Hypotheses 4A – 4C

The development of need for achievement has been linked to socialization practices in childhood (Birney et al., 1969; Conroy, 2003; Elliot & Reis, 2003; Elliot & Thrash, 2004; McClelland et al., 1953). McClelland et al. (1953), for example, stressed the association between affect and early experiences in life. Need for achievement, according to McClelland et al., is fostered by the association of positive affect tied to early, successful engagement in achievement-relevant activities. Research by Elliot and Reis (2003) suggests the genesis of such motivational tendencies as need for achievement and fear of failure may occur much earlier and outside of an achievement context when attachment styles are formed. The authors found that those with a secure attachment style have a higher need for achievement and less fear of failure than those with an anxious/ambivalent or avoidance attachment style. With regard to goals, results suggested

that secure individuals were more likely to adopt mastery-approach goals (associate with need for achievement), while insecure participants were more likely to adopt performance-avoidance goals (associated with fear of failure). No studies were found examining the relationships among the FES variables and need for achievement, though there appears to be evidence that family environment directly and indirectly influences need for achievement.

Hypothesis 5

Dysfunctional career thoughts as measured by the CTI will be significantly related to career indecision as measured by the CDS.

Hypothesis 5A: Decision-making confusion will be significantly positively related to career indecision.

Hypothesis 5B: Commitment anxiety will be significantly positively related to career indecision.

Hypothesis 5C: External conflict will be significantly positively related to career indecision.

Justification for Hypotheses 5A – 5C

Dysfunctional career thoughts have been associated with a variety of problematic cognitive, affective, and behavioral consequences. For example, students who were undecided in their college major were found to possess greater dysfunctional career thoughts than decisive students (Kilk, 1998). Ladany et al. (1997) showed that students' level of commitment to their career choices was related to their need for occupational information and the barriers (i.e., dysfunctional career thoughts) that they felt hindered them in pursuing career goals.

Hypothesis 6

Dysfunctional career thoughts as measured by the CTI will be significantly related to vocational identity as measured by MVS.

Hypothesis 6A: Decision-making confusion will be significantly negatively related to vocational identity.

Hypothesis 6B: Commitment anxiety will be significantly negatively related to vocational identity.

Hypothesis 6C: External conflict will be significantly negatively related to vocational identity.

Justification for Hypothesis 6A – 6C

Ladany et al. (1997) showed that students' level of commitment to their career choices was related to their vocational identity, their need for occupational information, and the barriers that they felt hindered them in pursuing career goals. Hirschi and Lage (2007) revealed that vocational identity is strongly related to measures of career-choice readiness attitudes. In using two career interventions, Strohm (2008) saw parallel improvement in both career indecision and vocational identity. It follows that if they changed simultaneously then they may be statistically related to one another.

Hypothesis 7

Need for achievement as measured by the PVQ will be significantly negatively related to career indecision as measured by the CDS.

Justification for Hypotheses 7

It has been found that people high in achievement motivation tend to prefer and show high performance in tasks of moderate challenge that provide immediate feedback

concerning success and failure (Atkinson, 1957; Raynor & Smith, 1966); they tend to be persistent and highly efficient in many kinds of performance (Feather, 1961); they tend to exhibit high self-control and delay gratification (Mischel, 1961; Mischel & Gilligan, 1964); they thrive on personal challenge (Atkinson & Raynor, 1978); and they tend to shown upward occupational mobility (Crockett, 1962). These findings raise the question of whether those high in achievement motivation are better equipped to face the challenges associated with career decision making and career development, but additional empirical support is needed to answer such a question.

Hypothesis 8

Need for achievement as measured by the PVQ will be significantly positively related to vocational identity as measured by MVS.

Justification for Hypothesis 8

These variables have not been empirically linked, but it is logically consistent to hypothesize that need for achievement is related to vocational identity. Need for achievement describes a tendency for people to experience positive affect toward situations which they perceive to be challenging and to approach situations which allow them to demonstrate competence (McClelland et al.). Individuals with a high need for achievement are thus motivated by the anticipated feelings of success associated with overcoming a difficult task. Those with high need for achievement tend to choose moderately difficult tasks, feeling that they are challenging, but within reach. Those with low need for achievement may choose very easy tasks, in order to minimize risk of failure, or highly difficult tasks, such that a failure would not be embarrassing. It may be that those with a high need for achievement are more apt to engage in the career-related

tasks that contribute their vocational identity. On the other hand, those with a low need for achievement may avoid such career-related tasks, thus postponing vocational identity achievement.

Hypothesis 9

Dysfunctional career thoughts as measured by the CTI will mediate the relationship between family environment as measured by the FES and career indecision as measured by CIS.

Hypothesis 9A: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and career indecision.

Hypothesis 9B: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between independence and career indecision.

Hypothesis 9C: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between family organizational variables (organization and control) and career indecision.

Justification for Hypotheses 9A – 9C

Larson and Wilson (1998) found evidence supporting a model wherein anxiety mediates the effects of dysfunction family patterns on career decision making problems. As with the study of Larson and Wilson, the current study may find dysfunctional career thoughts mediate the relationship between family environment and career indecision. It appears that anxiety lives in the heart of dysfunctional career thoughts. Individuals can have difficulty initiating or maintaining the career decision-making process because of emotional barriers or difficulty in understanding how to make a decision (decision-

making confusion), anxiety associated with potential outcomes (commitment anxiety), and problems effectively assimilating the ideas and opinions of others with regard to their career decision (external conflict; Sampson et al., 1996). As noted under Hypotheses 2 and 3, family environment has been linked to both dysfunctional career thoughts and career indecision.

Hypothesis 10

Need for achievement as measured by the PVQ will mediate the relationship between family environment as measured by the FES and career indecision as measured by the CDS.

Hypothesis 10A: Need for achievement will mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and career indecision.

Hypothesis 10B: Need for achievement will mediate the relationship between independence and career indecision.

Hypothesis 10C: Need for achievement will mediate the relationship between family organizational variables (organization and control) and career indecision.

Justification for Hypotheses 10A – 10C

Research linking need for achievement and family environment is very limited. In a study of high-school students, Gonzalez et al. (2001) reported a clear relationship between perceived parenting style and students' achievement goal orientation. It is believed that need for achievement, just as with other psychogenic needs, arises from or is altered by one's childhood experiences within the family of origin. Furthermore, it is believed that those high in need for achievement will be more decided in their vocational

choice. Research relating family environment with career indecision has been inconsistent perhaps in part to failure to account for psychological needs such as need for achievement.

Hypothesis 11

Dysfunctional career thoughts as measured by the CTI will mediate the relationship between family environment as measured by the FES and vocational identity as measured by MVS.

Hypothesis 11A: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity.

Hypothesis 11B: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between independence and vocational identity.

Hypothesis 11C: Decision-making confusion, commitment anxiety, and external conflict will mediate the relationship between family organizational variables (organization and control) and vocational identity.

Justification for Hypotheses 11A – 11C

Larson and Wilson (1998) found evidence supporting a model wherein anxiety mediates the effects of dysfunction family patterns on career decision making problems. As with the study of Larson and Wilson, the current study may find dysfunctional career thoughts mediate the relationship between family environment and vocational identity. It appears that anxiety lives in the heart of dysfunctional career thoughts. Individuals can have difficulty initiating or maintaining the career decision-making process because of emotional barriers or difficulty in understanding how to make a decision (decision-

making confusion), anxiety associated with potential outcomes (commitment anxiety), and problems effectively assimilating the ideas and opinions of others with regard to their career decision (external conflict; Sampson et al., 1996). As noted under Hypotheses 1 and 3, family environment has been linked to both dysfunctional career thoughts and vocational identity.

Hypothesis 12

Need for achievement as measured by the PVQ will mediate the relationship between family environment as measured by the FES and vocational identity as measured by MVS.

Hypothesis 12A: Need for achievement will mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity.

Hypothesis 12B: Need for achievement will mediate the relationship between independence and vocational identity.

Hypothesis 12C: Need for achievement will mediate the relationship between family organizational variables (organization and control) and vocational identity.

Justification for Hypotheses 12A – 12C

Research linking need for achievement and family environment is very limited. In a study of high-school students, Gonzalez et al. (2001) reported a clear relationship between perceived parenting style and students' achievement goal orientation. It is believed that need for achievement, just as with other psychogenic needs, arises from or is altered by one's childhood experiences within the family of origin. Furthermore, it is believed that those high in need for achievement will have a more defined vocational

identity. Research relating family environment with vocational identity has been inconsistent perhaps in part to failure to account for psychological needs such as need for achievement.

CHAPTER TWO

METHOD

Participants

Participants in this study were 211 students recruited from undergraduate psychology classes at a mid-size Southern university. College students were selected for the sample as they were expected to demonstrate adequate variability in the career development measures. The sample consisted of 90 females and 121 males, with a mean age of 19.69 years ($SD = 2.85$). Furthermore, 145 of the participants were European American (68.7%), 40 were African American (19%), nine were Asian American (4.3%), and 17 were of other ethnicities (8.06%).

Measures

General Demographics Questionnaire

The demographic questionnaire (see Appendix A) consisted of 12 items. Participants were asked to provide the following demographic information: (a) age, (b) gender, (c) ethnicity, (d) year in school, (e) GPA, (f) academic major, (g) religious affiliation, (h) socioeconomic status, (i) father's occupation, (j) mother's occupation, (k) parental divorce, and (l) parental custody.

Family Environment Scale (FES)

To measure childhood family environment, the Family Environment Scale (Moos & Moos, 2009), a standardized and widely used instrument designed to measure the social-environmental characteristics of families was used. The FES consists of ten subscales with nine true-false items per subscale. The FES was used retrospectively, as other researchers have done (Carpenter, 1984; Patterson, Charles, Woodward, Roberts, & Penk, 1981). Instructions referred the respondent to his or her family of origin, and questions were worded in the past tense.

The current study utilized the three family relationship subscales of cohesion, conflict, and expressiveness, which were described by Moos and Moos (2009). The cohesion subscale assesses the degree of commitment, help, and support family members provide for one another. The conflict subscale assesses the amount of openly expressed anger, aggression, and conflict among family members. The expressiveness subscale assesses the extent to which family members are encouraged to act openly and to express their feelings directly.

The current study also utilized the two system maintenance subscales of organization and control, which were described by Moos and Moos (2009). The organization subscale assesses how important order and organization are in the family in terms of structuring the family activities, financial planning, and explicitness and clarity in regard to family rules and responsibilities. The control subscale assesses the extent to which the family is organized in a hierarchical manner, the rigidity of family rules and procedures, and the extent to which family members order each other around.

Raw score distributions for each of the ten FES measures differ; so, standardized T-scores ($M = 50$, $SD = 10$) were recommended by the administration manual to readily compare scores across dimensions. Internal consistency and test-retest (1 year) reliabilities averaged .71 and .70, respectively, in the normative samples provided by the test developers (Moos & Moos, 2009) and in other sources (Sawin & Harrigan, 1994). Internal consistency coefficients (Cronbach's alphas) for the subscales were reported for the normative sample ($n = 1,067$) as follows: cohesion (.78), expressiveness (.69), conflict (.75), independence (.61), achievement (.64), organization (.67), and control (.78).

In addressing construct validity, the test authors examined the relationship of individual subscales to conceptually related constructs. People who see their family as more cohesive and expressive and relatively low on conflict tend to report receiving more social support from family members, better dyadic adjustment, more emotional and sexual intimacy, and more marital satisfaction (Abbott & Brody, 1985; Sandler & Barrera, 1984; Sarason, Sarason, Shearin, & Pierce, 1987; Schaefer & Olson, 1981). FES cohesion has also been associated with more parental care and less parental overprotection (Sarason et al., 1987). Some families have stable routines or rituals that occur with predictable regularity, such as the family having dinner at the same time each night or the children going to bed at about the same time every night. As expected, families with more set procedures are higher on organization and control; they also tend to be more cohesive and low on family conflict (Fiese & Kline, 1993). Dickerson and Coyne (1987) found that FES cohesion was highly correlated with cohesion as measured

by the Family Assessment Device (FAD) and the Family Adaptability and Cohesion Evaluation Scales (FACES-II).

Career Decision Scale (CDS)

The CDS (Osipow et al., 1979) was used to measure career certainty and career indecision. The CDS includes 19 items, 18 of which are self-rated on a 4-point Likert scale ranging from “not at all like me” to “exactly like me,” measuring how well the statement describes the respondent. The first two items of the CDS constitute the Certainty Scale. Item one asks whether respondents have already decided on a career or an educational major. Item two examines whether respondents feel comfortable with, and know how to, implement that choice. The next 16 items constitute the Indecision scale. The final item allows respondents to write an open-ended description of their career-decision status and expand on prior items. CDS test–retest reliabilities range from .70 to .90 (Fuqua et al., 1988)

Career Thoughts Inventory (CTI)

The CTI (Sampson et al., 1996) is based on the cognitive information-processing theoretical approach to career development and career services (Peterson, Sampson, & Reardon, 1991) and a cognitive therapy approach to mental health and mental health services (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979). Career thoughts are defined as outcomes of one’s thinking about assumptions, attitudes, behaviors, beliefs, feelings, plans, and strategies related to career problem solving and decision making (Sampson et al., 1996). The CTI consists of 48 items and produces a total score and three construct scales. Respondents use a 4-point rating scale, with responses ranging from zero (strongly disagree) to 3 (strongly agree). CTI total scores and three subscale scores were derived by

summing the items. The CTI total score consists of all 48 items and provides a global indicator of dysfunctional career thoughts. The CTI total score includes 19 items not included in the three subscales. Factor analysis provides support for three construct scales, including the Decision-Making Confusion subscale, consisting of 14 items, which measures the extent to which an individual's emotions or lack of decision-making skill knowledge interferes with his or her ability to make a career decision; the Commitment Anxiety subscale, consisting of ten items, which examines the impact that anxiety has on a person's ability to commit to a career decision; and the External Conflict subscale, consisting of five items, which examines how well the person utilizes input from others and his or her self-perception in decision making.

Evidence of the validity of the CTI is provided by Sampson et al. (1996). Correlations between the four scales of the CTI and measures of similar constructs provide support for the divergent and convergent validity of the CTI. For example, the CTI total score was inversely correlated with positive constructs such as vocational identity and occupational knowledge and positively correlated with career indecision. Finally, the CTI scores were significantly different between college students seeking career services and students not seeking career services, providing evidence of the criterion-related validity of the CTI. Internal consistency reliability coefficients have been reported between .93 and .97 for the CTI total, .90 and .94 for the Decision-Making Confusion subscale, .79 and .91 for the Commitment Anxiety subscale, and .74 and .81 for the External Conflict subscale.

My Vocational Situation (MVS)

Of the three scales on the MVS, only the Vocational Identity (VI) subscale was used in this study to explore the degree to which participants possess a “clear and stable picture of their career interests, talents, and goals” (Holland, 1982, p. 5). The VI subscale is made up of 18 true–false items. The scale scores range from 1 to 18, with high scores indicating a high vocational identity. Scale reliabilities (KR-20) for samples of high school students, college students, and workers ranged from .86 to .89 (Holland et al., 1980) and retest reliability has been estimated to be .75 for intervals of one to 3 months (Holland, Johnston, Hughey, & Asama, 1991). Validity studies have demonstrated that high scorers possess many constructive beliefs about career decision making, are relatively free of disabling psychological problems, are conscientious and responsible, have a clear sense of identity, and are not easily discouraged by barriers or environmental ambiguities (Holland et al., 1991). Scores on this scale generally increase with age, training, and degree of specialization (Holland et al., 1980).

Personal Values Questionnaire (PVQ)

The Personal Values Questionnaire (Fink & Mansfield, 1991) was used to assess achievement motivation. Though named a values questionnaire, this survey is based on the work of McClelland and is intended to assess affiliation, achievement, and power orientations. The PVQ was derived from McClelland’s Personal Motives and Values Questionnaire (Impara & Plake, 1998). The questionnaire consists of 36 items rated on a 6-point Likert-type scale, ranging from 0 = “Not important to me” to 5 = “Extremely important to me.” Each item asks the respondent to rate the importance of the statement, such as close friendly cooperative relations with others at work.

Reliability and validity for the PVQ is moderate, and it has been utilized for a decade of research with over 20,000 subjects (Fink & Mansfield, 1991). Reliability alpha coefficients are respectable at Achievement = .82, Affiliation = .77, and Power = .84 based on a sample of 147 subjects. Other literature that employed the PVQ showed alpha reliability scores of achievement = .90, affiliation = .89, and power = .90 (Langens, 2007). The publishers of the PVQ conducted a validity study comparing the PVQ to the Organizational Climate Survey Questionnaire (OCSQ) and the Management Styles Questionnaire (MSQ) in an effort to establish construct validity. The achievement section of the PVQ demonstrated statistically significant convergent validity with corresponding sections of the OSCQ and the MSQ.

Procedure

Prior to collecting data, the study was reviewed and approved by the University Human Use Committee (see Appendix B). All participants were treated according to the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2002). Participation was completely voluntary and students were asked to complete the research instruments. All information was held strictly confidential. Data were only used for group analyses, and no individual data were analyzed or reported. Twelve participants did not complete one or more of the instruments, and their data were excluded from the analyses.

An email describing the present study and requesting voluntary participation of students was sent to university instructors. The instructors were asked to forward the email to their students if they wished to include their classes in the study. The email described the purpose of the study and directed participants to an electronic portal if they

elected to participate. Before completing the survey, participants were first brought to a web page in which they were asked to read about their rights and provide an electronic signature signifying their informed consent (see Appendix C). The battery of surveys took approximately one hour to complete. Participants who chose to complete the survey were given the opportunity to enter into a raffle in which two people were randomly selected to win a \$50 gift card. Participants were also given extra credit in their psychology classes. There was no consequence for declining or dropping out as an alternative for extra credit was offered.

Data Analysis

The first level of statistical analysis conducted was the calculation of frequency and percentages of the following demographic variables: age, gender, ethnicity, and year in school. Means, standard deviations, and ranges were calculated for the variables in the study. Hypotheses 1 through 12 were tested in the following ways:

Hypotheses one and two and hypotheses four through six were tested using multiple regression analysis. Multiple regression analysis is a method of estimating the degree of linear relationship between one or more independent variables and a dependent variable (Tabachnick & Fidell, 2001). It allows statements to be made concerning the proportion of observed variability in the dependent variable that is explained by the combination of independent variables. Multiple regression aids in assessing the magnitude of the effect of the independent variables on the dependent variable (Heppner, Kivlighan, & Wampold, 1999).

Hypothesis three was tested using canonical correlation analysis. Canonical correlation is employed in order to study the relationships between sets of variables when

each set of variables consists of at least two variables (i.e., a variate). The degree of relationship between two or more sets of dependent variables and two or more sets of independent variables can be analyzed (Tabachnick & Fidell, 2001). To test hypothesis three, canonical correlation was used to test the relationship between a variate composed of quality of family relationships (cohesion, expressiveness, and conflict), personal growth dimensions (independence and achievement orientation) and family system maintenance (organization and control) and a variate composed of dysfunctional career thoughts (decision-making confusion, commitment anxiety, and external conflict). The alphas level of significant for all analyses was set at .05.

Hypotheses seven and eight were tested using a Pearson's correlation coefficient because it tests the strength of linear dependence between two variables (Tabachnick & Fidell, 2001).

Hypothesis nine through twelve focused on the possible mediating effects of dysfunctional career thoughts and need for achievement on the relationships between family environment, career indecision, and vocational identity. A mediator is a variable that alters the direction or strength of the relation between an independent or predictor variable and a dependent or criterion variable (Baron & Kenny, 1986). In this study, the independent variables are family environment factors, the mediators are dysfunctional career thoughts, and the dependent variable is career indecision. Baron and Kenny (1986) and Judd and Kenny (1981) have discussed four steps in establishing mediation. The first step in establishing mediation is to show that the initial variables (i.e., family environment) are correlated with the outcomes (i.e., vocational identity and career indecision). The second step in is to show that the initial variables (i.e., family

environment) are correlated with the mediators (i.e., dysfunctional career thoughts and need for achievement). The third step is to show that the mediators (i.e., dysfunctional career thoughts and need for achievement) affect the outcome variables (i.e., vocational identity and career indecision). The fourth step in establishing mediation is to determine if the effect of the initial variable over the outcome variable while controlling for mediator variable is zero. Sobel's test was calculated to determine if the relationship between the independent variable and dependent variable has been significantly reduced after inclusion of the mediator variable. In other words, this test assesses whether a mediation effect is significant.

CHAPTER THREE

RESULTS

Sample Characteristics

To investigate the relationship between family of origin variables, achievement motivation, and variables related to career development, 211 undergraduate student volunteers were sampled from a mid-size Southern university. Participants included in analyses ranged in age from 17 to 40 years old, with a mean age of 19.69 years ($SD = 2.85$). Of the 211 participants, 90 were female (42.7%) and 121 were male (57.3%). Furthermore, 145 of the participants were European American (69%), 40 were African American (19%), nine were Asian American (4%), and 17 were of other ethnicities (8%). A majority of the participants were freshman college students (61%), while 23% were sophomores, 11% were juniors, and 5% were seniors.

Descriptive Statistics and Reliabilities

Table 1 contains the means, standard deviations, and reliability coefficients of the Career Decision Scale (CDS), Career Thoughts Inventory (CTI), Family Environment Scale (FES), My Vocational Situation (MVS), and Personal Values Questionnaire (PVQ). The observed reliability estimates for the scales used in the analyses were examined to ensure appropriateness for inclusion in analyses testing the study's hypotheses.

All of the scales from the CDS, CTI, MVS, and PVQ have reliability estimates over .77 for the current sample. The CDS career indecision scale produced a reliability estimate of .88, which is consistent with reliabilities reported by Fuqua et al. (1988). The CTI subscales' observed reliability estimates were within the ranges reported in the test manual (Sampson et al., 1994). The reliability estimate observed for the Vocational

Table 1

Means, Standard Deviations, and Cronbach's Alpha Measures of All Scales Included in Analyses

Scale Name	<i>M</i>	<i>SD</i>	α
CDS - Career Indecision	30.96	11.37	.88
CTI - Commitment Anxiety	11.27	6.34	.89
CTI - Decision-Making Confusion	9.98	8.32	.95
CTI - External Conflict	4.47	3.06	.78
Family Environment Scale - Achievement	6.38	1.61	.64
Family Environment Scale - Cohesion	6.53	2.19	.78
Family Environment Scale - Conflict	3.59	2.19	.78
Family Environment Scale - Control	4.83	1.95	.70
Family Environment Scale - Expressiveness	5.13	1.85	.59
Family Environment Scale - Independence	6.37	1.69	.65
Family Environment Scale - Organization	5.56	2.11	.69
MVS - Vocational Identity	11.21	5.11	.89
PVQ - Need for Achievement	42.91	8.54	.82

Identity subscale of the MVS ($\alpha = .89$) was within the range described by Holland et al. (1990; i.e., K-R 20 = .86 to .89). The reliability found for the PVQ's need for achievement scale of .82 is consistent with that described by Fink and Mansfield (1991). The observed reliability estimates of the FES were somewhat lower than the other instruments, possessing reliability estimates between .59 and .78. However, these

reliabilities are consistent with the reliabilities reported in the FES test manual (Moos & Moos, 2009), which ranged from .61 to .78. Because all observed reliability estimates are at least in the moderate range, no scales were excluded from use in analyses based solely on their obtained reliability.

The means observed in the current study were compared to those observed in other research studies as a test of reliability. One sample *t* tests were conducted on the obtained mean scores to determine whether they were significantly different from previously obtained means. Table 2 presents a summary of these comparisons.

Table 2

Summary of One Sample *t* Tests Comparing the Means Obtained in the Current Study to Those Obtained in Other Research Studies

Variable	Obtained Mean	Comparison Mean	<i>t</i>	<i>p</i>
CDS - Career Indecision	30.96	32.17	-1.55	.123
CTI - Commitment Anxiety	11.27	12.92	-3.79	<.000
CTI - Decision-Making Confusion	9.98	10.72	-1.30	.195
CTI - External Conflict	4.47	3.32	5.48	<.000
FES - Achievement	6.38	6.60	-1.95	.053
FES - Cohesion	6.53	6.42	.70	.483
FES - Conflict	3.59	3.60	-.05	.960
FES - Control	4.83	4.95	-.898	.370
FES - Expressiveness	5.13	5.23	-.76	.447
FES - Independence	6.37	6.29	.68	.496
FES - Organization	5.56	5.29	1.89	.060
MVS - Vocational Identity	11.21	11.54	-.94	.347
PVQ - Need for Achievement	42.91	41.23	2.87	.005

Note. The comparison mean for the CDS was obtained from Fuqua et al., 1988. The comparison means for the CTI were obtained from Sampson et al., 1996. The comparison means for the FES were obtained from Moos & Moos, 2009. The comparison mean for the MVS was obtained from Holland et al., 1991. The comparison mean for the PVQ was obtained from Fink & Mansfield, 1991.

Three of these comparisons were significant, indicating that the means observed in the current study differed significantly from those observed in other research. A one sample *t* test was conducted on the CTI's commitment anxiety mean score to determine whether it was significantly different from 12.92, the mean for a college student population (Sampson et al., 1996). The sample mean of 11.27 (*SD* = 6.34) was significantly different from 12.92, $t(210) = -3.79, p < .000$. This indicates that the sample participants had on average less commitment anxiety than other college populations. A one sample *t* test was conducted on the CTI's external conflict scores to determine whether it was significantly different from 3.32, the mean for a college student population (Sampson et al., 1996). The sample mean of 4.47 (*SD* = 3.06) was significantly different from 3.32, $t(210) = 5.48, p < .000$. This indicates that the sample participants had on average more external conflict than other college populations. A one sample *t* test was conducted on the PVQ's need for achievement mean score to determine whether it was significantly different from 41.23, the mean for the standardization sample (Fink & Mansfield, 1991). The sample mean of 42.91 (*SD* = 8.54) was significantly different from 41.23, $t(210) = 2.87, p = .005$. This indicates that the samples need for achievement mean score was slightly greater than the mean for the standardization sample.

Correlation of All Variables to be Used in Hypothesis Testing

Prior to any analyses being conducted, a correlation matrix of all variables to be used in hypothesis testing was examined (see Table 3). Examination of the relationships among the variables reveals that, although few of the correlations are high, several of the

Table 3

Correlation Matrix of All Variables Used in Hypothesis Testing

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 CDS, Career Indecision	1.00												
2 CTI, Commitment Anxiety	.33*	1.00											
3 CTI, Decision-Making Confusion	.51*	.76*	1.00										
4 CTI, External Conflict	.31*	.64*	.65*	1.00									
5 FES, Achievement Orientation	-.17*	.06	-.08	.11	1.00								
6 FES, Cohesion	-.26*	-.20*	-.22*	-.21*	.14	1.00							
7 FES, Conflict	.19*	.17	.15	.24*	-.01	-.51*	1.00						
8 FES, Control	.12	.12	.11	.30*	.25*	-.05	.25*	1.00					
9 FES, Expressiveness	-.21*	-.30*	-.33*	-.34*	.01	.48*	-.24*	-.28*	1.00				
10 FES, Independence	-.35*	-.19*	-.21*	-.18*	.20*	.30*	-.27*	-.22*	.20*	1.00			
11 FES, Organization	-.13	-.20*	-.19*	-.08	.30*	.48*	-.38*	.18	.16	.27*	1.00		
12 MVS, Vocational Identity	-.54*	-.68*	-.67*	-.46*	-.02	.28*	-.28*	-.14	.34*	.27*	.22*	1.00	
13 PVQ, Need for Achievement	-.15	-.13	-.32*	-.18	.24*	.21*	-.13	.13	.16	.26*	.24*	.12	1.00

* Significant at $p \leq .01$.

variables correlate moderately. Vocational identity correlates moderately with the three dysfunctional career measures (i.e., commitment anxiety, decision-making confusion, and external conflict; $r = -.68, -.67,$ and $-.46,$ respectively) and with career indecision ($r = -.54$). Career indecision correlates moderately with the three dysfunctional career thoughts (i.e., commitment anxiety, decision-making confusion, and external conflict; $r = .33, .50,$ and $.31,$ respectively).

Among the family environment variables, expressiveness was moderately related to three dysfunctional career thoughts (i.e., commitment anxiety, decision-making confusion, and external conflict; $r = -.30, -.33,$ and $-.34,$ respectively). Career indecision was moderately related to family cohesion and independence ($r = -.56$ and $-.35,$ respectively). Vocational identity was moderately related to family cohesion, expressiveness, conflict, and independence ($r = .28, .34, -.28,$ and $.27,$ respectively). Independence was moderately related to need for achievement ($r = .26$). Need for achievement was also moderately related to decision-making confusion ($r = -.32$).

Examination of the Possible Effects of Gender and Ethnicity

Due to the possibility of gender differences in the variables being examined, female and male participants were compared across all variables. A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effects of gender on the family environment variables, need for achievement, dysfunctional career thoughts, career indecision, and vocational identity. The MANOVA procedure allows one to test hypotheses regarding the effect of one or more independent variables on two or more dependent variables. The results are that the variables were not significantly affected by

respondents' gender, Wilks' $\Lambda = .913$, $F(13, 197) = 1.73$, $p = .07$. These results revealed no association between gender of the respondents and their responses to the variables to be used in subsequent analyses. Therefore, participants' responses were collapsed across gender in all subsequent analyses. This finding is consistent with that of Moos and Moos (2009), who compared males' and females' perceptions of their families on the FES and concluded that there were "few, if any, overall gender differences in perceptions of family social environments" (p. 23).

Due to the possibility of cultural or ethnic differences in the family environment variables being examined in the current study, the combined dependent variables were examined for these possible differences. A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of ethnicity on the family environment variables, need for achievement, dysfunctional career thoughts, career indecision, and vocational identity. A comparison was made between the two most represented groups in the sample, African American and White participants. The combined variables were not significantly affected by respondents' ethnicity, Wilks' $\Lambda = .596$, $F(84, 1183) = 1.24$, $p = .075$. When comparing these two groups, there were no significant differences observed in the family environment variables, need for achievement, dysfunctional career thoughts, career indecision, and vocational identity. Another comparison was made comparing the responses of all White and non-White participants. The combined variables were not significantly affected by respondents' ethnicity, Wilks' $\Lambda = .544$, $F(88, 1332) = 1.23$, $p = .080$. When comparing these two groups, there were no significant differences observed in the family environment variables, need for achievement, dysfunctional career thoughts, career indecision, and

vocational identity. Therefore, participants' responses were collapsed across ethnicities in all subsequent analyses. This analysis exposed a limitation of the current study. While the ethnic breakdown of this study's participants was representative of the university from which they were recruited, the ethnic groups were somewhat uneven. The disproportion of groups raised questions of the study's external validity.

Tests of the Hypotheses

Hypothesis 1A – 1C

Hypothesis 1 stated that family environment variables as measured by the Family Environment Scale (FES) would significantly relate to vocational identity as measured by the My Vocational Situation (MVS). Hypothesis 1A stated that cohesion and expressiveness would be positively related, and conflict would be negatively related to vocational identity. Hypothesis 1B stated that independence, and achievement orientation would be positively related to vocational identity. Hypothesis 1C stated that organization would be positively related, and control would be negatively related to vocational identity. The relationships between these variables were examined using multiple regression analysis. The linear combination of family environment variables was significantly related to vocational identity, $F(7, 203) = 7.176, p < .000$. The adjusted squared multiple correlation coefficient was .198, indicating that approximately 20% of the variance of vocational identity in the sample can be accounted for by the linear combination of family environment variables.

Table 4 displays regression coefficients (B), standard error of the regression coefficients, and the standardized regression coefficients (β). In this regression, two of the regression coefficients differed significantly from zero. Independence and

expressiveness accounted for a significant proportion of the unique variance in vocational identity, $R = .445$ ($R^2_{\text{adj}} = .171$), $F(7, 203) = 7.176$, $p < .000$. Altogether, 17% of the variability in vocational identity was accounted for by independence and expressiveness. These significant standardized regression coefficients indicate that the experience of these in the family of origin environment is positively related to vocational identity. Only partial support for hypotheses 1A and 1B was found, and no support was found for hypothesis 1C.

Table 4

Summary of Multiple Regression Analysis for Family Environment and Vocational Identity ($N = 211$)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Cohesion	-.039	.205	-.017	.848
Expressiveness	.745	.207	.270	.000
Conflict	-.338	.185	-.145	.069
Independence	.525	.212	.174	.014
Achievement	-.286	.219	-.090	.193
Organization	.256	.191	.106	.182
Control	.043	.196	.016	.827

Hypothesis 2A – 2C

Hypothesis 2 stated that family environment as measured by the FES would significantly relate to career indecision as measured by the CDS. Hypothesis 2A stated that cohesion and expressiveness would be negatively related, and conflict would be positively related to career indecision. Hypothesis 2B stated that independence would be negatively related to career indecision. Hypothesis 2C stated that organization would be negatively related, and control would be positively related to career indecision. The

relationships between these variables were examined using multiple regression analysis. The linear combination of family environment variables was significantly related to career indecision, $F(7, 203) = 5.80, p < .000$. The adjusted squared multiple correlation coefficient was .138, indicating that approximately 14% of the variance of career indecision in the sample can be accounted for by the linear combination of family environment variables.

Table 5 displays regression coefficients (B), standard error of the regression coefficients, and the standardized regression coefficients (β). In this regression, one of the regression coefficients differed significantly from zero. Independence accounted for a significant proportion of the unique variance in career indecision $R = .408 (R^2_{adj} = .138)$, $F(7, 203) = 5.799, p < .000$. Altogether, 14% of the variability in career indecision was accounted for by independence. This significant standardized regression coefficient indicates that the experience of independence in the family of origin environment is negatively related to career indecision in adulthood. Hypothesis 2B was fully supported, but no support was found for hypotheses 2A and 2C.

Table 5

Summary of Multiple Regression Analysis for Family Environment and Career Indecision ($N = 211$)

Variable	B	$SE B$	β	p
Cohesion	-.613	.464	-.118	.188
Expressiveness	-.519	.468	-.185	.269
Conflict	.276	.419	.053	.512
Independence	-1.784	.481	-.266	.000
Achievement	-.846	.495	-.120	.089
Organization	.325	.434	.060	.455
Control	.190	.444	.033	.669

Hypothesis 3A – 3C

Hypothesis 3 stated that family environment variables as measured by the FES would significantly relate to dysfunctional career thoughts as measured by the CTI. Hypothesis 3A stated that cohesion and expressiveness would be negatively related, and conflict would be positively related to decision-making confusion, commitment anxiety, and external conflict. Hypothesis 3B stated that independence, and achievement orientation would be negatively related to decision-making confusion, commitment anxiety, and external conflict. Hypothesis 3C stated that organization would be negatively related and control would be positively related to decision-making confusion, commitment anxiety, and external conflict.

The hypotheses were tested using canonical correlation analysis in order to discover the dimensions along which family of origin environment variables are related to dysfunctional career thoughts variables. The analysis yielded three functions with squared canonical correlations of .20, .09, and .04 for each successive function. Collectively, the full model across all functions was statistically significant using the Wilks's $\Lambda = .702$ criterion, $F(21, 577.71) = 3.602, p < .001$. Because Wilks's Λ represents the variance unexplained by the model, $1 - \Lambda$ yields the full model effect size in an r^2 metric. Thus, for the set of three canonical functions, the r^2 type effect size was .300, which indicates that the full model explained a substantial portion, about 30%, of the variance shared between the variable sets. There is a reliable relationship between at least one variate composed of family environment variables and at least variate composed of dysfunctional career thoughts variables. The first canonical correlation was .442, accounting for 63% of the variance in the overall solution; the second was .297,

accounting for 25% of the variance in the overall solution; the third was .21, accounting 12% of the variance in the overall solution.

Table 6 summarized the canonical loadings of each of the variables. The variate comprised of dysfunctional career thoughts variables most strongly reflects the contribution of external conflict (canonical weight = .80), with commitment anxiety (canonical weight = .29) and decision-making confusion (canonical weight = -.02) making much smaller contributions.

Table 6

Summary of Canonical Correlation Analysis Examining the Relationships Between Family of Origin Variables and Dysfunctional Career Thoughts

	1 st Canonical Correlation	2nd Canonical Correlation	3rd Canonical Correlation
Dysfunctional Career Thoughts Set			
Commitment Anxiety	.292	.015	-1.589
Decision-Making Confusion	-.021	1.292	1.004
External Conflict	.805	-.968	.537
Family Environment Set			
Cohesion	.014	.047	-.356
Expressiveness	-.607	-.444	-.001
Conflict	.193	-.315	.101
Independence	-.206	-.251	.144
Achievement	.273	-.467	-.845
Organization	-.190	-.352	.800
Control	.326	-.410	.413

The variate comprised of family environment variables most strongly reflects the contribution of expressiveness (canonical weight = $-.61$), control (canonical weight = $.33$) and achievement focus (canonical weight = $.27$) making smaller contributions. Taken together, these variates indicate that less conflict with others concerning the decision-making process is associated with open expressiveness, control, and achievement focus within the family. Thus, only partial support was found for hypotheses 3A through 3C.

Hypothesis 4A – 4C

Hypothesis 4 stated that family environment as measured by the FES would significantly relate to need for achievement as measured by the Personal Values Questionnaire (PVQ). Hypothesis 4A stated that family cohesion and expressiveness would be positively related, and conflict would be negatively related to need for achievement. Hypothesis 4B stated that independence and achievement orientation would be positively related to need for achievement. Hypothesis 4C stated that organization would be positively related, and control would be negatively related to the need for achievement. The relationships between these variables were examined using multiple regression analysis. The linear combination of family environment variables was significantly related to need for achievement, $F(7, 203) = 5.54, p < .000$. The adjusted squared multiple correlation coefficient was $.132$, indicating that approximately 13% of the variance of need for achievement in the sample can be accounted for by the linear combination of family environment variables.

Table 7 displays regression coefficients (B), standard error of the regression coefficients, and the standardized regression coefficients (β). In this regression analysis, two of the regression coefficients differed significantly from zero. Independence and

control accounted for a significant proportion of the unique variance in need for achievement, $R = .40$ ($R^2_{adj} = .132$), $F(7, 203) = 5.544$, $p < .000$. Altogether, 13% of the variability in need for achievement was predicted by independence and control. These significant standardized regression coefficients indicate that the experiences of independence and control in the family of origin environment were positively related the development of the need for achievement. These findings only provide partial support for hypotheses 4B and 4C, but they provide no support for hypothesis 4A.

Table 7

Summary of Multiple Regression Analysis for Family Environment and Need for Achievement ($N = 211$)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Cohesion	.018	.350	.005	.960
Expressiveness	.661	.353	.144	.063
Conflict	-.229	.316	-.059	.469
Independence	1.082	.362	.215	.003
Achievement	.681	.373	.129	.070
Organization	.274	.327	.068	.403
Control	.819	.334	.187	.015

Hypothesis 5A – 5C

Hypothesis 5 stated that dysfunctional career thoughts as measured by the CTI would significantly relate to career indecision as measured by the CDS. Hypothesis 5A stated that decision-making confusion would be significantly positively related to career indecision. Hypothesis 5B stated that commitment anxiety would be significantly positively related to career indecision. Hypothesis 5C stated that external conflict would

be significantly positively related to career indecision. The relationships between these variables were examined using multiple regression analysis. The linear combination of dysfunctional career thoughts was significantly related to career indecision, $F(3, 207) = 24.41, p < .000$. The adjusted squared multiple correlation coefficient was .251, indicating that approximately 25% of the variance of career indecision in the sample can be accounted for by the linear combination of dysfunctional career thoughts.

Table 8 displays regression coefficients (B), standard error of the regression coefficients, and the standardized regression coefficients (β). In this regression, one of the regression coefficients differed significantly from zero. One dysfunctional career thought, decision-making confusion, accounted for a significant proportion of the unique variance in career indecision, $R = .511 (R^2_{adj} = .251), F(7, 203) = 24.406, p < .000$. Altogether, 25% of the variability in career indecision was accounted by decision-making confusion. This significant standardized regression coefficient indicate that decision-making confusion was positively related the career indecision. This finding supports hypothesis 5A, but it fails to support hypotheses 5B and 5C.

Table 8

Summary of Multiple Regression Analysis for Dysfunctional Career Thoughts and Career Indecision ($N = 211$)

Variable	B	$SE B$	β	p
Commitment Anxiety	-.220	.173	-.123	.206
Decision-Making Confusion	.821	.134	.600	.000
External Conflict	.012	.304	-.003	.969

Hypothesis 6A – 6C

Hypothesis 6 stated that dysfunctional career thoughts as measured by the CTI would significantly relate to vocational identity as measured by MVS. Hypothesis 6A stated that decision-making confusion would be significantly negatively related to vocational identity. Hypothesis 6B stated that commitment anxiety would be significantly negatively related to vocational identity. Hypothesis 6C stated that external conflict would be significantly negatively related to vocational identity. The relationships between these variables were examined using multiple regression analysis. The linear combination of dysfunctional career thoughts was significantly related to vocational identity, $F(3, 207) = 75.17, p < .000$. The adjusted squared multiple correlation coefficient was .514, indicating that approximately 51% of the variance of vocational identity in the sample can be accounted for by the linear combination of dysfunctional career thoughts.

Table 9 displays regression coefficients (B), standard error of the regression coefficients, and the standardized regression coefficients (β). In this regression, two of the regression coefficients differed significantly from zero. Two dysfunctional career thoughts, commitment anxiety and decision-making confusion, accounted for a significant proportion of the unique variance in career indecision, $R = .722$ ($R^2_{\text{adj}} = .514$), $F(7, 203) = 75.169, p < .000$. Altogether, 51% adjusted of the variability in vocational identity was accounted for by commitment anxiety and decision-making confusion. These significant standardized regression coefficients indicate that commitment anxiety and decision-making confusion are negatively related to vocational identity. These findings support hypotheses 6A and 6B but not 6C.

Table 9

Summary of Multiple Regression Analysis for Dysfunctional Career Thoughts and Vocational Identity ($N = 211$)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Commitment Anxiety	-.327	.067	-.404	.000
Decision-Making Confusion	-.260	.051	-.418	.000
External Conflict	.107	.114	.063	.306

Hypothesis 7

Hypothesis 7 stated that need for achievement as measured by the PVQ would significantly negatively relate to career indecision as measured by the CDS. The relationship between these variables was examined using a Pearson's correlation coefficient. The analysis yielded a small and non-significant correlation of $-.15$. Thus, no significant relationship was found between need for achievement and career indecision. This finding does not support hypothesis 7.

Hypothesis 8

Hypothesis 8 stated that need for achievement as measured by the PVQ would significantly positively relate to vocational identity as measured by MVS. The relationship between these variables was examined using a Pearson's correlation coefficient. The analysis yielded a small and non-significant correlation of $.12$. Thus, no significant relationship was found between need for achievement and vocational identity. This finding does not support Hypothesis 8.

Hypothesis 9A – 9C

Hypothesis 9 stated that dysfunctional career thoughts as measured by the CTI would mediate the relationship between family environment as measured by the FES and career indecision as measured by CIS. Hypothesis 9A stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and career indecision. Hypothesis 9B stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between independence and career indecision. Hypothesis 9C stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between family organizational variables (organization and control) and career indecision. Indirect effects were examined by using the steps proposed by Baron and Kenny (1986). Sobel's test was then utilized to confirm if the relationship between the independent variables and dependent variables has been significantly reduced after inclusion of the mediator variables. Table 10 summarizes the mediation analyses steps in determining the mediation effects of dysfunctional career thoughts on the relationship between family environment and career indecision.

The three dysfunctional career thoughts (commitment anxiety, decision-making confusion, and external conflict) mediated the relationship between expressiveness and career indecision, and Sobel's test indicated that the mediation effects are significant (see Figures 1, 2, & 3). The three dysfunctional career thoughts were not shown to mediate the relationships between the other family environment variables and career indecision.

These findings only partially support hypotheses 9A, but they provide no support for hypotheses 9B and 9C.

Table 10

Mediation Effects of Dysfunctional Career Thoughts on the Relationship Between Family Environment and Career Indecision

Mediation Analyses Steps	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	Beta
Analysis One: Indecision on Expressiveness	.208	.043		-.208
Analysis Two: Commitment Anxiety on Expressiveness	.304	.093		-.304
Analysis Three: Step 1: Indecision on Commitment Anxiety	.334	.111		.298
Step 2: Indecision on Expressiveness	-.717	.418	.012	-.117
Analysis One: Indecision on Expressiveness	.208	.043		-.208
Analysis Two: Decision-Making Confusion on Expressiveness	.331	.110		-.331
Analysis Three: Step 1: Indecision on Decision-Making Confusion	.505	.255		.490
Step 2: Indecision on Expressiveness	.507	.257	.002	-.045
Analysis One: Indecision on Expressiveness	.208	.043		-.208
Analysis Two: External Conflict on Expressiveness	.342	.117		-.342
Analysis Three: Step 1: Indecision on External Conflict	.307	.095		.268
Step 2: Indecision on Expressiveness	.326	.106	.012	-.116

Figure 1 shows the standardized regression coefficients for the relationship between expressiveness and career indecision as mediated by commitment anxiety. The standardized regression coefficient between expressiveness and career indecision controlling for commitment anxiety is in parentheses.

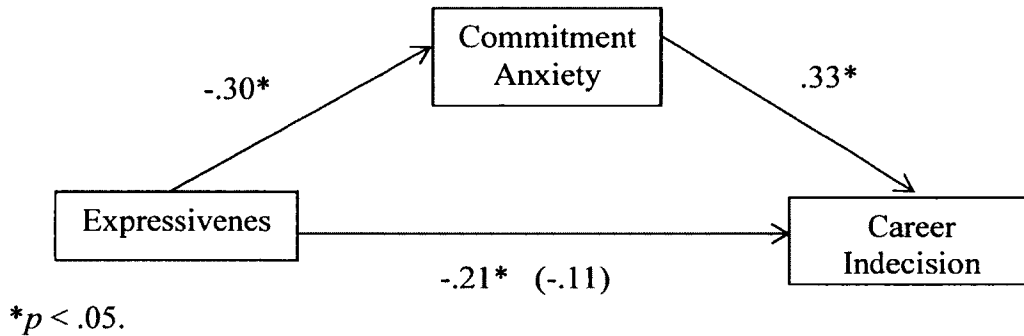


Figure 1 Standardized Regression Coefficients for the Relationship Between Expressiveness and Career Indecision as Mediated by Commitment Anxiety

Figure 2 shows the standardized regression coefficients for the relationship between expressiveness and career indecision as mediated by decision-making confusion. The standardized regression coefficient between expressiveness and career indecision controlling for decision-making confusion is in parentheses.

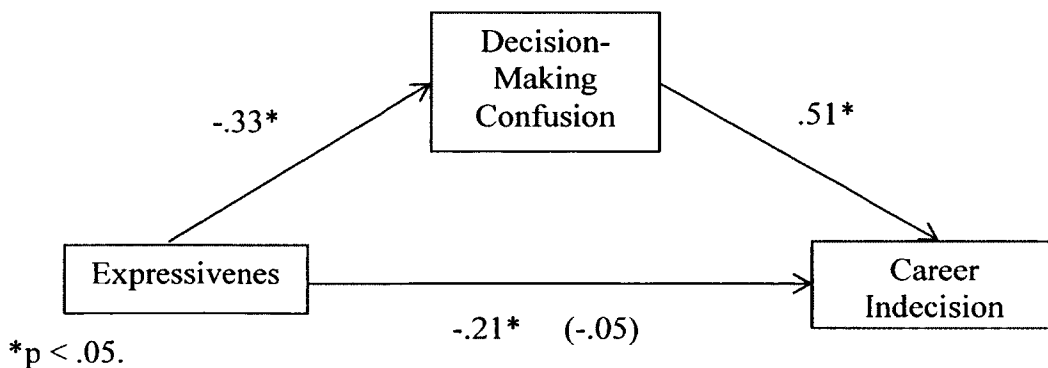


Figure 2 Standardized Regression Coefficients for the Relationship Between Expressiveness and Career Indecision as Mediated by Decision-Making Confusion

Figure 3 shows the standardized regression coefficients for the relationship between expressiveness and career indecision as mediated by external conflict. The standardized regression coefficient between expressiveness and career indecision controlling for external conflict is in parentheses.

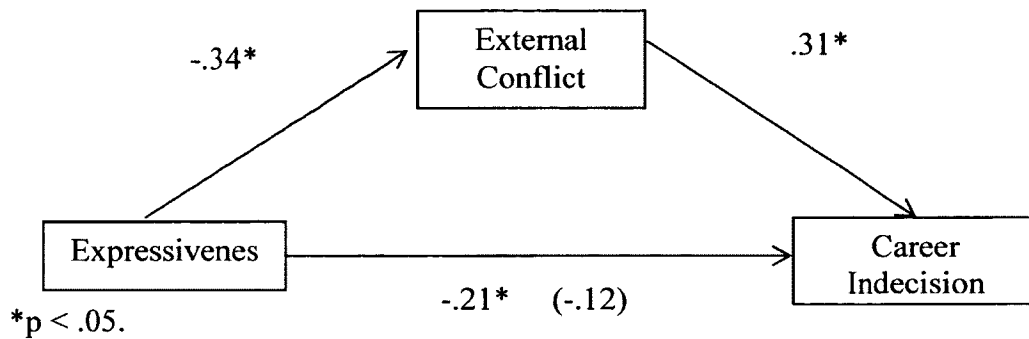


Figure 3 Standardized Regression Coefficients for the Relationship Between Expressiveness and Career Indecision as Mediated by External Conflict

Hypothesis 10A – 10C

Hypothesis 10 stated that need for achievement as measured by the PVQ would mediate the relationship between family environment as measured by the FES and career indecision as measured by the CDS. Hypothesis 10A stated that need for achievement would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and career indecision. Hypothesis 10B stated that need for achievement would mediate the relationship between independence and career indecision. Hypothesis 10C stated that need for achievement would mediate the relationship between family organizational variables (organization and control) and career indecision. MacKinnon and colleagues (2002) suggested that tests of mediation may be conducted when there is a relationship between predictors (i.e., family environment) and mediator

(i.e., need for achievement) and between a mediator and outcome (i.e., career indecision). However, analysis yielded a small and non-significant correlation of $-.15$ between need for achievement and career indecision. Due to the non-significant relationship, a test of mediation could not be performed. Thus, hypotheses 10A, 10B, and 10C were not supported.

Hypothesis 11A – 11C

Hypothesis 11 stated that dysfunctional career thoughts as measured by the CTI would mediate the relationship between family environment as measured by the FES and vocational identity as measured by MVS. Hypothesis 11A stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity. Hypothesis 11B stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between independence and vocational identity. Hypothesis 11C stated that decision-making confusion, commitment anxiety, and external conflict would mediate the relationship between family organizational variables (organization and control) and vocational identity. These indirect effects were examined by using the steps proposed by Baron and Kenny (1986). Sobel's test was then calculated to determine if the relationship between the independent variables and dependent variables has been significantly reduced after inclusion of the mediator variables. Table 11 summarizes the mediation analyses steps in determining the mediation effects of dysfunctional career thoughts on the relationship between family environment and vocational identity.

Table 11

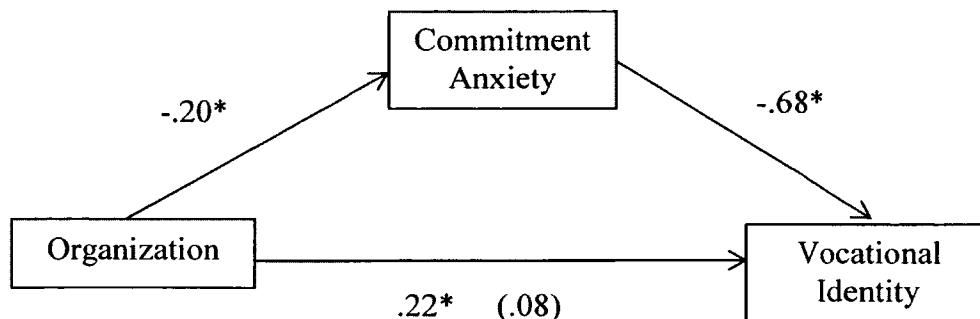
Mediation Effects of Dysfunctional Career Thoughts on the Relationship Between Family Environment and Vocational Identity

Mediation Analyses Steps	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	Beta
Analysis One:				
Vocational Identity on Organization	.218	.048		.218
Analysis Two:				
Commitment Anxiety on Organization	.203	.041		-.203
Analysis Three:				
Step 1: Voc. Identity on Commitment Anxiety	.680	.462		-.663
Step 2: Vocational Identity on Organization	.685	.469	.007	.084
Analysis One:				
Vocational Identity on Organization	.218	.048		.218
Analysis Two:				
Decision-Making Confusion on Organization	.186	.035		-.186
Analysis Three:				
Step 1: Voc. Id. on Decision-Making Confusion	.673	.453		-.655
Step 2: Vocational Identity on Organization	.680	.462	.009	.097
Analysis One:				
Vocational Identity on Control	.136	.018		-.136
Analysis Two:				
External Conflict on Control	.299	.089		.299
Analysis Three:				
Step 1: Voc. Identity on External Conflict	.455	.207		-.455
Step 2: Vocational Identity on Control	.455	.207	.000	.000

Two of three dysfunctional career thoughts (commitment anxiety and decision-making confusion) mediated the relationship between organization and vocational identity, and Sobel's test indicated that the mediation effects are significant (See Figures 4 & 5). One dysfunctional career thought, external conflict, mediated the relationship between control within the family of origin and vocational identity, and Sobel's test indicated that the mediation effect is significant (see Figure 6). The three dysfunctional career thoughts were not shown to mediate the relationships between the other family environment variables and vocational identity. These finding partially support Hypothesis 11C, but they fail to support hypotheses 11A and 11B.

Hypothesis 12A – 12C

Hypothesis 12 stated that need for achievement as measured by the PVQ would mediate the relationship between family environment as measured by the FES and vocational identity as measured by MVS. Figure 4 shows the standardized regression coefficients for the relationship between organization and vocational identity as mediated by commitment anxiety. The standardized regression coefficient between organization and vocational identity controlling for commitment anxiety is in parentheses.



* $p < .05$.

Figure 4 Standardized Regression Coefficients for the Relationship Between Organization and Vocational Identity as Mediated by Commitment Anxiety

Figure 5 shows standardized regression coefficients for the relationship between organization and vocational identity as mediated by decision-making confusion. The standardized regression coefficient between organization and vocational identity controlling for decision-making confusion is in parentheses.

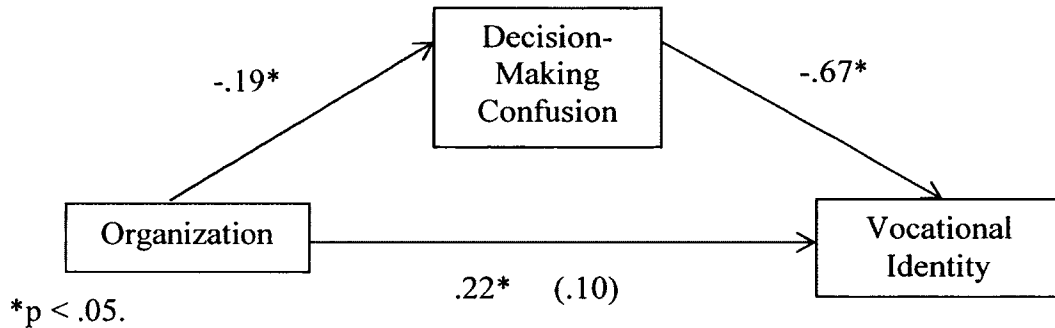


Figure 5 Standardized Regression Coefficients for the Relationship Between Organization and Vocational Identity as Mediated by Decision-Making Confusion

Figure 6 shows standardized regression coefficients for the relationship between control and vocational identity as mediated by external conflict. The standardized regression coefficient between control and vocational identity controlling for external conflict is in parentheses.

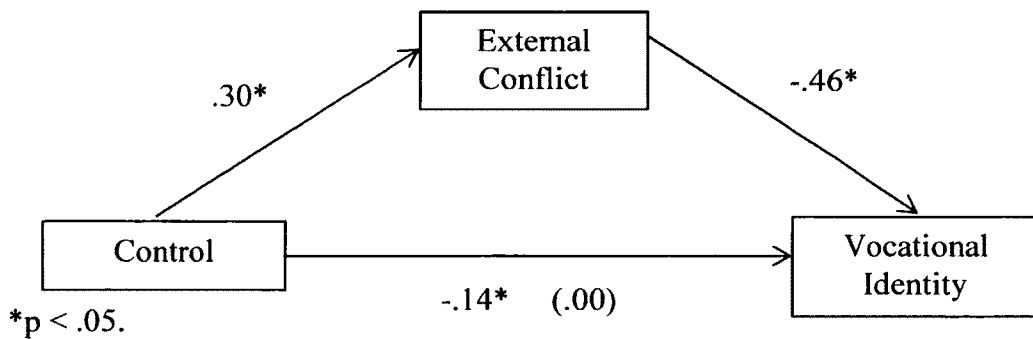


Figure 6 Standardized Regression Coefficients for the Relationship Between Control and Vocational Identity as Mediated by External Conflict

Hypothesis 12A stated that need for achievement would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity. Hypothesis 12B stated that need for achievement would mediate the relationship between independence and vocational identity. Hypothesis 12C stated that need for achievement would mediate the relationship between family organizational variables (organization and control) and vocational identity. MacKinnon and colleagues (2002) suggested that tests of mediation may be conducted when there is a relationship between predictors (i.e., family environment) and mediator (i.e., need for achievement) and between a mediator and outcome (i.e., vocational identity). However, analysis yielded a small and non-significant correlation of .12 between need for achievement and vocational identity. Due to the non-significant relationship, a test of mediation could not be performed. Thus, hypotheses 12A, 12B, and 12C were not supported.

CHAPTER FOUR

DISCUSSION

The purpose of this study was to examine the relationships among family of origin variables, career thoughts, career indecision, vocational identity, and need for achievement. The current study provided limited evidence of a relationship between the family environment and career development measures. Specifically, independence and expressiveness in the family of origin environment were found to be positively related to vocational identity. Independence was also found to be negatively related to career indecision. Thus, some aspects of the family environment are important in career development. This supports the work of many theorists who have included in their focus the examination of the influence of one's family of origin with regards to career development (Whiston & Keller, 2004). It becomes not only important to be able to adequately assess career decisions and satisfaction within a world where the clients' personal and professional lives have become fused but also to be able to systemically assess the factors within the family of origin that contribute to the clients' presenting issues surrounding their career (Chope, 2005). To ignore family of origin influence could be detrimental. Focusing on individual factors while exempting contextual ones may result in prolonged or inadequate career development.

This study helped validate the attention given to dysfunctional career thoughts and cognitive-based theories, such as career-processing information theory. It was found that less conflict with others concerning the decision-making process was associated with open expressiveness, control, and achievement focus within the family of origin. The three dysfunctional career thoughts (commitment anxiety, decision-making confusion, and external conflict) mediated the relationship between expressiveness and career indecision. One dysfunctional career thought, external conflict, mediated the relationship between conflict within the family of origin and career indecision. Two of three dysfunctional career thoughts (commitment anxiety and decision-making confusion) mediated the relationship between organization and vocational identity. One dysfunctional career thought, external conflict, mediated the relationship between control within the family of origin and vocational identity. Career thoughts are important factors that influence an individual's career decision-making process and overall vocational development. Individuals can have difficulty initiating or maintaining the career decision-making process because of emotional barriers or difficulty in understanding how to make a decision. They can also have difficulty committing to a career choice because of the anxiety associated with potential outcomes. They can have problems effectively assimilating the ideas and opinions of others with regard to their career decision. These dysfunctional career thoughts provide opportunities to influence overall career development. To challenge these thoughts may facilitate career decision making and greater vocational identity.

Another purpose of the current study was to explore whether need for achievement is related to family of origin, dysfunctional career thoughts, career

indecision, and vocational identity. It was found that independence and control in the family of origin environment were positively related to the need for achievement. No significant relationship was found between the need for achievement and career indecision. In addition, no significant relationship was found between need for achievement and vocational identity. The need for achievement was not shown to mediate the relationships between family environment and career indecision or between family environment and vocational identity. Though additional research is warranted, the need for achievement was not shown to be a salient factor in career development.

Discussion of Hypotheses

Hypothesis 1

The first set of hypotheses was tested to determine if there were significant relationships between family environment variables and vocational identity. The experiences of independence and expressiveness in the family of origin environment are positively related to the development of vocational identity. It appears that when family members are encouraged to act openly and to express their feelings directly, they are more likely to develop a “clear and stable picture of one’s goals, interests, and talents” (Holland, 1982, p. 5). It also seems that when family members are encouraged to be assertive, self-sufficient, to make their own decisions, and to think things out for themselves, they are more likely to develop vocational identity.

The pattern of family environment which consists of high cohesion, high expressiveness, and low conflict was referred to as the “supportive family style” by Bray, Williamson, and Malone (1984). Johnson et al. (1998) found that this supportive family style was positively related to vocational identity. The present study only partially

replicated these earlier findings. This could be due to differences in the samples tested across studies. These studies' participants differed in terms of region of the country, gender, and ethnic makeup. For example, the participants of Johnson et al. study consisted of European Americans (59%) and Mexican Americans (41%), while the present study's participants were comprised of European Americans (69%), African Americans (40%), Asian Americans (4%), and small of number of other ethnicities (8%).

The present study failed to support the notion that the degree of family structure and organization in planning activities and responsibilities (i.e., organization) and setting rules and procedures used in running the family (i.e., control) are related to career identity. In other words, the forces which organize families and provide context for family interaction were not shown to be related to the formation of vocational identity in college-aged adults. This does not support the work of Penick and Jepsen (1992), who found that family system maintenance variables (democratic and authoritarian family styles and enmeshment) were significant predictors of vocational identity. This 1992 study and the present study differed in the instruments used to measure family environment. Based on the findings of this study, it appears that the structure of family does not relate to identity. It could also be that structural variables influence vocational identity indirectly through other variables. Perhaps a different result would be found by operationalizing family structure differently and by utilizing different measures of family structure. An example of another measure of family structure worth considering in future research is the Beavers Interactional Scale (Beavers & Hampson, 2000).

Hypothesis 2

The second set of hypotheses concerned the relationships between family environment variables and career indecision. It was found that the experience of independence in the family of origin is negatively related to career indecision. It appears that when family members are encouraged to be assertive, self-sufficient, to make their own decisions, and to think things out for themselves, they are less likely to be undecided about their career path. This is consistent with Kinnier et al. (1990), who in applying an intergenerational systems model, found that differentiation, a concept akin to independence, was significantly related to scores on the Career Decision Scale. It may be that those who experience greater independence have internalized and more fully developed decision making abilities, and they have applied those abilities to their career decision making.

That hypothesis 2A, which stated that independence would be negatively related to career indecision, was not supported is surprising as these findings contradict those of previous studies. For example, Hargrove et al. (2005) observed that the degree to which family members are encouraged to express feelings and problems predicted career planning activities of adolescents. Sumari et al. (2009) found that the cohesion subscale of the FES was positively correlated with career decision-making self-efficacy, which has been negatively correlated with career indecision. There are some key methodological differences between the current study and these studies. Most notable is that the different studies utilize different career-related constructs as outcome variables. Based on the findings of this study, it appears that cohesion, expressiveness, and conflict do not directly relate to career indecision.

The results of this study suggest that organization and control do not directly relate to career indecision. The idea that order and organization in a family produces individuals who can more clearly make career decisions may be a logical one, but it does not pass an empirical test. It was hypothesized that control within the family may undermine one's decision making by reducing decision making autonomy and by shifting decision making to more powerful family members. It may be that one has a higher degree of career decidedness due to the decision having been shared by other family members. Decision making does not occur in isolation (Cook et al., 2002). It is also possible that other individual factors, such as anxiety, may mediate the relationship between family control and career indecision (Fuqua et al., 1988).

Hypothesis 3

The third set of hypotheses stated that family environment would be significantly related to dysfunctional career thoughts as measured by the CTI. It was found that less conflict with others concerning the decision-making process is associated with open expressiveness and control within the family. These findings only provide partial support for hypotheses 3A through 3C. It appears that when family members are encouraged to act openly and to express their feelings directly, they are less likely to experience conflict with others concerning career decision making. It makes sense that if people are allowed to freely express themselves within the family, then that generalized freedom translates into freedom of career choice. That control was related to external conflict provides evidence that when the family is organized in a hierarchical manner and when family members are ordered around, then they experience more conflict with others concerning

career decision making. Perhaps the family system responds to an individual family member's decision by conflict to maintain order, structure, and family homeostasis.

Cohesion, overall family conflict, independence, and organization were not related to dysfunctional career thoughts. Most surprising was that overall family conflict was not related to dysfunctional career thoughts. This is in contradiction with the findings of Dodge (2001), who found that conflict in the family of origin are associated with greater levels of dysfunctional career thoughts. Also, the research of Smith (2011) indicates that family relationship dynamics and family maintenance forces are associated with dysfunctional career thoughts. Like Dodge, Smith found conflict to be the family of origin variable most strongly associated with dysfunctional career thoughts. Career thoughts may be influenced by a number of different factors not addressed in this study, such as academic achievement and occupational experience. Given the mixed results across studies, the relationships between family conflict and dysfunctional career thoughts remain unclear. This may reflect reliability issues with the self-report measures.

Hypothesis 4

The fourth set of hypotheses tested the relationships between family environment variables and need for achievement. The experiences of independence and control in the family of origin are related to need for achievement. It appears that when family members are encouraged to be assertive, self-sufficient, to make their own decisions, and to think things out for themselves, they have a greater need for achievement. One may exercise their independence through significant accomplishment, mastering of skills, and meeting high standards (Orpen, 1985). It also seems that when a family is organized in a hierarchical manner, has rigidity of family rules and procedures, and when family

members order each other around, then individuals demonstrate a lower need for achievement. Perhaps the controlled individual learns to conform to the family or group and has less of a need to personally achieve and master tasks (Kramer, 2012).

Family cohesion, expressiveness, conflict, achievement orientation, and organization were not found to be related to need for achievement. Hypotheses 4A through 4C were based on research linking need for achievement with parenting practices in childhood (Birney et al., 1969; Conroy, 2003; Elliot & Reis, 2003; Elliot & Thrash, 2004; McClelland et al., 1953). For example, Elliot and Reis (2003) found that those with a secure attachment style have a higher need for achievement and less fear of failure than those with an anxious/ambivalent or avoidance attachment style. It was presumed that qualities of family environment, other than attachment style, are related to need for achievement; however, only limited empirical support was found for this presumption. Need for achievement may be better explained by other factors, such as encouragement to take moderate risks, not assessed in this study. In fact, attachment theory may have more relevance and empirical support in explaining the development of the need for achievement. People with secure attachment styles describe themselves as more curious and exploratory, compared with a avoidant and ambivalent individuals, and they hold more positive attitudes about being open-minded and curious (Mikulincer, 1997).

Hypothesis 5

The fifth set of hypotheses explored the relationships between dysfunctional career thoughts and career indecision. It was found that those who have greater career indecision tended to have more decision-making confusion, which is defined as “an inability to initiate or sustain decision-making process as a result of disabling emotions

and/or a lack of understanding about the decision-making process” (Sampson et al., 1996, p. 2). It seems that there are dysfunctional thoughts that accompany career indecision, and it is important to identify these thoughts to challenge or correct them to help resolve the indecision. The undecided person may have a lack of clarity in understanding how to go about the career decision-making process. They may feel so overwhelmed by the magnitude of the problem that they fail to progress through the decision-making process. These findings only partially support previous research which suggests that dysfunctional career thoughts are associated with a variety of problematic cognitive, affective, and behavioral consequences. For example, students who were undecided in their college major were found to possess greater dysfunctional career thoughts than decisive students (Kilk, 1998).

Career indecision was not significantly related to commitment anxiety, which is defined as “an inability to make a commitment to a specific choice, accompanied by generalized anxiety about the outcome of the decision-making process” (Sampson et al., 1996, p. 2). It may be that career indecision is a normal experience for traditional college students and is less related to anxiety than for non-college students or older people making career decisions. College students often extend their studies beyond four years, and they may feel less pressure to decide quickly about a career path. Career indecision was also not significantly related to external conflict, defined as “an inability to balance the importance of one’s own self-perceptions with the importance of input from significant others, resulting in the reluctance to assume responsibility for decision making” (Sampson et al., 1996, p. 2). Perhaps career indecision has less to do with the

input from others than has been thought. At least among this sample, their thinking was somewhat independent of the influence of significant others.

Hypothesis 6

The sixth set of hypotheses examined the relationships between dysfunctional career thoughts and vocational identity. It was found that commitment anxiety and decision-making confusion were negatively related to the development of vocational identity. Those who have greater vocational identity tended to have less commitment anxiety, which is defined as difficulty making a commitment to a specific choice and experiencing generalized anxiety about the outcome of the decision-making process (Sampson et al., 1996). Those who have greater career vocational identity also tended to have less decision-making confusion, which is defined as difficulty beginning or sustaining the decision-making process as a result of negative emotions and/or poor understanding about the decision-making process (Sampson et al., 1996), was positively related career indecision. As these findings are correlational, one cannot ascribe causality. It could be that those who have greater vocational identity have fewer dysfunctional career thoughts at the point of time when they participated in this study. It could also be that those with fewer dysfunctional career thoughts have a more stable sense of who they are in relation to world of work.

Vocational identity was not significantly related to external conflict, defined as difficulty balancing one's own self-perceptions with the influence of significant others, resulting in difficulty in decision making (Sampson et al., 1996). The obstacle of external conflict appears unrelated to vocational identity such that those with greater vocational identity may or may not have difficulty balancing their thoughts about career with those

of significant others. This is counterintuitive. It seems that one with a greater sense of identity should be better able to differentiate the perceptions of others from their self-perception and to find a balance between pleasing others and pleasing self.

Hypothesis 7

Hypothesis 7 stated that need for achievement would be significantly negatively related to career indecision. The results did not support hypothesis 7. No significant relationship was found between need for achievement and career indecision. Need for achievement is related to a number of qualities, such as the tendency to thrive on personal challenge (Atkinson & Raynor, 1978), that may make one better equipped to face the challenges associated with career decision making and career development. This study provides no empirical support for such an assertion. Need for achievement is a complicated motivational force that may or may not result in career indecision. Simply because people are more motivated to be accomplished, master skills, and meet high standards does not mean that they know the work context in which they will meet the need for achievement. The need for achievement will likely persist despite periods of indecision and will likely transfer to different occupational settings (Hustinx, Kuypers, van der Werf, & Dijkstra, 2009).

Hypothesis 8

Hypothesis 8 stated that need for achievement would be significantly positively related to vocational identity, but it was not supported by the results. No significant relationship was found between need for achievement and vocational identity. Hypothesis 8 was based on the notion that those with high need for achievement tend to choose moderately difficult tasks, feeling that they are challenging, but within reach. Those with

low need for achievement may choose very easy tasks, in order to minimize risk of failure, or highly difficult tasks, such that a failure would not be embarrassing (Raynor & Smith, 1966). It was suspected that those with a high need for achievement are more apt to engage in the career-related tasks that contribute to their vocational identity. On the other hand, those with a low need for achievement may avoid such career-related tasks, thus postponing vocational identity achievement. This supposition relating the variables of need for achievement and vocational identity is not supported by the current findings. Need for achievement is a complicated motivational force that does not appear to contribute to the development of vocational identity. Simply because one is more motivated to be accomplished, master skills, and meet high standards does not mean that they have a clear and stable picture of who they are in relation to the world of work (Faye & Sharpe, 2008). Many people may have a low need for achievement, yet they develop a strong vocational identity.

Hypothesis 9

The ninth set of hypotheses concerned whether dysfunctional career thoughts mediate the relationships between family environment and career indecision. The three dysfunctional career thoughts (commitment anxiety, decision-making confusion, and external conflict) mediated the relationship between expressiveness and career indecision. In other words, dysfunctional career thoughts influence the relationship between open expressiveness in the family of origin and career indecision in young adulthood. It may be that when family members are not encouraged to act openly and to express their feelings directly, they experience greater dysfunctional thoughts, which in turn create career decision-making problems. If people are allowed to freely express their thoughts,

then they have the opportunity to share even the dysfunctional ones. The family may then act to challenge or correct the dysfunctional thinking.

One dysfunctional career thought, external conflict, mediated the relationship between conflict within the family of origin and career indecision. Current external conflict regarding career decision making alters the relationship between conflict within the family of origin environment and career indecision. A family's conflict may manifest as the inability to balance the importance of one's own self-perceptions with the importance of input from significant others (Hargrove et al., 2005). This may then result in the reluctance to assume responsibility for personal decision making. It is, perhaps, the ongoing dysfunctional thinking and not the family of origin conflict that is contributing to career indecision.

Decision-making confusion, commitment anxiety, and external conflict did not mediate the relationship between independence and career indecision. This family of origin variable likely has a more direct effect on career indecision, rather than an indirect or mediated effect. The experience of independence in the family of origin was shown to be negatively related to career indecision. It appears that when family members are encouraged to be assertive, self-sufficient, to make their own decisions, and to think things out for themselves they are less likely to be undecided about their career path.

Decision-making confusion, commitment anxiety, and external conflict did not mediate the relationship between family organizational variables (organization and control) and career indecision. As previously noted, organization and control were not shown to be significantly related to career indecision. It was hypothesized that control within the family may undermine one's decision making by reducing decision-making

autonomy and by shifting decision making to more powerful family members. What was not considered is that one may have a higher degree of career decidedness due to the decision having been shared by other family members. It is also possibly that other factors, such as personality traits, may mediate the relationship between family control and career indecision (Saucier, Wilson, & Warka, 2007).

Hypothesis 10

The tenth set of hypotheses involved need for achievement mediating the relationships between family environment and career indecision. Hypothesis 10A stated that need for achievement would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and career indecision. Hypothesis 10B stated that need for achievement would mediate the relationship between independence and career indecision. Hypothesis 10C stated that need for achievement would mediate the relationship between family organizational variables (organization and control) and career indecision. The results provide no support for hypotheses 10A through 10C. No significant relationship was found between need for achievement and career indecision, and, therefore, a test of mediation could not be performed.

Hypothesis 11

The eleventh set of hypotheses tested whether dysfunctional career thoughts mediate the relationships between family environment and vocational identity. Two of the three dysfunctional career thoughts (commitment anxiety and decision-making confusion) mediated the relationship between organization and vocational identity. Perhaps when there is a lack of structure and planning in a family, individuals experience greater decision-making confusion and anxiety about the decision. These dysfunctional

career thoughts then become barriers to achieving vocational identity. In an unorganized environment, children do not have adequate models for decision making (Parillo, 2008). Without being taught directly or indirectly about decision making, individuals may be poorly prepared to face the major life task of finding a clear and stable picture of who they are in relation to the world of work.

One dysfunctional career thought, external conflict, mediated the relationship between control within the family of origin and vocational identity. Current external conflict regarding career decision making alters the relationship between control within the family of origin environment and vocational identity. A family's control may manifest as the inability to balance the importance of one's own self-perceptions with the importance of input from significant others (Horne, 2010). This may then result in the reluctance to assume responsibility for personal decision making and achieving greater vocational identity. It is, perhaps, the ongoing dysfunctional thinking and not the family of origin control that is contributing to lower vocational identity.

It was found that decision-making confusion, commitment anxiety, and external conflict did not mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity. The experiences of expressiveness in the family of origin environment are positively related the development of vocational identity. It appears that when family members are allowed and encouraged to act openly and to express their feelings directly they are more likely to develop a "clear and stable picture of one's goals, interests, and talents" (Holland, 1982, p. 5). Family cohesion and conflict were not found to be related to vocational identity. It appears that individuals

may develop vocational identity regardless of their family's degree of cohesion and conflict.

Decision-making confusion, commitment anxiety, and external conflict also did not mediate the relationship between independence and vocational identity. This family of origin variable seems to have a more direct effect on vocational identity, rather than an indirect or mediated effect. The experience of independence in the family of origin was shown to be positively related to vocational identity. It appears that when family members are encouraged to be assertive, self-sufficient, to make their own decisions, and to think things out for themselves they develop a clear and stable picture of who they are in relation to the world of work (Horne, 2010).

Hypothesis 12

The twelfth set of hypotheses concerned whether achievement mediates the relationships between family environment and vocational identity. Hypothesis 12A stated that need for achievement would mediate the relationship between family relationship dynamics (cohesion, expressiveness, and conflict) and vocational identity. Hypothesis 12B stated that need for achievement would mediate the relationship between independence and vocational identity. Hypothesis 12C stated that need for achievement would mediate the relationship between family organizational variables (organization and control) and vocational identity. The results provide no support for hypotheses 12A, 12B, or 12C. No significant relationship was found between need for achievement and vocational identity, and, therefore, a test of mediation could not be performed.

Implications

Achieving vocational identity is an important developmental task that is normative for young adults. The failure to develop vocational identity can cause serious career-related difficulties (e.g., job dissatisfaction; Gushue et al., 2006) and negative mental health consequences (e.g., depression, anxiety, lack of self-esteem; Strauser et al., 2008). Career indecision is associated with anxiety (e.g., Fuqua et al., 1988), self-criticism (e.g., Cooper et al., 1984), identity confusion (e.g., Holland & Holland, 1977), and self-consciousness (e.g., Leong & Chervinko, 1996). These issues prompt clients to seek help from career counselors and other mental health professionals. The findings from this study suggest that counselors need to consider both individual (e.g., dysfunctional career thoughts) and environmental factors (e.g., family environment) in conceptualizing and planning treatment for concerns related to vocational identity development and career decision making.

The results of the study support the importance of incorporating a systemic approach in career counseling. For example, the Systemic Theory Framework (STF) incorporates both the contextual and individual systems, which can help counselors address contents and process simultaneously (Patton & McMahon, 1997; Zimmerman & Kontosh, 2007). In other words, counselors need to assess the client's individual characteristics (e.g., dysfunctional career thoughts) and contextual backgrounds (e.g., family, peer, and romantic relationships) related to the presenting issues when providing career counseling. Counselors also need to identify the quality of the ongoing interactions between the individual and his or her context (e.g., family environment), which influence

the client's decision making and perceived difficulties in clarifying and stabilizing current and future career goals.

Vocational identity and career decision making may be facilitated through therapeutic interventions designed to assist family members to act openly among one another and express their feelings directly to one another. In addition to encouraging open expressiveness, it may be beneficial for clinicians to help family members be assertive, self-sufficient, to make their own decisions, and to think things out for themselves. Therapeutic techniques that assist clients in stabilizing healthy affective and cognitive boundaries between themselves, significant others, and parents could be expected to have positive outcomes in terms of facilitating vocational identity and career decision making. Counselors can facilitate identity development by encouraging young adults to identify feelings toward significant others and their parents, assisting them in recognizing patterned ways of responding, and helping them to develop more effective ways of interacting, particularly during times of stress. Techniques such as the use of "I" statements and assertiveness training are examples of therapeutic techniques that could prove useful in this process (Driscoll, Cukrowicz, Reardon, & Joiner, 2004).

It is not only important to be able to adequately assess career decisions and satisfaction within a world where the clients' personal and professional lives have become fused but also to be able to systemically assess the factors within the family of origin that contribute to the clients' presenting issues surrounding their career (Chope, 2005). To facilitate this assessment, a number of therapeutic interventions have been developed. Kakiuchi and Weeks (2009) developed the Occupational Transmission genogram based on the transactional analysis and family systems theories, where life

scripts or beliefs about who one is and ought to be are transmitted to people through one's parents and other influential people throughout one's life. The genogram consists of a series of questions that are designed to explore existing themes, scripts, and attitudes that have been passed down through the family of origin and influence clients' career choice, their definition of success, and how this transfers into their lives and relationships. It attempts to look at the way those sentiments affect choices, behaviors, and attitudes they have regarding career achievement, employment goals, and relational interactions between partners and family members.

The present study has other important implications for mental health professions and social service agents working with families and young adults. This study highlights the impact of the quality of family environment on an important area of young adults, career development. Existing support structures such as parenting classes, family therapy, and psychoeducational courses on communication could all be useful interventions for at risk families. Parent Effectiveness Training (PET) has been shown to promote better family communication and an increase in support and a decline in family structure and delegation of decision-making (Pinsker & Geoffroy, 1981; Wood & Davidson, 1987). In addition, parent-child mediation may be a useful intervention strategy for resolving parent-child disputes. After participating in one such program, parents and adolescents reported more family expressiveness, independence, achievement, and recreational orientation (van Slyck, Stern, & Zak-Place, 1996).

Practitioners, researchers, and theorists have noted over time that some clients verbalize dysfunctional statements about career choice that make career problems solving and decision making more difficult (Judge & Locke, 1993). In the current study,

dysfunctional career thoughts were shown to serve a mediating role between family environment and career outcome variables. Although interventions to reduce the detrimental impact of dysfunctional career thinking vary in terms of specifics, many approaches include some type of cognitive restructuring. Kinnier and Krumboltz (1986) defined cognitive restructuring as “uncovering or identifying maladaptive thoughts or beliefs that are irrational, exaggerated, or inaccurate and then correcting or modifying them so that they become more adaptive, rational, realistic, or accurate” (pp. 312-313). Part of this process may be to explore the origin of dysfunctional career thoughts. Career counselors could include as part of the process the possibility of family environment as an influence in how the client thinks about career decision making. In gaining such insight, the client may experience greater separation from these cognitive distortions. The client may then be in a better place to engage in restructuring exercises in which he or she actively rehearses the reframing of key statements.

Limitations

One significant limitation of the present study is its limited applicability across cultures. Relevant theories, including family systems theory, are well established in Western psychological thought. However, their applicability in non-Western cultures and with non-Western samples may be very limited. One of the family environment variables in this study, independence, appears to conflict with values of some cultures. Many cultures, such as many African and Asian cultures, tend to be collectivistic in nature, emphasizing group goals over personal goals, defining the self through the collective and emphasizing the needs of others (Triandis, 1989). These interpersonal dynamics, which are contrary to the psychologically healthy dynamics described Western-based family

systems theorists, are the norm in collectivist societies and may be labeled as unhealthy by Western minds. Therefore, the results of this study, which is derived from the work of Bowen and other theorists, should not be applied in non-Western cultures.

Another limitation of this study is that the data were collected using self-report measures. A disadvantage of self-report is that it is vulnerable to distortions by the participant (Heppner et al., 1999). For a variety of reasons, the participant may consciously or unconsciously respond in a way that yields a biased response rather than an accurate measure of the construct. Participants may guess the hypothesis of the study and respond in a way that they think confirm the researcher's conjecture. They may respond in a manner that puts them in a positive light or in a socially desirable way. Recent events could influence participants' perception and recollection of their experience (Goodwin, 2005). For example, a recent conflict with one's family could alter their perception of the overall and long-term pattern of conflict.

Multiple measures are important in capturing the essence of a construct. In this study, the variables were measured using the same method, which may introduce bias. If a participant responds in a socially desirable way to all self-report instruments, then consistent bias is introduced by the method. The correlation between variables may be influenced from method variance rather than by any true correlation between constructs. A question remains: Would the results be similar if the constructs were operationalized using different methods? This mono-method bias introduces threats to construct validity (Donaldson & Grant-Vallone, 2002).

Another important limitation of the present study concerns its generalizability due to the characteristics of the obtained sample. The most important of these concerns the

study utilizing only college students in the sample. The lack of non-college students limits the generalizability of the study to non-college student populations. Time and maturation may in part account for changes in the career-related variables, such as vocational identity. One limitation is generalizability based on the samples due to regional and cultural limitations. The sample was obtained from a single Southern university. The ethnic breakdown of the sample is representative of the university from which it was obtained; however, some ethnic groups (e.g., Asian Americans) are underrepresented. Therefore, due to possible cultural differences, caution should be used in generalizing to ethnic groups not represented or underrepresented in the present study.

Methodological limitations are also present in the current study. For example, due to the nature of family environments and their impact on young adults as well as the statistics used, causation cannot be ascribed to relationships among the variables. It is certainly reasonable to assume that, since family environment variables impact development prior to career development, family environment is clearly influencing later career development. However, it is also possible that the family is influencing some other moderating factors, such as cognitive development, which in turn influences the development of career outcomes such as career indecision. Therefore, statements concerning the relationships among the variables in the study are limited to statement of strength and direction of the relationships.

Another methodological limitation concerns the present study accounting for potential extraneous variables, which could possibly attenuate the relationships among the variables under study. For example, family structure (i.e., single parent families versus two-parent families) impacts the career development of young adults (Johnson et

al., 1999). It was beyond the scope of the present study to account for the potential impact of such variables, although doing so could possibly have further clarified the nature of the relationships among the variables under study.

Suggestions for Future Research

Along with adding to the literature base on the relationship between family of origin and career development of young adults and having implications for counselors, the results of the present study may have value in guiding future research in this area. For example, the finding that family expressiveness is positively related to the development of vocational identity indicates that future researchers should continue to examine the impact of family of origin on the development of young adults. A potential avenue for future research is to investigate the impact of family structure on career development, which is not examined by the present study.

A second recommendation for future research is to assess young adults who are not college students. By collecting data exclusively from college students, it is likely that the sample was truncated such that those young adults who have entered the workforce without having gone to college are underrepresented. It is possible that these individuals may have less developed vocational identities, for example. Assessment of non-college students along with college students would allow for a better examination of the impact of the dimensions of family of origin on the career development of young adults. By collecting data exclusively from college students the variability in the sample may be reduced in other important ways. This truncation may have impacted important predictors, such as the family organizational forces and some elements of family dynamics. Relationships between these variables and the measured career outcomes may

be revealed if a sample with greater variability is obtained. Therefore, future researchers should consider collecting data from young adults in the community as well as from the college.

A third recommendation for future research relates to the assessment instruments currently available to assess family of origin variables. The Family Environment Scale is among the most frequently used instruments in this area of research. However, the obtained reliability (i.e., Cronbach's alpha) of the FES subscales used in the current study range from .57 to .78, which is not impressive. Further research is needed in order to construct more psychometrically sound instruments or refine extant instruments with which to assess family environment.

A fourth recommendation for further research relates to the ethnic breakdown of the sample. The functional utility of family environment is expected to vary across cultures. Further studies could obtain large samples of major ethnic groups to examine potential differential impact of family environment on career development by ethnic group. In such studies it would also be of the theoretical interest whether family of origin variables, such as independence, play a functional role in the career development of individuals from non-Western cultures. Further acculturation studies could also investigate how family environment variables change as non-Western families become acculturated into Western society.

Conclusions

The nature and quality of relationships with significant others (e.g., parents) have been posited as explanatory factors in various domains of human development, including career development (Blustein et al., 1995). Several major career theorists have mentioned

the influential role of family-of-origin factors on individual career behaviors (Gottfredson, 1981; Holland, 1997; Super, 1957). For example, Super's theory (Super, 1957; Super et al., 1963) suggested that important relationships, such as those with family and peers, can influence career development by facilitating the development and implementation of one's self-concept. In terms of the career adaptability, Savickas (2002) also suggested that the degree of independence and assertiveness in the close relationship (e.g., family) is essential to form a sense of control and to have competence in making career-related decisions.

Overall, the results of the study suggest that there are different mechanisms interacting between individual (e.g., dysfunctional career thoughts) and contextual factors (e.g., family support) which influence career decision making and the development of vocational identity. Previous researchers have suggested that clients can be understood best in the context of their sociological, psychological, cultural, and economic heritage and in their family and culture (Chope, 2005; Gysbers, Heppner, & Johnston, 2009). Researchers and counselors often have found that many of the issues that clients bring to career counseling are complex and reflective of the interweaving of personal, emotional, family, culture, and work issues (Voydanoff, 2007). Thus, having a holistic perspective is required to help clients understand their difficulties and underlying issues and respond to changes in family life through career counseling.

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APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

Age: _____

Gender: _____ Female _____ Male

Choose the racial/ethnic category with which you most identify:

- African American/Black (non-Hispanic)
 Asian/Asian American/Pacific Islander
 Biracial/Multiracial
 Caucasian/European American/White (non-Hispanic)
 Hispanic/Latino/Latina
 Middle Eastern/Arab
 Native American/American Indian/Alaska Native
 South Asian/Asian Indian
 Other:
 Please specify: _____

What is your classification (please circle):

Freshman Sophomore Junior Senior Grad Student

What is your current (college) GPA? _____

What is your major? _____

With which religious/spiritual group do you most identify (atheist, agnostic, and none are acceptable answers to this question)?

Which would best describe the socioeconomic status of the family in which you were raised?

Lower class Middle class Upper class

What is your father's occupation? _____

What is your mother's occupation? _____

Are your parents divorced? : _____ Yes _____ No

Under the age of 18, who was your custodial parent if your parents were divorced or were otherwise not together?

Mother Father Both had joint custody Not applicable

APPENDIX B
HUMAN USE APPROVAL LETTER



LOUISIANA TECH
UNIVERSITY

OFFICE OF UNIVERSITY RESEARCH

MEMORANDUM

TO: Mr. David Arcement and Dr. Walter Buboltz
 FROM: Barbara Talbot, University Research
 SUBJECT: HUMAN USE COMMITTEE REVIEW
 DATE: November 21, 2012

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

“An Investigation of the Relationships between the Family of Origin, Need for Achievement and Career Development”

HUC 1040

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 November 21, 2012 and this project will need to receive a continuation review by the IRB if the project, including data analysis, continues beyond November 21, 2013.* 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 257-4315.

A MEMBER OF THE UNIVERSITY OF LOUISIANA SYSTEM

P.O. BOX 3092 • RUSTON, LA 71272 • TELEPHONE (318) 257-5075 • FAX (318) 257-5079
 AN EQUAL OPPORTUNITY UNIVERSITY

APPENDIX C
HUMAN SUBJECTS CONSENT FORM

HUMAN SUBJECTS CONSENT FORM

The following is a brief summary of the project in which you are asked to participate. Please read this information before signing the statement below.

TITLE OF PROJECT: An Investigation of the Relationships between the Family of Origin, Need for Achievement, and Career Development

PURPOSE OF STUDY/PROJECT: To examine the relationships among family of origin environment, career thoughts, career indecision, vocational identity, and need for achievement.

PROCEDURE: You will be asked to complete a series of self-report surveys using an on-line survey website. Before completing the surveys, you will be first brought to a web page in which you will be asked to read about your rights and provide an electronic signature signifying their informed consent.

INSTRUMENTS: The surveys include items about your family of origin environment, your thoughts about career decision making, career indecision, and personal values. Please follow instructions.

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. The following disclosure applies to all participants using online survey tools: This server may collect information and your IP address indirectly and automatically via "cookies".

EXTRA CREDIT: 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.

BENEFITS/COMPENSATION: Extra credit may be offered for participation, and an alternate extra credit assignment will be made available to those who do not wish to participate. Gift cards (\$25 & \$50) will be given out using a random drawing to some of those who participate.

I attest that I have read and understood the description of the study, "An Investigation of the Relationships between the Family of Origin, Need for Achievement, and Career Development", 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.

- Yes, I will participate
- No, I do not care to participate

CONTACT INFORMATION: The principal experimenters listed below may be reached to answer questions about the research, subjects' rights, or related matters.

Project Directors:	David Arcement	and	Walter Buboltz
E-mail:	dga008@latech.edu		buboltz@latech.edu
Phone:	(770) 402-4179		(318) 257-4039

Members of the Human Use Committee of Louisiana Tech University may also be contacted if a problem cannot be discussed with the experimenters:

Dr. Mary M. Livingston (257-2292 or 257-4315)