

FAMILY INFLUENCES ON YOUNG ADULT CAREER DEVELOPMENT
AND ASPIRATIONS

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The purpose of this study was to examine family influences on career development and aspirations of young adults. Theories and research have examined the influence parents have on children's career development, but because of the multiple factors that influence career choices, understanding the family's influence is complex. The current study utilized ideas from self-determination, attachment, and career development theories to develop a framework for understanding how families influence young adult career development and aspirations. Rather than directly influencing career decisions, the family was proposed to influence processes within individuals that directly influence successful career development.

This study used hierarchical regression analyses to test whether different aspects of family relationships and the family environment affect processes within young people, which in turn influence career development. A sample of 99 female and 34 male undergraduate students between 18 and 20 (mean age 18.67) completed questionnaires. Results support the idea that different aspects of the family influence diverse factors of career development and future aspirations. The achievement orientation of the family was predictive of career salience and extrinsic aspirations. Conflict with mothers was predictive of career salience, yet support and depth in the relationship with mothers and low amounts of conflict in the relationship with fathers were predictive of career maturity. High career salience was also predictive of career maturity. The hypothesis that factors play a mediating role between the family and career development variables was not supported. These findings suggest future research should assess multiple aspects of the family and multiple facets regarding career development to more fully understand this process. In addition, findings support the idea that career counselors should assess family functioning when helping young people in their career development journey.

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CHAPTER I

INTRODUCTION

The family plays a vital role in many areas of adolescent development. Parents can be both facilitators and inhibitors of their children's psychological development. An important developmental task of adolescence is the growth and exploration of future aspirations and career goals (Erikson, 1968; Ryan & Deci, 2001; Super, 1957). Because of the reliance upon family during adolescence, parents have an impact on the development of future aspirations and career choices. Some career development theories mention the important role the family plays in career development, however, few go into detail concerning what aspects of the family influence career development. Research has sought to examine the influence parents have on their children's career development, but due to the multiple factors that influence individual's career choices, understanding the family's influence is a complicated endeavor. A review of the literature on this issue highlighted the family's important role in affecting career development during many stages of life (Whiston & Keller, 2004). Research on career development has provided information on the influence of family contextual factors, such as socioeconomic status, that are associated with career development, yet it is unclear how the relationships within the family facilitate or inhibit successful career development. Research and theories discuss identification with parents and quality of the relationship, but what is uncertain is how these factors are translated into successful career outcomes. Increased knowledge on what is occurring within the families that relates to better career decisions for young people will allow for understanding how families can better assist adolescents and young adults in their career development journey. Additionally, this information can help career counselors in integrating family relationship factors into the conceptualization of individuals' career decision-making difficulties.

A model for understanding how aspects of family relationships impact adolescents' career development and aspirations is found in self-determination theory (Ryan & Deci, 2002). Self-determination theory purports there are certain social and contextual factors that support individuals' natural tendencies to develop their capabilities, express their abilities, and actualize their human potentials. In addition, there are factors in the social environment that thwart this basic human process. Within this theory, psychological growth is viewed as a dynamic process that requires nurturance. Thus, the nurturance and support from family can be viewed as a facilitator of actualizing human potential, which can manifest as the expression of oneself through a career choice.

The current study utilized self-determination theory as a framework for understanding how families influence career development and aspirations. Rather than directly influencing career decisions, the family was proposed to influence factors within the young adult that lead to successful career decisions. The literature on career development was reviewed to highlight what aspects of career development are thought to be important and to identify how career development tasks have been linked to aspects of the family, theoretically and empirically. Some researchers propose that close parent-child relationships are important; others suggest that it is the entire family environment is most influential. Other concepts such as psychological separation and individuation from parents have been proposed as crucial influences. Some researchers have utilized qualitative methods that directly ask individuals what influences they believe the family has on career development. Combining these ideas with self-determination theory introduces a new model for conceptualizing the family's role in influencing young adult's career development.

CHAPTER II

LITERATURE REVIEW

Career Development

Congruence. One of the most extensively studied topics in career development is how well an individual's interests match with their career goals or their actual career (Holland, 1959). The similarity between one's interests and career has been termed congruence. In Holland's theory, congruence is the agreement between an individual's personality orientation (i.e., their level of interest in either realistic, investigative, social, conventional, enterprising, or artistic realms) and their occupational goal. Career exploration is a critical task in many developmental models and can be thought of as the process that leads one to congruence between interests and career goals (Harren, 1979; Jordaan, 1963; Super, 1957). Exploration enables individuals to fit their self-concept into the world of work. Congruence may be an indicator that an individual has engaged in both environmental exploration and self-exploration and has gained the knowledge to make a congruent career choice. By exploring the self, the individual can gain increased awareness of their interests, abilities and values, and environmental exploration promotes knowledge about careers (i.e., the tasks involved, the nature of the work, salary information, etc.). This knowledge can be utilized to make a congruent career decision. Holland also proposed that work satisfaction is achieved when an outlet for interests, values, and abilities is met.

Many studies testing the congruence of interests and abilities with individual's career goals have been conducted. Most of these studies operationally define congruence using Holland's (1959) theory. Several researchers have described methods for measuring congruence, which has been an issue for this research (Kwak & Pulvino, 1982; Iachan, 1984; Zener & Schnuelle 1976). Many of the indices utilized to measure congruence demonstrate convergent

validity (Tinsley, 2000). In a review of several studies examining congruence, Spokane (1985) found that correlational studies revealed significant positive relationships between congruence and several variables like job satisfaction and academic performance. Other studies have also found correlations between congruence and job stability, job satisfaction, and performance (Gottfredson & Holland, 1990; Smart, Elton, McLaughlin, 1986; Meir, Esforems & Friedland 1994; Oleski & Subich, 1996; Ton & Hansen, 2001). In a review of person-environment congruence and Holland's theory, Spokane, Mier and Catalano (2000) reported that congruence appears to be a sufficient, yet not a necessary condition for job satisfaction. Congruence appears to be not only an indicator of job satisfaction, but also an outcome of engagement in exploration of the self and the environment. Several career theories suggest that exploration of the self and the world of work are important developmental constructs contribute to the process of career development (Axelrad, Herma, Ginsburg, & Ginzberg, 1951; Jordaan, 1963; Super, 1957). This notion has also been portrayed with adolescents. Grotevant, Cooper, and Kramer (1986) found that the amount of career exploration predicted congruence in male and female high school students.

In conjunction with the plethora of theory and research that discuss the importance of congruence, there is also criticism regarding the construct and the research correlating congruence with outcome measures, such as satisfaction. A meta-analysis of the relationship between congruence and well being measures found correlations were around $r = .21$, hence scores on one predict about 4% of the variance in the other. In a discussion about the problems with the congruence construct, Arnold (2004) alleges several issues with measuring congruence. One significant point he makes is that Holland's theory omits key constructs like broader measures of personality, self-efficacy, values, and career salience (i.e., the degree of importance

an individual places on the role of career in their life). Arnold, in referring to Spokane, Mier, and Catalano (2000), suggests that low career salience may lead to congruence being a less important predictor of outcomes. Consequently, when measuring congruence it seems to be important to assess what value an individual places on career in his or her life. Whereas career salience is a value regarding career in the context of a person's life, values pertaining to careers are also important to assess. The traditional measure of congruence could go beyond examining the fit between the individual's Holland code type (which is typically only a measure of interests) and the environment's code type, and evaluate the congruence between one's work values and the values of the career they are pursuing. This same procedure could also be done with one's abilities and the abilities demanded of the job. By including values and abilities in the measure of career congruence a more comprehensive assessment of congruence would be made.

Incorporating factors like career salience and congruence of values and abilities into measures of congruence are practical and could easily be carried out. Arnold also suggests other problems with congruence, which involve changing how the environment and people are measured and classified. He argues the environment may not be measured precisely enough given that the same occupation may have different meanings at different job locations. He also identified a problem in the magnitude of an individual's scores on Holland's measures and how this may interfere with measuring outcomes. For example, many congruence measures do not take into account the magnitude of the difference between an individual's scores nor do they differentiate between someone with all high scores and someone with all low scores. These issues would require major transformations in the measures used to determine Holland code types of people and environments. It also seems challenging, if not impossible, to take into account the differences of all jobs across certain occupational domains. Tinsley (2000) states

research evidence may understate the efficacy of the person-environment fit models because of measurement inadequacies. Therefore, it is important when measuring congruence to take into consideration factors such as career salience, work values and abilities, which can improve the meaning of congruence, and its ability to predict outcomes like well being and job satisfaction.

Career Maturity. Career Maturity is a psychosocial construct identified by Super (1955) that provides a way to describe and assess the stage of career development reached by individuals and identifies their capability to make career decisions. Career maturity is defined as an individual's degree of development in reference to six career tasks: degree of planning, use of resources, career decision-making, career information, information about the world of work and information about one's preferred occupation. Super defined career maturity in terms of the correspondence between an individual's career related behavior and that expected of the individual based on their age. Exploration can be a facilitating agent of career maturation by allowing individuals to discover the appropriate career related behaviors appropriate for their age.

Super and his colleagues have broadly researched career maturity (Super & Overstreet, 1960). They utilized the Career Pattern Study to test the ideas regarding career maturity by following a group of ninth-grade males' career development over twenty years. They found that the variables useful in making career choices were behaviors associated with educational planning and decision-making that would lead to increased career opportunities. These behaviors included successfully learning about resources and careers. They also researched factors that would affect career maturity and found that intelligence, parental occupational level, school studies, and family cohesion were important influences. Career maturity also correlated significantly with high career aspirations and to the similarity between one's career aspirations

and expectations. Later studies indicated that the career maturity of the males in the twelfth grade predicted career satisfaction (Super & Jordaan, 1982).

Studies indicate career maturity increases with grade level (Wallace-Brosious, Serafica, & Osipow, 1994). Recent work has also looked at predictors of career maturity. In a study by Creed and Patton (2003), self-efficacy, age, career decidedness (certainty) and work commitment were the main predictors of career maturity attitudes. Age, gender, career decidedness (certainty), and work commitment were the main predictors of career maturity knowledge. Results implied the importance of examining two aspects of career maturity (attitudes and knowledge). Research supports the idea that career maturity is an important construct in understanding career development. It is not clear, however, how well career maturity predicts future career decision-making success.

Theories of Family Influences on Career Development

Much evidence exists that parents influence their children's career development and that the family provides resources that are significant concerning adolescents' ideas about their future. Families provide financial and emotional support, and also transmit values, goals, and expectations to their children, which can impact the career development process. Theories suggest that parents assist in shaping children's self-concept and can serve as role models (Crites, 1962; Super, 1957). Despite these ideas on how the family can influence the career development of its children, many theoretical approaches to understanding career development fall short in discussing what aspects of the family are important.

The influences of the family on career development have been addressed in some career development theories. Many career choice theories indicate that the family plays a role in shaping the values and needs of its members. Super's (1957) theory suggests that the family can

influence the development of the child's self-concept, which shapes their abilities, interests, values and career choices. Similarly, Crites (1962) suggested that the amount of parental identification will be reflected in the interests of their children and in turn, the careers that they choose to pursue. Social learning theory also points out possible influences the family can have on adolescent's career development, since its premise is that individual's personalities and skills are a result of their instrumental and associative learning experiences. Parents can have an influence on their child's career development by positively reinforcing or punishing certain behaviors that can encourage or discourage certain interests or abilities (Mitchell & Krumboltz, 1990). Roe's theory of career choice focuses on the relationship between genetic factors and different child rearing practices and their influence on young individuals' personalities and styles that in turn influence a variety of vocational behaviors (Roe & Seligman, 1964).

Researchers have taken ideas from theories that discuss family or youth development more broadly and merged these ideas with career development. One in particular, attachment theory, has been used in studying parent-child relational influences on career development. Significant attention has been dedicated to the role of attachment relationships in many areas of human development (Ainsworth, 1989; Bowlby, 1988) and its role in career development facilitation has also been examined (Blustein, Presioso, & Schultheiss, 1995; Lee & Hughey, 2001). Attachment refers the close ties to one's caregiver that provide the experience of felt security within the individual and allows for the ability to move off from the protected base (i.e. the caregiver) with confidence to take on other activities and explore the external world (Ainsworth, 1989). Internal working models are mental representations of the caregiver and strengthen a sense of felt security when not with the caregiver's. Although the theory primarily focuses on the mother-infant bond, it has also been suggested that the internal working models of

the attachment relationships can be expressed as the individual matures throughout the lifespan (Ainsworth). The theory applied to older individuals suggests that if they have a secure attachment, the internal working model continues to allow for felt security and exploration of their environment. Some career development research has been driven by the premise of attachment theory incorporating the idea that parents can either facilitate or inhibit their children's career development based on the type of relational bond they have with them (Ketterson & Blustein, 1997, Lee & Hughey, 2001). Blustein et al. (1995) suggest that since the transition from adolescence to adulthood is typically filled with emotionally difficult exploration into various new roles and situations, it somewhat repeats many of the experiences of early childhood. The attachment literature emphasizes the significance of close relationships with parents as a way of advancing the exploration into new life roles and situations. Blustein et al. proposed that because the career world is a new situation forcing individuals to make choices, take risks and begin new relationships, the experience of felt security assists in the exploration of the career world thus facilitating career development.

A somewhat different perspective pertaining to adolescent development emphasizes the importance of psychological separation from parents (Blos, 1967). The idea is that there is a need for connection with a caregiver in order to assist in the separation phase of development and the exploration of the outside world. The separation is able to take place after the child develops an internalized representation of the caregiver, which causes the anxiousness of the separation to be lessened (Mahler, Pine, & Bergman, 1975.). Blos introduced the idea that adolescence could be the second phase of the individuation process, with a need for a decrease in dependency needs and an increase need in autonomy. This idea has influenced research regarding adolescents' career development with the notion that adequate separation or autonomy from parents is

necessary for an individual to progress in a positive manner. The relational bond must first be established before healthy autonomy can be reached.

Theories have also focused on the overall health of the family or family interaction as influences on the career development of their children, and purport an idea similar to the need for separation from the family unit. Family systems theory places an importance on the impact that the family relationships have on adolescents' career development. They suggest that career decision-making is combined with other developmental tasks during adolescence such as adult identity formation and psychological separation from the family (Lopez & Andrews, 1987). Over involvement or dysfunctional relationships between parents and their children may inhibit the individuation process and contribute to young individuals' indecisiveness due to conflict with their own needs and wants and those of their family. Grotevant and Cooper (1988) propose an interactional perspective to understanding the family's role in the career development process, which focuses on the relationships within the family as contexts for career development. They propose that there are certain societal and family circumstances under which career exploration is more likely to occur and that families facilitate exploration by establishing a balance of both closeness and independence. This idea parallels attachment theory and the separation-individuation models because they all purport the notion of the importance of positive, close family relationships and the importance of adolescent autonomy or independence. Although coming from different angles, these theories seem to identify similar constructs important in understanding adolescent career development.

Empirical Findings

Much of the research on family influences on career development have been driven by attachment theory, ideas about individuation or psychological separation, family systems theory,

or a combination of these. Many studies have investigated the idea that a close attachment to parents facilitates exploration of possible careers and predicts greater involvement in career development variables. There is a fair amount of support for this idea. Ketterson and Blustein (1997) examined undergraduate college students' perceptions of their relationships with their parents using the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987, 1989) and examined their level of career exploration using the Career Exploration Survey, which assesses both environmental and self-exploration (CES; Stumpf, Colarelli & Hartman, 1983). They found that the quality of the attachment relationship with both mother and father was associated with recent environmental exploration, but not self-exploration. Felsman and Blustein (1999) used the same instruments (i.e., IPPA and CES) and found that attachment was related to environmental exploration, and not to self-exploration or career planning. They also found that attachment to mother, but not father, predicted these career variables for the undergraduate student participants. Lee and Hughey (2001) asked a similar question, but looked at both attachment and separation in family relationships, using the Psychological Separation Inventory (PSI; Hoffman, 1984) and IPPA, and career exploration and planning as measured by the Career Development Inventory (CDI; Super, Thomas, Lindeman, Jordaan, & Myers, 1981). They reported that attachment to parents was related to career exploration but not planning. They also compared the contributions of attachment and separation variables, and concluded that parental attachment was more influential than psychological separation for career planning and career exploration. Blustein, Walbridge, Friedlander and Pallandino (1991) also discussed the importance of considering both autonomy and connectedness in family relationships and used the PSI and IPPA. They used different career development measures, but exploration is important in both concepts they assessed (Vocational Exploration and Commitment Scale, Blustien, Ellis, &

Devenis, 1989; Tendency to Foreclose Scale). For both males and females, attachment and the Conflictual Independence scale of the PSI were related to exploration and commitment. This seems to lend some support for the idea of separation, however it is important to understand that Conflictual Independence measures the absence of guilt, anxiety, resentment and anger in the adolescent's relationship with his or her parents. O'Brien (1996) reported a significant correlation between the IPPA and the CI scale of the PSI ($r = .75$), suggesting that conflictual independence may be just another aspect of close attachment relationships rather than an indication of psychological separation from parents. Moreault (1992) also investigated whether family variables were related to self and environmental exploration (CES), using the IPPA and two measures of family health and family structure. She also included self-efficacy and attitudes about exploration as predictors, and found that these variables predicted exploration and the family variables did not. Schapeler (2004) similarly did not find parent-child relationship factors of support and depth to be predictive of exploration, however this research utilized a different measure (QRI) and did not include the freedom from conflict factor which may have influenced the findings. Lucas (1997) found that psychological separation alone was not related to career self-exploration. Although other variables, like psychological separation, have been examined as family influences on career exploration most studies look at the relationship of parental attachment to career exploration and have found support for this idea.

A complex aspect of this literature is that studies have examined family influences on career development using a variety of career development measures. One frequently used variable is career indecision. Blustein, Walbridge, Friedlander and Pallandino (1991) suggested that progress in committing to a career choice seems to occur more easily for individuals who encounter both independence from and attachment to their parents. Blustein et al. (1991)

conducted two studies and found that in one, psychological separation from parents did not influence individuals' beliefs about their career-decision abilities as measured by the Career Decision Scale (Osipow, Carney, & Barak, 1976). Another study looking at career indecision and parental psychological separation in Portuguese students, did not find significant relationships between psychological separation (PSI) and career indecision as measured by the Career Factors Inventory (CFI; Chartrand, Robins, Morril, & Boggs, 1990), which is a measure of antecedents of career indecision (Santos & Coimbra, 2000). In contrast, Kinnier, Brigman, and Noble (1990) reported a significant relationship between individuation and career indecision, but it only accounted for 3% of the variance in indecision. Another study found that some components of attachment and psychological separation related to career indecision as measured by the Career Decision Scale (Tokar, Withrow, Hall, & Moradi, 2003). Specifically, maternal separation and conflictual independence were associated with low career indecision. In contrast, however, they found that paternal separation was associated with high career indecision. These results suggest that a close attachment, free from guilt and conflict, with some psychological separation from mother and psychological connectedness with father are associated with career decisiveness and highlight the complexity that family influences have on adolescent career development. In another study looking at family interaction patterns' influence on career indecision, Whiston (1996) found that women who reported high levels of organization and control in their families' interaction patterns using the Family Environment Scale (FES; Moos & Moos, 1986) also reported less career indecision and confusion based on the Career Decision Scale. These results suggest that for women, high control in the family leads to choosing a career soon and sticking to that choice, but the overall results of this study did not indicate that other family interaction patterns were related to career indecision. Eigen, Hartman and Hartman (1987)

used the Family Adaptability and Cohesion Scales (FACES; Olson, Bell, & Portner, 1978), another measure of family environment, and found that career indecision was not associated with family emotional cohesion. It seems that there is some support for family relationship variables relation to career indecision, with closer relationships that are free from conflict being associated with less indecision, however these findings are not conclusive. In addition, other family factors such as organization and control within the family may influence women's career decision making differently than men, but again there is not enough data to support this notion entirely.

Another highly researched career development construct in association with family variables is career decision-making and career search self-efficacy. Self-efficacy is defined as beliefs regarding one's ability to do certain tasks or behave in certain ways (Bandura, 1977). Hargrove, Creagh, and Burgess (2002) found that family interaction patterns (FES) play a small, but significant role in the development of stable career goals and career decision making self efficacy, measured by the Career Decision-Making Self-Efficacy Scale (CDMSES; Taylor & Betz, 1983). They reported that individuals from families that emphasized expression of feelings and problems, achievement in school and work, and orientation to intellectual and cultural activities also tended to have higher career self-efficacy. In a study using the same two measures, Whiston (1996) found that career self-efficacy (CDMSES) was associated with families who have an intellectual-cultural orientation. The measure of intellectual-cultural orientation, from the FES, indicates the level of interest in political, intellectual, and cultural activities. It can be inferred then that a family that encourages interest in these areas, passes on values that influence their children's beliefs about engaging in career decision-making. The results did not, however, find support for associations between family relationship variables and career decision-making self-efficacy. Looking at both the family environment as a whole and the parent-child

relationship, the results of a study examining family dysfunction, parental attachment, and career self-efficacy suggested that that attachment and family dysfunction processes could be somewhat more complex in relating to women's career development than men's (Ryan, Solberg, & Brown, 1996). The combination of dysfunction and attachment to mother accounted for more variance in career search self-efficacy in women (17%) than it did for men (9%). Also, only attachment (IPPA) to mother, and not father, emerged as a significant predictor of career self-efficacy for men, suggesting that associations between attachment to parents and self-efficacy for women may be more pronounced than for men. There appears to also be differences when examining the different influences of attachment to mother or father, again however, it is not clear as to whether or not attachment to mother is more important, because only some research has supported this notion. Blustein, Walbridge, and Friedlander (1991) examined the association between psychological separation from parents and career self-efficacy beliefs (CDMSES) and found no significant association. The research assessing family's impact on career self-efficacy lends some support to the notion that aspects of the family environment are related to individual's beliefs in their capabilities to perform career decision-making tasks. Families that place an emphasis on intellectual and cultural activities seem to also have children that feel efficacious in their career decision making behaviors, and there is some support that family relationship dimensions like closeness and expressiveness may also be related to career search self-efficacy.

The final career development variable that is often studied in association with family influence factors is vocational identity. Vocational identity is defined as a broad measure of career development, and signifies an individual's clarity of interests, values, needs, and attitudes related to careers. One study examined adult attachment variables and psychological separation and hypothesized that vocational self-concept crystallization would be a mediator between the

relationship variables and career indecision (Tokar, Withrow, Hall & Moradi, 2003). Specifically they reported that maternal separation and conflictual independence were both associated with high vocational self-concept crystallization (i.e., certainty and clarity of self-perception with respect to vocation, measured by the Vocational Rating Scale; Barrett & Tinsley, 1977). In contrast, however, they found that paternal separation was negatively related to self-concept crystallization, and was associated with high career indecision. Similar to their results regarding career indecision, parental relationship variables seemed to be intricately related to vocational self-concept. These results suggest that a close attachment, free from guilt and conflict, with some psychological separation from mother and psychological connectedness with father are associated with better knowledge of one's self-concept. Hargrove, Creagh, and Burgess (2002) examined vocational identity and its relationship to family interaction patterns. Similar to studies examining career decision-making self-efficacy, they found that achievement orientation significantly accounted for variance (14%) in vocational identity (Vocational Identity Scale, VIS; Holland, Daiger, & Power, 1980). This measure is defined as having a clear and stable idea of one's goals, interests, and abilities. Penick and Jepsen (1992) studied 11th grade students utilizing the Family Functioning Scale (Bloom, 1985), the Career Planning Involvement Scale of the Assessment of Career Development, the Vocational Identity Scale of My Vocational Situation (Holland et al., 1980), and demographic control variables, and found that family members' perceptions of the whole family unit interaction explained more variance in vocational identity and career planning than the control variables (gender, SES, and achievement). They suggest their results indicate enmeshment and disengagement are linked to difficulties in accomplishing identity development. Only a few studies have researched the relationship between family aspects and vocational identity and there appear to be dimensions of the family that do play a

role in vocational identity. Vocational identity also seems to be a broader construct that measures several aspects of career development (e.g. decidedness or maturity). The complexity in how the variables relate and the differences based on gender make it difficult to understand how the family influences vocational identity. Also, due to the limited amount of data on vocational identity, it is difficult to come to firm conclusions regarding the influence of the family.

Research has examined family influences on adolescent career development in other ways. Several studies have investigated the importance the family places on certain values like aspirations and goals and how these factors affect adolescent and young adult career development (Fields, 1981; Fisher & Padmawidjaja, 1999; Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Trusty & Pirtle, 1998). From these studies, it appears that the importance of goals, having high aspirations for children, and placing a value on school can be passed down to children and contribute to their career development progress. The processes that effectively transmit these values then again are not certain. Jodl et al. (2001) suggested that positive identification with parents may play a role in the transmission of values, yet their results indicated that positive identification did not moderate the transmission of values from parent to child. It is important to note that the transmission of certain values pertaining to careers, goals, and aspirations to adolescents may be another process within the family relationships that affects career development.

Although most of the studies examining family influences on career development have relied on quantitative designs, several studies have used qualitative analyses or more direct assessments about family influence to investigate this issue. These studies are important because they allow for individuals to say what they think are the family influences that promote career development. Some of these studies gather data solely from the young adult (Fisher &

Padmawidjaja, 1999; Mortimer, Zimmer-Gembeck, & Holmes, 2002; Schultheiss, Kress, Manzi, Glasscock, & Jeffrey, 2001), while others gain information from both the parent and the child (Young et al., 2001; Young et al., 1997). Information from both the parent and the youth are valuable because they give a more complete idea of what is happening within the family. These studies utilized semi-structured interviews or actual conversations between the parent and the child. Schultheiss, Kress, Manzi, and Glasscock (2001) examined the role of relationships in career development by asking young adults their beliefs on the subject. They reported that emotional support was one of the most important factors. Another study (Fischer) interviewed African-American and Mexican-American young adults and reported that parental encouragement, guidance and advice and parental acceptance of career choice were the top most salient parental influences indicated by the participants. Another study asked adolescents (mean age 14.7) to rank perceived influences on their career development (Paa & McWhirter, 2000). Out of the environmental influences category mother and father were the highest ranked, and the environmental influences were ranked the highest compared with background and personal influences. These studies provide vital information directly from individuals, and confirm researchers ideas that the family plays a very important role in the career development of their children. From these qualitative studies, it appears that family support is an important influence on career development as perceived by younger adolescents.

Other research has examined intervention methods in career development that involve parents in order to assess the effectiveness of family involvement in career planning. Palmer and Cochran (1988) empirically tested the effectiveness of a program focused on career development with both parents and adolescents. The results from the study concluded that parents do function effectively in fostering the career development of their children when provided with a structured

program to follow. Data were gathered using the Career Development Inventory and the Family Adaptability and Cohesion Evaluation Scales (FACES; Olson, Bell, & Portner, 1978). This study emphasized the effectiveness of parents getting involved in their children's career development, and validates the importance of understanding how the family can facilitate their career development.

In a broader sense, studies have also examined family influences on adolescents' education and occupational aspirations. Several of these studies focus on parent involvement and have demonstrated that when parents are more involved in their children's academic pursuits their children have higher educational aspirations and belief in their capability (Garg, Kauppi, Lewko, & Urajnik, 2002; Juang, 2002). Garg et al. (2002) found that parental involvement was of greater importance as a predictor of educational aspirations than was the family's socioeconomic status. From their findings they also implied that the effects of family involvement factors on educational aspirations were mediated through personal factors (i.e., grades, perceptions of courses, perception of the school climate, and importance of schoolwork). Similarly Juang found parents who demonstrated more warmth toward their adolescents, engaged in more discussions concerning academic and intellectual matters, and who had higher aspirations for their child, had adolescents with stronger beliefs in their abilities and better grades. Parental involvement that can be characterized as warm and supportive appears to play a significant role in adolescents' occupational and educational aspirations, yet socioeconomic status and other contextual factors are still proving to be a strong influence. Rojewski and Kim (2003) reported socioeconomic status had a considerable influence on determining both occupational aspirations and individuals' status after high school (e.g., $r = .28-.38$).

Aspirations represent an expansive construct that can be identified under many dimensions. Most research looks at educational or occupational aspirations, but another subset of literature looks more at life goal aspirations and whether they can be categorized as intrinsic or extrinsic (Ryan & Deci, 1996). Intrinsic aspirations place value in achieving meaningful relationships, personal growth, and community contributions. Extrinsic aspirations place value in wealth, fame and personal image. Rather than categorizing aspirations as either high or low, they are identified by what values are behind them. Self-determination research has looked at antecedents, consequences, and correlates of having either extrinsic aspirations or intrinsic aspirations, and has found having high extrinsic aspirations was negatively associated with healthy functioning and well-being. Placing a value on extrinsic aspirations has been found to be predictive of health-risk behaviors in adolescents (Williams, Cox, Hedberg, & Deci, 2000). Intrinsic aspirations have been found to be positively associated with healthy functioning and well-being (Kasser & Ryan, 1993 & 1996; Sheldon & Kasser, 1998). In regards to parents' impact on whether or not their child has intrinsic or extrinsic aspirations, research has found that controlling, uninvolved parenting is associated with strong extrinsic aspirations, while autonomous-supportive, involved parenting is associated with strong intrinsic aspirations (Kasser, Ryan, Zax, & Sameroff, 1995; Williams, et al., 2000). More specifically Kasser et al. (1995) reported adolescents who valued extrinsic aspirations had mothers who were less nurturing when compared to adolescents who valued intrinsic aspirations. Results also showed that mothers who especially valued financial success relative to other aspirations, had children with similar values. Researchers suggest it may be that when mothers are seen as cold and controlling their children focus on attaining security and a sense of worth through external sources. Individuals who value financial success also tend to be from lower socioeconomic status

families (Kasser et al.), making this factor continually important to examine. Most of the research on intrinsic and extrinsic aspirations has been conducted by the same researchers therefore more investigation is warranted on this topic. It is also important to attempt to tease out the effects of socioeconomic status and parental nurturance on young peoples' aspirations. These findings are important because less nurturing, controlling mothers tend to be associated with adolescents who value extrinsic aspirations, which could lead to decreased well being and put them at risk for mental health problems.

There is an abundance of factors that influence adolescents' career development, which makes it difficult to tease out what role the family plays. From the literature, it seems apparent that the quality of the parent-child relationship, specifically attachment to parents, is a key factor in understanding career exploration. The overall functioning of the family has also been examined in its relationship to career development, and some aspects of the family have been found to be associated with career development. The families' orientation toward achievement and cultural activities does seem to be related to career search self-efficacy more than overall family relationship variables. Although some research has suggested that psychological separation from parents is necessary for career development, many studies show that psychological separation alone is not associated with career development. Most of the theories on families influence highlight the role of the supportive parental relationship along with some degree of autonomy or separation during adolescence. Some studies have supported the idea that a combination of close attachment and psychological separation is necessary, but others have not supported this idea. It should be noted that many of the studies that have found significant associations between psychological separation and career development using the PSI have found these associations with the Conflictual Independence scale, a scale measuring the absence of

guilt and anger in the relationship, and others indicate inverse relationships showing that lower levels of independence are related to career development. It therefore seems important to look more closely at aspects of the attachment relationship and family environment that may be associated with successful career development.

Another issue in the research on family influence involves the use of many different concepts when studying career development. The literature shows some support for the importance of family variables for a variety of career development constructs. However, the use of different family constructs and a variety of career measures make it difficult to see which dimensions of family functioning are associated with which aspects of career development. In part this complexity is due to research emphasizing certain dimensions of family functioning in relation to particular career concepts (e.g., attachment and exploration). Studies have just begun to consider models that evaluate career process concepts (e.g., vocational identity, self-efficacy) as mediators of career development outcomes (Tokar, Withrow, Hall, & Moradi, 2003). These models assist in coming to a clearer understanding of what dimensions of the family influence young people in a way that facilitates optimal career choices. Theories on career development would suggest that an optimal career choice would be congruent with one's interests, abilities and values. Examining the literature on family influences on aspirations, it appears much of the research has found that parents who are more involved tend to have children who have higher educational and occupational aspirations (Garg, Kauppi, Lewko, & Urajnik, 2002; Juang, 2002). Also research has examined more global approaches to aspirations by examining individuals' orientations toward either extrinsic or intrinsic aspirations (Kasser, Ryan, Zax, & Sameoff, 1995; Williams, Cox, Hedberg, & Deci, 2000). This research suggests individuals with orientations toward extrinsic aspirations tend to have mothers who are controlling and cold and in turn they

are at risk for mental health problems. Individuals with intrinsic aspirations tend to have mothers who are nurturing and warm and these individuals have higher well being when compared to extrinsically aspiring young people.

Self-Determination Theory

There are many theories proposed to identify how families influence career development. Two aspects, closeness in the parent-child relationship and autonomy in the parent child relationship are found in many of these theories. Research has examined these factors and identified other aspects of the family such as cultural and achievement orientation as being important. In order to better understand how factors within the family influence adolescents' career development and aspirations, the current study will utilize self-determination theory as a model. Self-determination theory incorporates ideas from other theories and has unique ideas to conceptualize adolescent development. Self determination theory integrates ideas from humanistic theories, which suggest that individuals have immense resources for self-understanding and an active tendency toward striving to implement and elaborate their interests by seeking challenges (Ryan & Deci, 2002). These resources must be accessed within the context of certain types of environments. Rogers (1964) discusses a certain context that allows for growth. He states that a relationship in which an individual feels prized as a separate person and feels that the other in the relationship seeks to empathetically understand him or her, allows for the individual to have the freedom to experience his or her own feelings without feeling threatened. Self-determination theory integrates ideas from theories like Rogers' with behavioral and cognitive theories by recognizing that humans have a tendency toward active development, integration of the self, expression of needs, and that there is also evidence for conditioned responses caused by the environment (Ryan & Deci). Self-determination theory has a dialectical

view, which takes into account the growth oriented human and the social context that either helps or hinders this growth. It purports that the tendency toward integration involves both autonomy, or integration within, and relatedness, or assimilation of oneself with others. Healthy development is considered to be an interaction and balance between autonomy and relatedness. This idea is similar to other theories that discuss closeness and independence (Grotevant & Cooper, 1988).

For adolescents, the relationship with their parents can provide an environment for him or her to express inner thoughts and desires, in other words grow toward an integration of the self. Attachment theory is also commensurate with this model in that it contends children who have parents who meet their emotional needs have a sense of felt security and feel free to explore their inner selves and their world (Ainsworth, 1989; Bowlby, 1988). This study purports that one way to express one's inner desires is by pursuing a career choice that is consistent with one's internal, personal interests. Congruence, conceptualized as an expression of oneself, is consistent with Super's idea of congruence arising from one's self-concept. Self-determination theory purports when parents do not provide close and supportive environments, children both hide and ignore their own desires to sustain security. Later in life, an intense need for security might be expressed by attempts to attain financial success (i.e. extrinsic aspirations) rather than their own personal desires (i.e. intrinsic motivation) (Maslow, 1954; Rogers, 1964; Ryan & Deci, 2002).

Self-determination theory suggests there are basic psychological needs that promote an individual's integration of the self and can assist in categorizing environments as either supporting or thwarting these needs (Ryan & Deci, 2002). Environments that support the satisfying of autonomy, competence, and relatedness are predicted to promote healthy functioning. Competence refers to the belief in one's ability to interact with the environment and

feeling that one can express him or her self with confidence. Relatedness involves feeling connected to others and having a psychological sense of community. Autonomy refers to an individual feeling they are the cause of their own behavior and that they are acting from their own interests and values. This model can be applied to understanding how families, through the types of relationships they have with their children, can facilitate their children's exploration and expression of their own desires resulting in the pursuit of a career goal that represents this expression. In addition, self-determination theory serves as a model to understand how families can facilitate the valuing of intrinsic rather than extrinsic aspirations. When families meet the individuals' needs of competence, autonomy and relatedness they feel secure and can seek out meaningful relationships, personal growth, and feel a desire to contribute to the community rather than valuing extrinsic aspirations like wealth and fame.

Rationale

Research has examined variables such as attachment to parents (Blustein, Walbridge, Friedlander, & Pallandino, 1991; Lee & Hughey, 2001), psychological separation from parents (Blustein et al., 1991; Lee & Hughey, 2001; Sankey & Young, 1996), characteristics of family systems such as enmeshment and disengagement (Penick & Jepsen, 1992), and values orientations of the family such as achievement orientation and intellectual-cultural orientation (Hargrove, Creagh, and Burgess, 2002; Whiston, 1996) in order to understand how the family influences adolescent career development. In addition research has looked at identification with parents and parental involvement in predicting occupational and educational aspirations (Garg, Kauppi, Lewko, & Urajnik, 2002; Juang, 2002). These studies show that there are some associations between the family and various career measures and aspirations, but they do not give a clear picture as to what exact aspects of the family influence the various processes and

outcomes of adolescents' career development. The current study examined the complexity of the contextual factors influencing career development by assessing family relationship variables pertaining to the parent-child relationship and by assessing the functioning of the entire family. In the current study these factors were both examined to obtain a clearer idea of which characteristics have an impact on young adults' career development (i.e., career congruence and maturity) and their future aspirations (i.e., intrinsic or extrinsic). Factors regarding the parent-child relationship and the entire family environment are two categories of variables that have the most empirical support in relation to career development. Identification and involvement have been studied in conjunction with aspirations, and this study suggests that identification with parents is a manifestation of positive aspects of the parent child relationship and family environment. In addition, data was collected from young adults who were ages 18-20 and are primarily in their first years of college, which is often a time when family factors related to career development become very important.

It is difficult to come to firm conclusions regarding what aspects of the family have the most impact on career development because of the abundance of family factors examined in relation to career development. Self-determination theory highlights the importance of the context of the individual in understanding his or her development, and the theory specifically discusses the role of relatedness. Thus by examining aspects of the parent-child relationships and the family environment, the context is addressed in addition to how well the need for relatedness is met. Research in the realm of career development and family context examines many factors regarding career development, contributing to the complexity in understanding how family contextual factors influence career development factors. In the current study three career development factors important in late adolescence were assessed as outcomes and included

future aspirations, career congruence, and career maturity. These are all important factors of career development because aspirations highlight what one values in a broad manner, congruence assesses whether or not one's goals fit with who they are and what is important to them, and career maturity appraises the capability of making successful career decisions. These aspects of career development allow for an assessment of where young adults are developmentally. Self-determination theory speaks to the importance of assessing intrinsic and extrinsic aspirations, and research shows nurturing mothers tend to have children who value intrinsic aspirations. In turn, intrinsic aspirations have been demonstrated to be associated with increased psychological well-being. This proposal needs further research evaluation because only a few studies have been conducted supporting this notion. Self-determination theory also discusses the expression of an individual's inner needs and desires as being suggestive of growth and of actualizing potential. In the current study, congruence was conceptualized as a manifestation of an individual expressing their inner needs and wants.

Much of the research on family influences on adolescent career development attempts to examine direct influences of the family on adolescents' career choices. The current study took ideas from self-determination theory, attachment theory, and career development theories to hypothesize that the family can be best explained as an indirect influence on adolescent career choice. These family factors influence the young adults' thoughts and behaviors, which in turn lead to variations in career decisions. This study examined three constructs within young adults identified as pathways or facilitators of successful career development. These processes were thought to be directly influenced by the family and include career competence, autonomy, and career salience. Theory and research speak to the families' role in creating a secure, close relationship with the child, which facilitates exploration. Exploration has been theorized and

demonstrated to lead to successful career decisions. Self-determination theory highlights the role of the family in creating a context by which the needs of competence and autonomy are met, leading to greater actualization of one's potentials and inner desires. Another pathway that will be examined is career salience. Career salience likely plays a vital role in transmitting the value of career into an individual's life. Career salience also gives meaning to findings related to career development because if an individual does not hold their career as having significant meaning in their life, aspects such as career congruence may not be as important. The idea that there are processes within adolescents that lead to more successful career decisions and life aspirations is one piece of this study that was proposed to add to the existing literature. Furthermore, the notion that the family directly influences these processes which in turn influence career development outcomes is a relatively new concept and could add to the understanding of these complex family dynamics.

The current study expanded the construct of congruence to incorporate another important factor to consider when examining congruence, career salience. Career salience is important because for those who have low career salience, congruence in Holland's terms may be less important predictor of outcomes than for those who have high career salience (Spokane, Mier, & Catalano, 2000). If career is not salient in an individual's life, there is less likely to be a congruent career choice. In addition, in regards to factors like life or work satisfaction, congruence may matter less to someone who does not value career as an important aspect of their life. The current study assessed career salience within the young adult as a possible mediator of the family's influence on career congruence. Career salience allows for a better understanding about the implications of career congruence. In addition to these improvements regarding the measure of congruence, this study examined congruence utilizing young adults' expected career

goals. Because many young individuals have not solidified their career choices, expected career goals identify likely careers that they will take steps toward obtaining. Examining congruence in these ways may enhance the understanding of how congruence is measured and how that may be affecting the inconsistencies in the research on congruence and outcome.

Hypotheses

The first hypothesis is that when adolescents experience their families as placing an emphasis on achievement in school and work, and who perceive the parent-child relationship as supportive and meaningful they will be more likely to be engaged in processes that result in career development. These processes include career competence, autonomy, and career salience. The second hypothesis is that when adolescents experience their families as placing an emphasis on achievement in school and work, and who perceive the parent-child relationship as supportive, and meaningful in addition to engaging in the process factors, they will be more likely to have high career congruence, place an emphasis on intrinsic aspirations, place less of an emphasis on extrinsic aspirations, and have increased career maturity. The third hypothesis predicts that the family contextual factors (i.e., both the family environment and the parent-child relationship factors) will directly impact the process factors, and indirectly impact the career development and aspirations of adolescents through the processes. The family contextual factors will directly influence career competence, autonomy, and career salience, leading to integration and expression of their children's inner selves that will be reflected in the adolescent choosing a congruent career goal and having intrinsic aspirations. In other words, the process factors will mediate the influence of the family contextual factors on the career outcome variables.

CHAPTER III

METHOD

Participants and Procedure

The participants for this study consisted of 133 young adults in college with an average age of 18.67 years ($SD = .54$). Participants were recruited through undergraduate psychology courses that offer course credit or extra credit for participation in university research projects. The one criterion for participation was that individuals were between the ages of 18 and 20. This criterion was employed to sample young adults at a time of life when factors related to career development become very important, and to control for differences in career development and family relationships that might exist in older college students. Participation was voluntary and participants were informed that they could withdraw from the study at any time. Participants were required to sign an informed consent outlining their rights and the costs and potential risks to participating in the study.

The data for this study was collected in conjunction with a larger research project that assesses additional family and youth development variables. All information the participants reported was confidential. Code numbers were assigned to the materials and were kept separate from any names. This information was stored in a secure location and only those involved with the research project were able to access this information. The project was approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects.

Instruments

Demographic Information

Demographic information was assessed in order to enhance the understanding of the developmental and contextual environment of the participants. Information about age, gender, and educational level were collected.

The Family Environment

In order to assess the family context, two instruments were used. The first instrument is the Family Environment Scale (© Consulting Psychologists Press, Inc.1974; Moos & Moos, 1986) and is composed of 10 subscales that measure the social environments of families. The subscale utilized in this study included one personal growth dimension: Achievement Orientation (importance placed on school and work activities and competitiveness). The FES assesses the overall indication of how the family environment is experienced by the adolescents and their parent. Moos and Moos (1986) reported adequate reliability for all the scales (ranging from .61-.78), but others have criticized the measure because they have found low internal consistency scores for some scales (Boyd, Gullone, Needleman & Burt, 1997). Moos and Moos reported that the internal consistency is higher in more diverse samples, that is, in samples with more item and subscale variance. Schapeler (2004) reported Cronbach's alpha coefficients ranging from .52 (Achievement subscale). The participants in this study reported high mean scores on the Achievement subscale and very low mean scores on the Conflict subscale with little variability. Thus with a more diverse sample, internal consistency scores should be higher. In the current study, the Cronbach's alpha coefficient was .38 for the Achievement subscale.

The Parent-Child Relationship

The Quality of Relationships Inventory (QRI) assesses the supportive nature and quality of the parent-child relationship. It is a 25-item self-report questionnaire designed by Pierce, Sarason, and Sarason (1991). The instrument contains three scales (Support, Conflict, and Depth), which were derived from factor analysis of the items and reflect relationship-based aspects of social support. The seven Support items evaluate the extent to which a person perceives another as a source of support in various situations. The 12 Conflict items assess how much the reported amount of conflict felt with another person impacts the supportive nature of the relationship. The six Depth items determine the perceived importance of a relationship and the impact it has. All of the scale's items were rated on a four-point Likert scale ranging from *1 = not at all* to *4 = very much*. Butcher's (1997), Rader's (2001), and Schapeler's (2004) research found high internal consistency for the scales of this measure with Cronbach's alpha coefficients in the .80s to .90s. Due to the high correlation of the Support and Depth subscales, these two scales were combined to form one variable mother support/depth and father support/depth. In the current study the Cronbach's alpha coefficient for the mother support/depth subscale was .92, for the father support/depth subscale it was .94, for the mother conflict subscale it was .89, and for the Father Conflict subscale it was .92.

Career Congruence

Career interests were assessed using the Career Decision Making System-Revised (CDM-R; © Career Planning Associates, Inc.; Harrington & O'Shea, 2000). This instrument provides a valid and reliable assessment of career interests with scales based on Holland's (1973) theory of vocational development (Harrington & Schafer, 1996; Nel, 1999). The CDM surveys career interests, work values, abilities, favorite school subjects and future educational plans. Participants' scores on the career interests (Holland 3 letter code type) scales were compared to

their stated career expectation and the Holland code type that corresponds to that career. The individuals' career they expect to obtain was asked in another group of questionnaires separate from the CDM, the Holland code that corresponded to the expected career was derived from The Dictionary of Holland Occupational Codes (Gottfredson & Holland, 1996). Congruence ratios were determined using the K-P Index. Kwak and Pulvino (1982) developed the formula: $X = \frac{1}{7}(W_1AD + W_2BE + W_3CF)$, where W_1 is an arbitrary weight of 4, W_2 is an arbitrary weight of 2, and W_3 is an arbitrary weight of 1 to account for the decreasing influence of the second and third letters of the Holland code type. A, B, and C represent the first, second, and third letters of the CDM code type, respectively. The D, E, and F represent the first, second and third letter of the individual's expected occupational choice code type, respectively. Correlations between code types are empirically derived values from Holland's (1973) hexagonal model, which were used for this study. An AD combination value was determined by the intercorrelation of the individual's code in position A and code in positions D. Possible K-P Index scores range from .12-1.00 with low scores indicating little congruence and 1 indicating perfect congruence. The K-P Index correlates highly with other congruence measures and has been praised for incorporating the three letter code type and the intercorrelations of the types in determining congruence (Champ & Chartrand, 1992).

In addition to interest-career goal congruence, work value-career goal congruence was measured. The K-P Index was adapted to determine value congruence; however, participants' work value/career goal congruence was very high and there was very little variation in scores. Due to this finding work value/career goal congruence was not used in analyses.

Aspirations

The Aspiration Index (AI) was developed to assess people's aspirations and the relative strength of intrinsic aspirations (i.e., meaningful relationships, personal growth, and community contributions) versus extrinsic aspirations (i.e., wealth, fame, and image) (Kasser & Ryan, 1993). There are seven categories of aspirations with five specific items within each category. The seven categories include: the extrinsic aspirations of wealth, fame, and image, the intrinsic aspirations of meaningful relationships, personal growth, and community contributions, and a final category regarding physical health that was not be used in this study. Participants rated the importance of each aspiration, their beliefs about the likelihood of attaining each, and the degree to which they have already attained each. This study used only the Importance subscale of each of the Intrinsic and Extrinsic scales. Internal consistency for each scale is adequate. For the intrinsic scale Cronbach's Alpha = .86 and for the extrinsic scale Cronbach's Alpha = .94 (Kasser & Ryan). The current study found a Cronbach's alpha coefficient of .89 for the Intrinsic Aspirations subscale and .93 for the Extrinsic Aspirations subscale.

Career Maturity

The Career Maturity Inventory- Revised[©] assesses the readiness and competence for making mature and realistic career decisions (CMI-R; © J. O. Crites; Crites & Savickas, 1996). The 50-item CMI-R provides three scores: Attitude Scale (identifies attitudes and feelings toward making a career choice), Competence Test (measures knowledge about occupations and decisions involved in choosing a career), and overall Career Maturity. Studies conducted using the original CMI have supported its internal consistency, reliability, and construct and criterion-related validity (Healy, 1994). Busacca and Taber (2002) found modest reliability for the CMI-R with high school students' ages 14-19 years. They did report criterion validity in that students

with higher attitude scores appeared ready to make congruent career choices. In the current study, the Cronbach's alpha coefficient for Total CMI was .57.

Competence

According to self-determination theory, competence refers to the belief in one's ability to interact with the environment successfully and feeling that one can express him or her self with confidence. To obtain a measure of competence, the study will use the Difficulty subscale from the Perceptions of Educational Barriers scale (PEB; McWhirter, Rasheed, & Crothers, 2000). This subscale assesses how difficult participants think it would be to overcome certain barriers related to their education and/or training. The subscale contains 28 items requires participants to rate how difficult each barrier will be to overcome on a 4-point Likert scale ranging from 1 = *not at all difficult* to 4 = *extremely difficult*. Thus, a low score on this scale will represent high competence. The barriers tap into several life domains such as money, intelligence, lack of motivation, sex and racial discrimination, and others' belief in their ability. Luzzo and McWhirter (2001) have utilized the assessment of perceived barriers and likelihood of overcoming these barriers as a measure of coping efficacy. McWhirter et al. (2000) reported Cronbach's alpha of .92 for the Difficulty subscale. The current study found a Cronbach's alpha coefficient of .93.

Autonomy

The Emotional Autonomy Scale (EAS; Steinberg & Silverberg, 1986) will be used to measure emotional autonomy. The scale was developed using Blos' (1979) perspective on individuation as a guiding theoretical framework. Items were written in a manner that de-emphasizes the storm and stress of adolescent detachment, rebellion, and conflict, and focuses instead on the process of individuation. The measure has four subscales including, Perceives

Parents as People, Parental Deidealization, Non-Dependency on Parents and Individuation. The Deidealization subscale items tap the adolescent's relinquishing of childish perceptions of parental power rather than adoption of oppositional, critical, or negative attitudes toward parents. The Non-Dependency subscale items capture the absence of childish dependency from parents rather than absolute freedom from parents. The measure is composed of 20 items with a maximum score of 80 and minimum score of 20. The subscales added together give an overall emotional autonomy score which will be used for the current study. The internal consistency (Cronbach's alpha) for the measure was reported to be .75 (Steinberg & Silverberg). For the current study the Cronbach's alpha coefficient was .78.

Career Salience

Career salience was measured using the Work Role Salience (WRS) Scale. The WRS Scale was designed by Greenhaus (1973) to assess attitudes toward work and career. The scale contains 27 items with responses from "strongly disagree" (1) to "strongly agree" (5). Some items are reverse scored to counteract a positive response set. Higher scores indicate individuals who highly value work and career. Example items include, "I intend to pursue the job of my choice, even if it allows only very little opportunity to enjoy my friends" and "It is difficult to find satisfaction in your life unless you enjoy your job." Internal consistency reliability has been reported at .64 (O'Brien & Fassinger, 1993) and .81 (Greenhaus, 1971). Factor analysis has confirmed three factors: the importance of work in one's life, concern with advancement and planning for career, and general attitudes towards work (Greenhaus, 1973). Reliability is lower for the subscales so an overall score was used for the current study. The Cronbach's alpha coefficient was .81.

Design

The hypotheses were tested using hierarchical multiple regression. The following are the constructs and variables used in the design. A Control block including gender was included because these variables have been shown to affect career development factors in young people. Gender will also be included to assess whether family variables are important when these variables are already accounted or controlled for. The two family contextual blocks include a Family Environment block consisting of achievement orientation (FES) and a Parent-Child Relationship block consisting of support and depth in the relationship with mother, support and depth in the relationship with father, conflict with mother, and conflict with father (QRI) variables. These family blocks allow for an assessment of both the entire family environment and the unique aspects of the parent-child relationships, differentiated by mother and father. A set of Process variables will be utilized to reflect thoughts and behaviors within the adolescent thought to facilitate career development. These Process variables include competence (difficulty subscale; PEB), autonomy (EAS), and career salience (WRS). Career salience is specifically included to control for the effect of the importance an individual places on career. Finally, a set of Career Development variables will consist of intrinsic aspirations, extrinsic aspirations (AI), interest-career congruence (CDM-R and K-P Index), and career maturity (CMI). Aspirations will identify what is important in the future, congruence will assess how well participants' goals reflect their inner selves, and maturity will evaluate participants' capacity take steps toward making a successful career choice.

Analyses

Data was first examined to identify possible problems with multicollinearity and normality of the distributions and the data was checked for outliers. A series of hierarchical

multiple regressions was conducted to test the hypotheses. To test the first hypothesis, the Control block was entered first, then the Family Environment block, followed by the Parent-Child Relationship block in order to predict the Process variables. This procedure was repeated for these four dependent variables. (See Figure 1)

To test hypothesis two, the Control block was entered first, then the Family Environment block, next the block of Parent-Child Relationship variables, and finally the Process variables block was entered to predict the Career Development variables. This procedure was repeated for these four dependent variables. (See Figure 2)

Criteria to assess for mediation was examined to evaluate whether the Process variables mediate the relationship of the Family Environment and Parent-Child variables on the Career Development variables as a test for hypothesis three. First the Family Environment and Parent-Child blocks were evaluated regarding their ability to predict the Process variables. Next, the Process variables were examined regarding their prediction of the Career Development Variables after controlling for the independent variables (Family Environment and Parent-Child Relationships). Finally, analyses were examined to assess whether the effect of the independent variables on the Career Development variables was reduced after including the Process variables. If these tests were met than the Process variables would have demonstrated their mediation properties. (See Figure 3).

CHAPTER IV

RESULTS

Description of the Sample

The present study utilized a sample of 99 females and 34 males with a mean age of 18.67 years ($SD = .54$). To meet criteria for participation, participants had to be between the ages of 18 and 20. Freshmen students made up the majority of the sample representing 66.2%, while sophomores made up 24.8% of the sample and juniors and seniors represented 9%. Regarding ethnic/racial background, 63.9% were Caucasian, 18.8% were African-American, 6% were Latino/Latina, 3% were Asian, 2.3% were Native American, and 6.1% identified as some other ethnic/racial background.

Relationship Variables

Data from the family and parent-child relationship variables were examined to assess how participants perceived their relationships with their parents and the achievement orientation of the family environment. On the Support/Depth subscale from the Quality of Relationships Inventory (Pierce, Sarason, & Sarason, 1991) participants on average reported positive relationships with both their mothers and fathers and low levels of conflict which is similar to the normative data (Pierce et al., 1991). Both the Mother and Father Support/Depth subscales were negatively skewed while both the Mother and Father Conflict subscales were slightly positively skewed. Means, standard deviations, and ranges are presented in Table 1.

The one Family Environment Scale subscale, Achievement Orientation, had a mean and standard deviation similar to scores in the FES manual and research samples using the FES (Boyd, Gullone, Needleman, & Burt, 1997; Moos & Moos, 1986). The distribution of the scores was close to a normal distribution with a slight negative skew. See Table 1.

Process Variables

Results indicate that the Perception of Barriers subscale scores were close to a normal distribution and the mean and standard deviation is similar to means reported on this subscale in other research (McWhirther, Rasheed, & Crothers, 2000). The Emotional Autonomy Scale (Steinberg & Silverberg, 1986) scores approached a normal distribution as did the Work Role Salience Scale (Greenhaus, 1973). Participants overall reported moderate emotional autonomy from their parents. Results indicate they have moderate scores on the Work Role Salience Scale. Means, standard deviations, ranges are reported in Table 1.

Career and Aspiration Variables

Career Congruence scores derived from the CDM-R[©] (Harrington & O'Shea, 2000) and the participants expected career using the K-P Index (Kwak & Pulivino, 1982) indicate that the sample had overall moderate interest-expected career congruence ($M = .59$, $SD = .27$). This mean was similar to that found in other research with a similar sample (Schapeler, 2004). The distribution for Career Congruence approached bimodality. The CMI-R approached a normal distribution and overall participants' mean scores were moderate ($M = 35.05$, $SD = 4.4$). Regarding Intrinsic and Extrinsic Aspirations Index-Importance subscales (Kasser & Ryan, 1993), the Intrinsic subscale was negatively skewed while the Extrinsic subscale approached a normal distribution. Thus participants overall reported high levels of importance placed on intrinsic aspirations and moderate importance of extrinsic aspirations. Compared to means in another study with college students the current study found higher mean scores for importance of intrinsic aspirations and similar mean scores for extrinsic values (Schmuck, Kasser, & Ryan, 2000).

Preliminary Analyses

Prior to the main analyses the variables were examined for accuracy in data entry, missing values, out-of range values, and fit between their distributions and the assumptions of multiple regression. When a case was missing on a scale, the participants' other answers were examined to estimate what he or she would have reported and that value was entered. Some participants had to leave either the mother or the father scales blank due to their parent being deceased. These cases were not included in the analyses using scales that assess those relationships. A few participants did not complete all the measures for unknown reasons.

The independent variables were also examined for multicollinearity, the relationship between the independent variables, due to its negative effect on multiple regression models (Tabachnick & Fidell, 2001). Correlations among the independent variables were conducted in order to assess multicollinearity (See Table 2). None of the independent variables were highly correlated ($r > .7$) thus the data passed this assumption.

Next the variables were assessed for their normality and the impact of outliers was assessed. The histograms of three variables demonstrated considerable skewness; Mother Support and Depth, Father Support and Depth, and Intrinsic Aspirations were all negatively skewed. A reflect and square root transformation was performed on the Father Support and Depth scale and reflect and logarithm transformations were performed on the Mother Support and Depth scale and the Intrinsic Aspirations scale as suggested by Tabachnik and Fidell (2001) based on the shape of the scales' distributions. These transformations improved the normality of the distribution of scores. Reflecting these scales causes the interpretation of high and low scores to be reversed, but this makes understanding the information difficult. The signs of the correlations on these scales were changed where appropriate to allow for the conceptual meaning

of the scores to be understood. The other variables were more normally distributed and therefore no transformations were made on them. Scatterplots were examined for each variable to identify outliers. For a few of the scales there were a small number of outliers (e.g., 2-3), which do not significantly affect the mean scores when taken out, therefore they were retained.

Correlations were conducted for all variables for the scales before transformations were made and for the scales after transformations were made on three scales (i.e., Mother Support/Depth, Father Support/Depth, and Intrinsic aspirations; See Tables 2 and 3).

Gender Differences

Correlations were conducted for males and females separately to identify any major gender differences in the simple correlations among the variables (See Tables 4 and 5). Given that there were only 34 males compared to 99 females in the study, these findings should be interpreted with caution. Several of the correlations were similar for males and females, however others differed in magnitude and some variables were correlated in opposite ways for males and females. For example, achievement orientation was negatively correlated with intrinsic aspirations for males ($r = -.25$) and positively for females ($r = .14$). Similarly, for males there was a negative correlation between father support and depth and intrinsic aspirations ($r = -.20$) and a positive correlation between these variables for females ($r = .14$). In contrast, father conflict and intrinsic aspirations were positively correlated for males ($r = .21$) yet negatively correlated for females ($r = -.11$). Additionally, for males career congruence and autonomy was significantly positively correlated ($r = .37, p < .05$) and for females it was significantly negatively correlated ($r = -.27, p < .01$). Other correlations were significant for one gender, but not the other. For example, regarding achievement orientation, it more strongly correlated with mother conflict for males than for females (males, $r = .32$; females, $r = .17$). For females, father

conflict and competence (low scores indicate competence in overcoming barriers) were significantly correlated ($r = .24, p < .05$) but these variables were not correlated significantly for males ($r = -.02$). For females, autonomy and intrinsic aspirations were significantly correlated ($r = .20, p < .05$) but not for males ($r = .00$). For males, one of the largest discrepant findings was that mother conflict significantly correlated with extrinsic aspirations ($r = .49, p < .01$) whereas they were not correlated for females ($r = -.05$). Since these differences could affect regression analyses, any differences were considered when interpreting results. There were other differences not noted here but can be found in Tables 4 and 5.

Principal Analyses

Hierarchical Multiple Regression

To assess hypotheses, a hierarchical multiple regression design was used to determine which independent variables would be the best predictors of the dependent variables. In the first analysis, hierarchical multiple regression analyses were conducted for three dependent variables. For each analysis six independent variables included a Control block (gender); Family Environment block (achievement orientation; FES); and Parent-Child Relationship block (mother support/depth, father support/depth, mother conflict, and father conflict; QRI). It was hypothesized that the blocks of Family Environment and Parent-Child Relationship would be significant predictors of three dependent variables, conceptually the Process variables, consisting of competence (Difficulty subscale; PEB), autonomy (EAS), and career salience (WRS) after statistically controlling for the effect of gender.

For the second set of hierarchical multiple regression analyses, four regression analyses were conducted. Nine independent variables included a Control block (gender), a Family Environment Block (achievement orientation; FES), a Parent-Child Relationship block (mother

support/depth, father support/depth, mother conflict, and father conflict; QRI), and a Process Variables block (competence; PEB, autonomy; EAS, and career salience; WRS). Four Career Development/ Aspiration variables were the dependent variables and include career congruence (CDM and K-P Index), career maturity (CMI), extrinsic aspirations (AI), and intrinsic aspirations (AI). After controlling for gender, it was predicted that the Family Environment block, the Parent Child Block, and the Process blocks would be significant predictors of the four dependent variables. Significant relations between the Control, Family Environment, and Parent-Child blocks were hypothesized to be significantly reduced when the block of Process variables was entered which would indicate that the Process variables act as mediators between the family variables and the career/aspiration outcome variables.

Hierarchical Regression Analyses Predicting Process Variables

Hierarchical regression analyses were first conducted to predict the three Process dependent variables. An alpha level of .05 was used for all statistical tests. The first analysis predicted the variable competence. A summary of the model is presented in Table 6 and shows that none of the blocks of variables were significant predictors of Competence. In the model the first Control block (gender) was not a significant predictor of competence. When the second Family Environment block (achievement orientation) was entered the model was not significant and after adding the final Parent-Child block the entire model was not significant, $F(6, 121) = 1.145, n.s.$, and explained only 5.4% of the variance in competence scores. It is important to note there were differences found in the simple correlations between father conflict and competence based on gender. This correlation was significant for females ($r = .24, p < .05$) but not significant for males ($r = -.02$), which could have influenced the results.

Next, analyses were conducted to predict autonomy and a summary of the hierarchical regression model is presented in Table 7. The first Control block (gender) was not a significant predictor of Autonomy. When the second Family Environment block (achievement orientation) was entered the model was not significant. When the third Parent-Child block was added the entire model was significant, $F(6, 121) = 26.51, p < .001$. The block also produced a significant change in R^2 ($R^2 = .568$, Change in $R^2 = .561$). The Parent-Child block explained an additional 56.1% of the variance in emotional autonomy when the effects of gender and achievement orientation of the family were controlled. Examination of the beta weights indicated that all the Parent-Child variables made unique contributions to the model. In order of importance, those variables are: mother support/depth ($\beta = -.487, p < .0005$), mother conflict ($\beta = .223, p < .0005$), father conflict ($\beta = .153, p < .05$), and father support/depth ($\beta = -.152, p < .05$).

The final Process variable assessed as a dependent variable in this model was career salience. A summary of this hierarchical regression model is presented in Table 8. In the model the first Control block (gender) was a significant predictor of career salience and the overall model explains 3.6% of the variance, $F(1, 126) = 4.72, < .05$. When examining mean difference for career salience by gender, females' mean scores ($M = 91.36, SD = 11.68$) were significantly higher than males ($M = 86.32, SD = 10.72; t(131) = 2.22, p < .05$). When the second Family Environment block (achievement orientation) was entered the model remained significant producing a significant change in R^2 ($R^2 = .11$, Change in $R^2 = .074$), $F(2, 125) = 7.7$. Thus the Family Environment block explained an additional 7.4% of the variance in career salience. When the third Parent-Child block was added the entire model was significant, $F(6, 121) = 4.65, p < .001$. The block produced a significant Change in R^2 ($R^2 = .187$, Change in $R^2 = .078$). The Parent-Child block explained an additional 7.8% of the variance in career salience when the

effects of gender and achievement orientation of the family were controlled for. The entire model explained 18.7% of the variance. Examining the beta weights indicated that gender, achievement orientation, mother conflict, and father conflict made unique contributions to the model. By order of importance of their contributions are: mother conflict ($\beta = .247, p < .05$), father conflict ($\beta = -.243, p < .008$), gender ($\beta = -.186, p < .05$), and achievement orientation ($\beta = .242, p < .01$). In examining the correlations of these variables, father conflict has close to a zero correlation with career salience ($r = -.071$), which seems counterintuitive given its unique contribution to the model ($\beta = -.243, p < .008$). What this result signifies, however, is that father conflict is having a suppressor effect. A suppressor variable is noted when an independent variable suppresses or removes variance that is irrelevant to the prediction of the dependent variable (Cohen & Cohen, 2003; Tabachnick & Fidell, 2001). According to Tabachnick and Fidell suppression is when either the absolute value of the correlation between the independent variable and the dependent variable is markedly smaller than the beta weight or when the correlation and beta weight have opposite signs. In this case the simple correlation is considerably smaller, almost zero, and the beta weight is large enough to add unique predictive value. The suppression effect is also confirmed when father conflict is taken out of the model; mother conflict no longer adds a unique contribution to the model and the Parent-Child block no longer adds a significant change in R^2 (Change in $R^2 = .039, p = n.s.$; See Table 9). Father conflict also appeared to suppress some the irrelevant variance in father support/depth, which is also enhancing father conflict's contribution to the model; however, father support/depth is not a significant predictor, thus strong conclusions cannot be drawn from this finding. Father conflict served to remove the irrelevant variance in both mother conflict and father support/depth having a suppressor effect, which demonstrated how a variable unrelated to the independent variable in simple regression

can still make a significant contribution given its relatedness to the other predictor variables (Thompson, 1998). To understand how the predictor variables relate which produced the suppressor effect correlations between the variables and correlations between items on each scale were examined. The correlation between father conflict and mother conflict was significant and positive ($r = .24, p < .001$). In examining the intercorrelations between the items on the father conflict and mother conflict subscales, the shared variance appears to be in relation to the parent wanting the child to change, the child wanting the parent to change, feelings of anger, feelings of guilt, feelings of being controlled, and high frequency of arguing in the relationship with the parent. In examining the item intercorrelations the unique content that appeared to add to the prediction of career salience is having to work to avoid conflict, having to give in to the relationship, being critical of the parent, and giving more into the relationship than the parent does. It is important to also note that for the simple correlations for mother conflict and career salience differed when examining the correlations by gender. For males the correlation was significant ($r = .46, p < .01$), but it was not significant for females ($r = .19$). These discrepancies could have influenced the findings.

Hierarchical Regression Analyses Predicting Career/Aspiration Variables

Hierarchical regression analyses were performed four times for each of the Career/Aspiration variables. For this set of analyses, the three Process variables were added as a block of independent variables to assess their mediation properties. Career Congruence was the first dependent variable. A summary of this hierarchical regression model is presented in Table 10. In the model the first Control block (gender) was a not a significant predictor of Career Congruence. When the second Family Environment block (achievement orientation) was entered, the model remained not significant. When the third Parent-Child block was added the

model remained non-significant and there were no significant changes in R^2 . When the fourth Process block (competence, autonomy, and salience) was added the entire model remained non-significant. It is important to note that the simple correlations for autonomy and congruence were opposite when examined based on gender. For males, autonomy and congruence were significantly, positively correlated ($r = .37$) whereas for females the variables were significantly, negatively correlated ($r = -.27$). This difference could have influenced the results.

The next analysis predicted career maturity and a summary of the hierarchical regression model is presented in Table 11. In the model the first Control block (gender), was significant predictor of career maturity explaining 6% of the variance, $F(1, 125) = 7.93, p < .01$. When examining the difference in means for career maturity by gender, females' mean scores ($N = 97, M = 35.68, SD = 3.93$) were significantly higher than males ($N = 34, M = 33.24, SD = 5.18; t(129) = 2.86, p < .01$). When the second Family Environment block was entered the model remained significant, but did not produce a significant Change in R^2 . When the third Parent-Child block was added the entire model was significant, $F(6, 120) = 3.345, p < .01$. The block also produced a significant Change in R^2 ($R^2 = .143$, Change is $R^2 = .077$). The Parent-Child block explained an additional 7.7% of the variance in career maturity when the effects of gender and achievement orientation of the family were controlled. When the fourth block of Process variables was entered the entire model was significant, $F(9, 117) = 3.719, p < .0001$. There was also a significant Change in R^2 ($R^2 = .222$, Change is $R^2 = .079$) indicating that the Process block explained an additional 7.9% of the variance after controlling for the other variables. The entire model explained 22.2% of the variance in career maturity. Examining the beta weights indicated that four variables made a unique contribution to the model. In order of importance, those variables are: mother support/depth ($\beta = .495, p < .0005$), autonomy ($\beta = .344, p < .01$), father

conflict ($\beta = -.249, p < .05$), and career salience ($\beta = .204, p < .05$). In examining the correlations of these variables autonomy had close to a zero correlation with career maturity ($r = -.015$) despite having a unique contribution to the model ($\beta = .344, p < .01$). When the model was conducted without autonomy, the block of Process variables no longer had a significant Change in R^2 . Although the model was still significant, $F(8, 118) = 3.058, p < .01$, the amount of variance explained by the model decreased (from $R^2 = .222$ with autonomy to $R^2 = .172$ without autonomy). In addition, father conflict no longer added a unique contribution to the model (See Table 12). These results indicate autonomy had a suppressor effect. Further analysis revealed the suppressor effect had the largest impact on the variable mother support/depth.

When a suppressor effect is detected, it suggests that a predictor variable can be uncorrelated with the dependent variable but can still improve the prediction due to its correlation with other predictors (Shieh, 2006). Examining the correlations between predictors can allow for understanding of what the suppressor variable and the variable(s) it is suppressing are sharing, clarifying what variance is being suppressed. First, it is important to understand which other predictor variables the suppressor variable is affecting. Additional regression analyses were conducted predicting career maturity and it was found that when mother support/depth was removed from the model the suppressor, autonomy, was no longer significant. Autonomy correlated highly and negatively with mother support/depth ($r = -.67$), thus the inclusion of autonomy in the regression equation removed the unwanted variance in mother support/depth and in effect increased the relationship between mother support/depth and career maturity. Examining item correlations between the two scales and regression analyses separating out the variables mother support and mother depth indicated that mother support was a significant predictor of career maturity with or without the inclusion of autonomy in the model.

Mother depth was not a significant predictor of career maturity until autonomy was added to the model. When mother depth was not in the model, autonomy was not significant predictor. These results indicated that autonomy suppressed irrelevant variance in mother depth. In reviewing correlations of the items making up these two scales, it was determined that the shared variance was associated with closeness and dependency versus. individuation and deidealization of parents. These items negatively correlated with items on the EAS that assessed factors such as the child not always agreeing with their parent, trying to solve problems on their own first, having different opinions than their parents, and wanting to parent differently from their parents when they become parents. In examining the inter-item correlations, the items that were not highly correlated with items on the EAS included the responsibility one feels to the mother's well being and how much they depend on their mother, which appeared to be the unique content that added to the prediction of career maturity. To summarize the role of the mother-child relationship in this model, felt responsibility and dependency in the relationship along with felt support in the relationship contributed to the prediction of career maturity. It is important to note that the magnitude of the simple correlation was different for males and females. Mother support/depth and career maturity correlated significantly for males ($r = .34, p < .05$), but they did not for females ($r = .16$). In addition, career maturity was significantly correlated with salience for females ($r = .21, p < .05$), but they were not for males ($r = .01$). Other differences were found in the correlations between mother conflict and career maturity and father conflict and career maturity based on gender, highlighting the complexities in the relationships among these variables.

The next analysis was conducted to predict intrinsic aspirations. A summary of this hierarchical regression model is presented in Table 13. In the model, the first Control block was

a significant predictor of the intrinsic aspiration variable. When examining mean differences for intrinsic aspirations by gender, there were no significant differences in mean scores for females ($N = 98$, $M = 6.26$, $SD = .73$) when compared to males ($N = 34$, $M = 6.06$, $SD = .65$), $t(130) = 1.45$, *n.s.*. Gender explained 3.7% of the variance in intrinsic aspiration, Change in $R^2 = .37$, $F(1, 126) = 4.81$, $p < .05$. When the second Family Environment block was entered, the model was not significant. When the third Parent-Child block was added, the model was not significant. When the fourth block of Process variables was entered, the entire model was not significant.

The final analysis was a hierarchical regression predicting the extrinsic aspiration variable. A summary of this hierarchical regression model is presented in Table 14. In the model, the first Control block was not a significant predictor of extrinsic aspirations. When the second Family Environment block was entered the model became significant and produced a significant Change in R^2 ($R^2 = .148$, Change in $R^2 = .13$), $F(2, 125) = 10.85$, $p < .0001$. The Family Environment block explained 13% of the variance in the extrinsic aspiration variable. When the third Parent-Child block was added the model was significant but it did not produce a significant Change in R^2 . When the fourth block of Process variables was entered the entire model was significant, $F(9, 118) = 3.195$, $p < .01$. There was not a significant Change in R^2 . The entire model explained 19.6% of the variance ($R^2 = .196$). Examining the beta weights indicates that one variable made a unique contribution to the model, achievement orientation ($\beta = .308$, $p < .01$).

Summary of Results

Hierarchical multiple regression analyses evaluated the contributions of Control, Family Environment, and Parent-Child Relationship variables to the prediction of three hypothesized Process variables (competence, autonomy, and career salience). These variables were evaluated

as mediators of the relationship between aspects of the family and career development and aspiration variables. See Figure 4 for a visual depiction of the significant findings. Results indicated that the Family Environment and Parent-Child variables significantly predicted career salience, and only the Parent-Child variables significantly predicted autonomy. However, competence was not significantly predicted by these variables. Mother and father conflict played a significant role in predicting career salience such that higher mother conflict scores predicted higher career salience with father conflict acting as a suppressor variable and adding to the predictive power of the model. It is important to note that the simple correlation between father conflict and career salience was only $r = -.07$, and father conflict was acting as a suppressor variable which added its unique contribution to the model. The achievement orientation of the family also contributed to the prediction of career salience with higher scores predicting higher career salience. Its predictive power was not significantly altered by the father conflict variable. These variables added unique contribution to the prediction after controlling for gender. Both mother and father support significantly contributed to the prediction of autonomy, yet in a negative direction (i.e., higher support predicted lower emotional autonomy). Both mother and father conflict also contributed to the prediction of autonomy such that higher conflict predicted higher emotional autonomy scores.

In the next set of analyses, the Process variables were added to the model to evaluate their mediation properties. Parent-Child variables were able to significantly predict career maturity as well as two of the Process variables. Mother support/depth and father conflict contributed to predicting career maturity such that high mother support/depth scores predicted high career maturity and low father conflict predicted high career maturity. The Process variables, autonomy and career salience, both contributed significantly to the prediction of career

maturity and explained additional variance in career maturity after controlling for the effect of gender and the family variables. Yet it was found that autonomy was acting as a suppressor variable by suppressing irrelevant variance in the mother depth variable, indicating that autonomy was not directly related to career maturity. The Parent-Child variables, mother support/depth and father conflict, significantly predicted both autonomy and career salience and both these Process variables played a role in prediction of career maturity; however, because the effects of the Parent-Child variables on career maturity was not reduced after controlling for career salience and autonomy, mediation was not indicated (Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004). The Family Environment variable, achievement orientation, was the one significant predictor of extrinsic aspirations, yet none of the Parent-Child relationship variables or the Process variables contributed significantly to the prediction. None of the variables significantly predicted career congruence, and only gender added significant prediction to intrinsic aspirations, but the entire model was not significant. The differences in the correlations among variables based on gender were significant findings, which give evidence of the complexity in which these factors are associated.

CHAPTER V

DISCUSSION

Summary of Findings

The present study examined the complexity of family factors in predicting aspects of young adults' career development and aspirations. This study examined both family relationship variables pertaining to the parent-child relationship and values pertaining to the importance placed on work and education within the family unit. Research studies have shown that there are important aspects of the family that are related to career development factors, but it is not clear what exact aspects of the family are related the various processes and outcomes of young adult career development. The current study examined multiple aspects of the family in order to help clarify what factors are most important to understanding the family's influence on the career development process.

Another issue in understanding the way families can influence career development is that there are multiple aspects of the career development process and there is evidence that the family relates to these various aspects of career development in different ways. The current study included multiple important career development constructs in combination with different aspects of the family to help make clear how these factors interrelate. In addition, important career development factors were included that have not been examined in relation to family influences (e.g., career congruence and career maturity).

Research studies that examine family influences on career development attempt to examine direct influences of the family on adolescents' career choices. The current study utilized ideas from self-determination theory (Ryan & Deci, 2002), attachment theory (Ainsworth, 1989; Bowlby, 1988), and career development theories (Crites & Savickas, 1996; Holland, 1959;

Super, 1957) in developing a framework to understand how the family can be an indirect influence on adolescent career development by directly affecting processes within an individual which in turn directly affects career development outcomes.

The first hypothesis, that young adults, who experience their families as being supportive, free from conflict, and who place an importance on achievement in school and work would be more likely to engage in processes that result in career development was partially supported by the data and significant relationships were found but in the opposite direction of what was predicted. The processes examined included competence in overcoming educational barriers, emotional autonomy from parents, and career salience. Results indicated higher achievement orientation in the family and higher conflict in the relationship with mothers predicted higher career salience. Higher conflict with the mother predicted high career salience was actually in the opposite direction of the hypothesis. The ability for the mother conflict variable to predict career salience was enhanced by the inclusion of father conflict even though this variable did not have a direct association with career salience. Further examination revealed that the variance not shared between mother and father conflict involved having to work to avoid conflict in the relationship with the mother, having to give in to the relationship more, being critical of the mother, and putting more into the relationship than the mother puts in. These factors in the mother-child relationship appear to be what was adding to the prediction of higher career salience. In addition, higher conflict with both mothers and fathers and low support and depth in the relationships with mothers and fathers predicted higher emotional autonomy after controlling for the effects of gender and family achievement orientation. This finding was in the opposite direction of what was hypothesized.

The second hypothesis was that when young adults experience their families as supportive, free from conflict, placing an emphasis on school and work achievement, and who report engagement in the process factors would have higher career congruence, would place an emphasis on intrinsic aspirations, place less of an emphasis on extrinsic aspirations, and have increased career maturity. This hypothesis was partially supported for predicting career maturity and extrinsic aspirations. Higher levels of mother support and depth predicted higher career maturity and lower father conflict predicted higher career maturity. In addition, two of the process factors, autonomy and career salience, predicted career maturity in that higher career salience was associated with higher career maturity. The role of autonomy was more complex because it did not have a direct association with career maturity, but rather an indirect association when examined together with the other predictor variables. In particular, its shared association with mother depth reduced the irrelevant variance in the relationship with the mother to its prediction of career maturity, hence increasing the predictive value of the model. Further examination revealed it was how responsible the child felt for the mother and how much the individual depended on the mother that added to the prediction of career maturity. Regarding extrinsic aspirations, the achievement orientation of the family environment was associated with high levels of extrinsic aspirations. None of the variables predicted career congruence and only gender was a significant predictor of intrinsic aspirations.

The third hypothesis suggested that the achievement orientation of the family and the parent-child relationship factors would directly affect the process factors, and indirectly affect the career development and aspirations of young adults through these processes. In examining all the results together, this hypothesis was not supported. Although the process variables, career salience and emotional autonomy, played a role in predicting career maturity they did not lessen

the predictive value of the parent-child relationship factors on career maturity. Gender was assessed as a control variable in all the models, and it added unique contributions to the predictions of career salience, career maturity, and intrinsic aspirations. In addition, the associations between the variables were examined separately for males and females and differences were found in the way the constructs related which likely affected these findings.

Several important findings emerged from the current study and are important to understanding the family's association with career development. Some findings support what is already known in the literature and some findings introduce new ideas. The design of the current study differed from other research in this area in that it examined the parent-child relationships and the family environment as well as multiple aspects of career development and aspirations of young adults. Support was found for both the parent-child variables and the family environment variables being related to aspects of career development and family environment factors being related to aspirations but not always in the direction predicted. Data from this study support the notion that multiple career development constructs should be assessed to fully understand how the family influences career development, because differences were found in how the family factors related to the various aspects of career development and the aspirations. It was hypothesized that the family directly influences processes within an individual that then result in positive career development, however, data did not support this proposal.

First, I will discuss which aspects of the parent-child relationship appear to encourage career development. Second, I will discuss the evidence for the importance of assessing the family's role in transmitting values, beliefs, and attitudes about careers as an important aspect in understanding the family's role in the career development process. Third, I will discuss issues regarding the complexities in measuring family functioning. Fourth, I will explore the notion that

research regarding family influences on career development should be examined separately for males and females. Next, explanations for hypotheses that were not supported will be examined. Finally, implications of the findings, limitations of the study, and future directions will be addressed.

Family and Career Development

A goal for this project was to identify what aspects of the family are important to career development to assist in clarifying this process. Overall, it was found that both the values emphasized within the family environment and aspects of support and conflict in the parent-child relationships were important in relation to career development factors. This finding suggests research should continue to examine both the values orientation of the family and dimensions of closeness, support, and conflict in the parent-child relationships. The family factors were also predictive of process variables, emotional autonomy and career salience, that may in turn influence career development. These process variables also played a role in predicting the career development factors and can give more clarity in regards to how the family affects the career development of their children. The family factors and process variables were able to predict career maturity and extrinsic aspirations, but not intrinsic and career congruence. However, these were variables that seem to relate to family variables in different ways for females and males. These findings provide evidence that the family relationship factors relate to aspects of career development in different ways and may have less importance for particular aspects of career development.

Career Maturity

Findings indicate that family variables were predictive of the career development variable career maturity. Career maturity is conceptualized as readiness and competence for making

mature and realistic career decisions and has been identified as an important factor in career development (Crites & Savickas, 1996; Super, 1959). Career maturity was assessed in the current model as being indirectly related to family relationship and environment variables via the process variables, career salience, autonomy, and competence. Support was not found for the process variables mediating the relationship, but a critical finding to discuss is that career maturity was associated with higher depth and support in the relationship with the mother and lower levels of conflict with the father. Emotional autonomy played a role in the prediction of career maturity via its association with the amount of depth in the relationship with the mother. In particular, autonomy's shared association with mother depth reduced the irrelevant variance in the relationship with the mother to its prediction of career maturity, hence increasing the predictive value of the model. Specifically it was how responsible the child felt for the mother and how much they depended on the mother that added to the prediction of career maturity. Schapeler (2004) also found evidence that support and depth in young adults' relationships with their mothers was predictive of high career maturity, using the same measures drawn from the same population. In the literature there is a lack of studies that examine the associations of family and career maturity, therefore the current findings are important such that they uniquely add to the understanding of family's role in affecting career development, yet it remains unclear how the family relationships may play a role in enhancing career maturity. Examining the predicted process variables may give some clarity to this question. Career salience, one of the conceptualized process variables, was related to career maturity and enhanced the predictive power of the model after controlling for gender and the family factors. It did not reduce the effect of the parent-child relationship variables on career maturity and therefore did not support the idea of mediation. Yet it is an important finding that career salience did significantly play a role

in predicting career maturity, lending support for examining the interaction of these factors in understanding career development. The parent-child relationship variable, mother conflict, was predictive of higher career salience, which is somewhat surprising given that support and depth in this relationship was associated with higher career maturity. These findings when examined together provide evidence for the complexity of how these factors interrelate and may influence development. It appears that family relationships may play two different roles. Support and career salience may encourage career maturity, which measures attitudes and knowledge about career development. It seems accurate that low importance placed on a career could limit learning about information related to careers. Support in the parent-child relationship may indicate parental involvement, which may also encourage learning about careers, especially if career goals are important to the parent. The processes by which the family may influence career development is even more difficult to identify due to gender differences which suggest that mother conflict was related to career salience for males, but not for females. In contrast, high father conflict was associated with high achievement orientation for females, but not for males. More research is necessary to evaluate the possible processes related to how the family relationship factors promote career maturity. The salience of a career may play a small role, but other process factors need to be identified and researched to come to a clearer understanding. Due to differences found when correlations were ran separately for males and females, it may be important to examine these factors separately in same and opposite gender parent-child dyads.

In investigating the literature to understand the current findings in a broader context, it was necessary to look at other career development constructs other than career maturity because of the lack of research with career maturity and family. Similar to current findings, it has been shown that when the family allows for the expressions of feelings, which may be a dimension of

support and depth in the relationship, young adults tend to have higher career decision-making self-efficacy (Hargrove, Creagh, & Burgess, 2002). Other research also shows autonomy and connectedness in family relationships relates to career exploration, vocational identity, career commitment, and career indecisiveness (Blustein, Walbridge, Friedlander, & Pallandino, 1991; O'Brien, 1996; Penick & Jepsen, 1992; Ryan, Solberg, & Brown, 1996; Tokar, Withrow, Hall, & Moradi, 2003). These findings provide evidence for both supportive factors and autonomous factors within the family relationships being important in relation to career development.

Integrating results from the current study and other research, there is support for the idea that family relationship factors (i.e., support/attachment, autonomy/individuation from parents, expressiveness, and conflict) play a role in affecting the career development of young people, but it may depend on what aspect of the parent-child relationship is assessed and what aspect of career development is being examined. Perhaps it is a certain amount of felt support that enables an individual to learn about mature career decisions and to feel secure enough to obtain the information they need about the world of work, yet it is a certain amount of conflict and/or autonomy within the family relationships that leads to career being an important aspect of one's life. Career maturity also is a measure of one's attitudes toward career, and therefore the family relationships may be leading to a transmission of these attitudes. The achievement orientation of the family environment was predictive of career salience and offers more evidence that values are transmitted from the family to the child in regards to career. The topic will be further explored in discussing the importance of the family's attitudes, beliefs, and values.

Career Salience

Career salience was also predicted by parent-child relationship factors. As previously discussed, higher conflict in the relationship with the mother was associated with higher career

salience and is a relatively new finding in the realm of family influences on career development. One idea is that when there is higher conflict in the relationship with the mother, an individual may not view family as playing as strong a role in their lives as do other individuals who have less conflict in their relationship with their mother. Researchers in the realm of work-family conflict discuss how stress can emerge due to the conflicting demands of work and family, which in turn can impact both the quality of work and the family (Greenhaus, 1985). It may be that when there is conflict within the family of origin, especially with the mother, the role of career becomes more important because work and family can sometimes cause conflicting demands. It is important to note that it was not found in the current study that low support in the relationship with the parents was associated with career salience, and the sample in general reported high levels of support and depth in their relationship with their parents. The predictive value of mother conflict was also affected by the perceived amount of conflict with the father by reducing irrelevant variance. Specifically it was found that having to work to avoid conflict in the relationship with the mother, having to give in to the relationship more, being critical of the mother, and giving more in the relationship than the mother was predictive of career salience. This finding was especially true for males given the higher association between conflict in the relationship with the mother and career salience. It may be that in the mother-son relationship, the mother is pushing or influencing the child toward career being important. The child may view this as conflict, but it may not be entirely a negative factor. It could be that conflict within a supportive environment could promote thinking more about issues. Examining other research findings may help understand this issue. Research supports the idea that lower dependence on relationships may be associated with career being more important in one's life (Moya, Francisca, & Josefa, 2000). In comparison, the current study supported the notion that higher levels conflict

in the mother-child relationship is associated with higher career salience, which could be an indication of lower dependency in the relationship. Other research has found that conflictual independence was related to career exploration and commitment (Blustein, Walbridge, Friedlander, & Pallandino, 1991). This finding may suggest a certain amount of conflict, that is free from guilt and resentment, can lead to greater career exploration and deciding on a career. In summary, when parent-child relationships have some conflict there appears to be some association with an importance placed on career and possibly other career development factors such as exploration and commitment.

Theoretical Support for Findings

There is support in the theoretical literature that it is a complex relationship between support, autonomy, and conflict in the parent-child relationships that are associated with career development. Family systems theory suggests that career decision-making is combined with other developmental processes for example, identity development and psychological separation from parents (Lopez & Andrews, 1987). Over involvement or dependency in the relationships between parents and children may inhibit the individuation process and may contribute to young people's difficulty in understanding their own needs and wants. Grotevant and Cooper (1988) propose that career development tasks such as career exploration are more likely to occur when there is a balance of both closeness and independence. Exploration is thought to facilitate other important career development factors such as career maturity (Super, 1955). These theoretical ideas are congruent with this study's finding that there is a complex relationship between closeness in the parent-child relationships, autonomy, and a degree of conflict that associate with higher levels of career maturity or career salience.

Self-determination theory was utilized to help understand the complex relationship between the family and career development (Ryan & Deci, 2002). The theory suggests that social contexts either aid in or thwart growth of individuals, highlighting the importance of autonomy and relatedness. Findings from the current study partially support aspects of this concept in that support and depth in the relationship with the mother related to career maturity and conflict in the relations with the mother related to career salience. Career maturity has been conceptualized as a readiness and competence for making career decisions, and is thought of as an aspect of healthy career development. Salience may indicate more of the value an individual places on career in their life rather than an aspect of healthy development. Self-determination theory also discusses the importance of competence as an important factor that must also be facilitated in the social environment; however, this study did not find support for this idea.

The current study's findings add to the literature by lending more support for the idea that it is a complex process by which family's can assist young people in their career development journey. It was suggested from these findings that a combination of offering support, facilitating a sense of autonomy, and experiencing some conflict in the relationships may be related to different aspects of career development. Support was found that these constructs do interrelate and are related to different aspects of career development. One hypothesis was that the association of families and career development is not a direct relationship but rather indirect by influencing aspects within young people which manifests into successful career outcomes, although this finding was not supported. This study's findings have implications for the idea that a certain amount of conflict within the parent-child relationships may relate to career being more salient, yet support is what assists in making successful career decisions. A hypothesis may be that it is a combination of these aspects of the family that aids in successful career development.

In order to fully understand the role of the family, however, it is important to also examine the influence of the achievement orientation of the family unit.

Attitudes, Beliefs, and Values

One important factor to consider in examining the family's role in promoting career development is how the family can transmit values, beliefs, and attitudes about careers. Career salience is not a common topic researched when examining the family's role in career development. The current study examined career salience because it seemed important to understand how significant career was in a young person's life in order to assess the relevance of their career development outcome. The importance of work in an individual's life can be conceptualized as a value that they place on work and career. Career salience is often explored in relation to work-family conflict issues as they pertain to working adults rather than as a part of the career development process (Greenhaus & Beutell, 1985; McElwain, Korabik, & Rosin, 2005). This study's findings indicate aspects of the family environment were related to career salience. First, family's emphasis on school, work activities and competitiveness were associated with young adults valuing work and career in their lives. Values taught regarding the importance of achievement in education and work related pursuits likely contribute to the salience of career in the context of individuals' lives. Career salience can be thought of as an aspect of the process that connects the family environment and career outcomes. Although the literature on family influences on career development has not addressed career salience, other studies suggest that the value one places on work determining the importance of successful career development. Hargrove, Creagh, and Burgess (2002) reported that achievement orientation significantly predicted vocational identity, a broad measure of career development. Other research has found achievement orientation of the family to be predictive of career exploration (Fields, 1981;

Fischer & Padmawidjaja, 1999; Jodl, Michale, Malanchuk, Eccles, & Sameroff, 2001; Trusty & Pirtle, 1998). The values a family transmits to their children may influence the role of work in their lives increasing their engagement in career exploration, which in turn leads to a stronger vocational identity. The proposal that the family contributes to the importance of work in individuals intuitively seems accurate, but few research studies have explored this idea. This suggestion could be an important aspect of career development research because if the family promotes the importance of career within the young person then positive career development would be even more significant, especially given that there is support that achievement orientation of the family is a significant factor to consider when examining career development.

The idea that values and beliefs are passed down from the family and influence individuals' development was also demonstrated when examining aspirations. Ideas from self-determination theory suggest that when the family can meet the needs of competence, autonomy, and relatedness children will tend to value meaningful relationships, personal growth, and contributions to the community as a whole (i.e., intrinsic aspirations) as opposed to extrinsic aspirations that are values related to wealth, fame, and image (Ryan & Deci, 2002). Research examining intrinsic and extrinsic aspirations has found that individuals who focus on intrinsic goals have higher well-being, whereas individuals who focus on extrinsic goals have lower well-being (Schmuck, Kasser, & Ryan, 2000). A focus on intrinsic aspirations has also been found to be predictive of health-risk behaviors (Williams, Cox, Hedberg, & Deci, 2000). The family's role in fostering intrinsic aspirations has also been studied, and it has been found that controlling, uninvolved parenting may be associated with strong extrinsic aspirations, whereas parents who are supportive and allow for autonomy are associated with high intrinsic aspirations (Kasser, Ryan, Zax, & Sameoff, 1995). In general, participants in the current study placed high

importance on intrinsic aspirations and a moderate amount of value on extrinsic aspirations. The parent-child relationship factors were not related to either intrinsic or extrinsic aspirations as predicted. This finding may have been influenced by gender differences in the manner that these variables related. For males low conflict in the relationship with the mother and high conflict was related to high extrinsic aspirations, but not for females. Strong conclusions cannot be drawn from this finding given the small number of males. However, one significant finding that did not appear to be influenced by gender discrepancies was that the achievement orientation of the family environment was predictive of individuals placing an importance on extrinsic aspirations. Achievement orientation as defined by Moos and Moos (1986) is the degree to which the family places an importance on school and work activities and competitiveness. As reviewed before, achievement orientation of the family appears to impact individuals' values and beliefs about work and education. Extrinsic values place importance on wealth, fame, and image, which is similar to achievement orientation in that they both place value on external factors and not on internal personal characteristics like being a kind person or having positive relationships with others. These findings suggest that families placing too much of an emphasis on achievement in work and education may lead students to value external things. More evidence would be needed to support this idea and there currently there is a lack of research assessing these concepts together. The current study's sample had relatively high importance placed on intrinsic values, which could reduce the negative association of extrinsic values with factors such as well-being. It is also logical to think that when an emphasis is placed on work, the means by which individuals make money to live, they may also value wealth, but may not necessarily de-value intrinsic aspirations. The values and beliefs a family has pertaining to career and education appear to play a significant role in impacting the importance of career in one's life and the

importance of extrinsic aspirations. In addition, unlike some of the other findings, these results appear to be similar for males and females.

It is important to note that the Career Maturity Inventory-Revised[®] (© J. O. Crites; Crites & Savickas, 1996) purports to measure attitudes and feelings about making a career choice and entering the workforce. Some of the family relationship factors were successful in predicting career maturity. This result taken together with the findings that the family's achievement orientation appears to impact the salience of career in one's life and the importance placed on extrinsic aspirations, it can be surmised that there could be a link between the family relationships and values, attitudes and beliefs about careers. These attitudes and beliefs may then play a role in determining future career development decisions and behaviors. Future research should not only examine relationship factors, but should also assess the family's values and beliefs about careers and how these values influence aspects of career development. Examining the quality of the relationships within the family may not be enough to understand the career development process.

Measuring Family Functioning

The importance of examining multiple family factors in order to understand how the family may influence career development was supported in this study. There was evidence that when multiple family factors were examined together, they were better predictors of career development. An issue arises, however, because measuring family functioning is difficult and complex. In measuring emotional autonomy the goal was to assess a process within individuals whereby they felt a sense of individuation from parents, yet autonomy seemed to be related to support and conflict in relationships. Interpreting and understanding the difference between conflict in a family that promotes autonomy and offers support versus conflict in a family that

lacks support and autonomy was difficult given the way these constructs were measured.

Steinberg (1981) discusses how conflict during adolescence is a normal process allowing for establishing one's own thoughts and beliefs, and therefore conflict, perhaps in conjunction with other family factors, can promote healthy development. Another issue is differentiating between parent-child relationships that are supportive and close and those that are considered enmeshed, which has been conceptualized to thwart career development (Grotevant & Cooper, 1988). Given the variables used in this study it is difficult to distinguish between these nuances in family relationships. Future research should consider measuring family relationships in a way that would allow a better understanding of these issues.

An example of the complexity in understanding these family factors is found in the relationship between emotional autonomy and the parent child variables. Emotional autonomy from parents was assessed as a process by which the family indirectly influences young peoples' career development and aspirations. In contrast to the hypothesis, lower mother and father support and higher conflict in these relationships was associated with higher emotional autonomy. The scale used to measure emotional autonomy (EAS; Steinberg & Silverberg, 1986) was created using Blos' (1979) perspective on individuation. The scale measured how much the young people perceived their parents as people, how much they deidealized their parents, their level of non-dependency on parents, and their level of individuation. The scale was not supposed to measure oppositional or negative attitudes toward parents, yet a certain amount of conflict is likely to be present in parent-child relationship when the young person feels like their own individual and views their parents as people, capable of being wrong and making mistakes. The idea that autonomy is related to some degree of conflict is consistent with research examining emotional autonomy and connectedness to parents (Frank, Laman, & Avery, 1988; Steinberg,

1987). In addition, high dependency in the parent-child relationship is likely associated with lower levels of emotional autonomy. Viewing parents as capable of making mistakes (i.e., de-idealizing them) may be more threatening to parent-child relationships that are high in dependency and could be a reason for this finding. This discovery illustrates how it is difficult to understand what autonomy is measuring given its positive relation to conflict and negative relationship to support and depth in the parent-child relationships. In reality, family relationships are complex and thus it is important to assess multiple dimensions of the relationships. The measures used to assess these relationships, however, do not appear to capture the nuances that make up complex family relationships. It is difficult to measure the family relationships precisely and distinctly, making it difficult to fully comprehend the impact of the family on career development.

Gender Differences

Gender was used as a control variable in the current study due to findings that there may be gender differences regarding the family's association with aspects of career development (Moya, Francisca, & Josefa, 2000; Ryan, Solberg & Brown, 1996; Schapeler, 2004; Whiston, 1996). In three of the models, gender played a significant role: the prediction of career salience, career maturity, and intrinsic aspirations. The demographics of the current study's sample are also important to consider given that the number of males was less than half that of females and therefore there were not enough male participants to draw conclusions or be confident in generalizing from this data. Descriptive comparisons of scores were examined to understand any differences. Regarding career salience, females had significantly higher career salience scores than males, which is consistent with recent research (Moya et al., 2000) and discrepant with older research (Greenhaus, 1973). However, the manner in which the factors related to career

development become very important and the examination of differences in the magnitude of scores does not show differences in how these variables are related. The fact that high career salience was predicted by higher conflict in the relationship with the mother and its interaction with conflict in the relationship with the father offers support for exploring the family's association with career development separately for males and females. It is also important to note that the correlation between mother conflict and career salience was significantly higher for males than for females. Other research has suggested examining the relationship between career development and family factors separately for males and females (Ryan et al., 1996). In the current study gender also was associated with career maturity and added significant prediction to the model. In examining mean differences, females had higher career maturity scores than males. Mother support and low father conflict were associated with career maturity. For males the magnitude of the simple correlation between mother support and career maturity was higher for males than females. Again suggesting that differences for males and females may be impacting the overall findings.

Examining the correlations for males and females separately was very important for understanding the results more fully. When examining the correlations there were some notable differences in associations. These findings are important because difference were found for the way the variables relate for males and females between significant variables such as career salience, career maturity, autonomy, and achievement orientation. In addition, some variables that were not found to be as significant in the model (e.g., career congruence and competence) had significant correlations with the family variables when separated by gender. For example, achievement orientation was associated more strongly with mother conflict for males than females, and father conflict had a negative relationship with achievement orientation whereas it

had a positive association for females. It could be hypothesized that conflict in the parent-child relationship for daughters may arise when there is an emphasis placed on achievement in school in work, but for sons this association may vary depending on which parent-child relationship is assessed. In addition, for females, high father conflict was correlated with low competence for overcoming barriers, but not for males, which may suggest that parents may influence self-efficacy in different ways for their sons and daughters. Competence was not predicted in the regression model, but might have been had the analyses been conducted separately for males and females. In addition, for males, mother conflict was correlated with high importance placed on extrinsic aspirations, but not for females. It may be that for males the conflict in the relationship with the mother influences them to place their aspirations on extrinsic goals, which is consistent with ideas from self-determination theory. For females, the family relationships may not play as much of a role. Another difference was that career salience was related to career maturity for females, but not for males. A hypothesis may be that placing a high importance on career relates to increased competence in making career decisions females and career salience may be a more important factor to consider for females when compared to males. Another significant discrepancy was for emotional autonomy, it was positively related to career congruence for males, but negatively related for females, and the reverse was found for the relationships between autonomy and extrinsic aspirations. This finding could explain why the regression model did not significantly predict career congruence given the way they relate so differently for males and females, and why only achievement orientation predicted extrinsic aspirations. Strong conclusions cannot be drawn from these findings given the sample size and disproportionate amount of males versus females; however, there is enough evidence to suggest that future studies should examine how mother-son, mother-daughter, father-son, and father-daughter relationships

may influence individual's career development differently. Gender roles may be a significant issue to explore such that career may have different meanings in the lives of males and females. Also, parents' ideas about gender roles may be another important factor to consider in future research because these ideas may be transmitted to children and influence individuals' career development.

Congruence and Competence

Career congruence and competence in overcoming barriers were not predicted by any of the family variables or process variables. Several issues may explain why this occurred. One idea is that the theoretical idea that congruence is an expression of one's self-concept in the form of a career may be inaccurate. Another suggestion is that there may be a problem in the way these constructs are measured. In addition, there was evidence that these variables were related to family factors, but they may need to be examined separately for males and females. A final suggestion is that there are inconsistencies in the literature that family factors are related to career development constructs and the lack of support for these findings is accurate. For example, other studies have not found associations between family factors and some career development factors such as exploration, career decisiveness, and career decision-making self-efficacy (Lucas, 1997; Schapeler, 2004; Whiston, 1996). The inconsistency in findings make it difficult to draw firm conclusions regarding the role of connectedness with the family and career development.

Career congruence is a very important construct identified in the career development literature (Holland, 1959). Although it is considered an important outcome for career development, it has not been examined in association with family relationship factors. The idea behind examining the family's role in promoting career congruence came from two theoretical

frameworks. First, attachment theory has been utilized as a driving theory behind several studies looking at parent-child attachment and its role in career development, suggesting that a close attachment to parents can lead to career exploration and subsequently lead to greater career congruence (Blustein, Preisoso, & Schultheiss, 1995; Ketterson & Blustein, 1997; Lee & Hughey, 2001). Also, self-determination theory (Ryan & Deci, 1996) informed the design of the current study suggesting that supportive family relationships promote competence, autonomy, and relatedness within the young person, which would lead to the integration of the self and the expression of needs in the form of a congruent career choice. These ideas were not supported by the current research. In fact, none of predictors made significant contributions to explaining the variance in congruence, and congruence had no significant simple correlations with any of the variables including the other aspects of career development. This finding is consistent with Schapeler's (2004) study, which examined a very similar population using the same measure of congruence. It is important to note that there were some significant correlations between autonomy and career congruence for males but not females, suggesting that future research that examines family influences on career congruence should examine males and females separately.

An explanation as to why there is a lack of association between the family variables and congruence is that congruence may not be a good example of the expression of their needs and integration of the self. For example, individuals may get needs met in other areas of their life such as hobbies and relationships. Thus identifying the construct as an expression of an individual's self-concept may be inaccurate. Another explanation for congruence not being associated with the family factors stems from issues around its validity. Criticism regarding the construct is that it does not measure broader aspects of personality, self-efficacy, values, and career salience, which are important constructs to assess when measuring career congruence

(Arnold, 2004). Therefore, conceptually the idea of congruence may represent the expression of one's self-concept, but the measures of congruence may not be validly measuring this construct. Arnold argues the environment may not be measured closely enough to reflect what tasks are actually carried out in certain jobs. There is also the issue of the magnitude of individuals' interest, in that measures of career congruence do not take into account an individual with all high scores versus someone with all low scores. For example, an individual with very high scores with a code type of investigative, social and enterprising is extremely different from an individual whose scores are all very low but who has the same code type. The current study utilized the Kwak-Pulvino Index, a highly used measure, but perhaps a measure that better estimates person-environment congruence may have found different results. In addition, it may be that family factors may be related to some aspects of career development but not to career congruence.

Another unexpected finding was that none of the family variables were associated with competence (belief in one's ability to overcome educational barriers) and competence was not predictive of the career development and aspiration variables. This finding does not support self-determination theory and its proposition that family relationships can facilitate a sense of felt competence in individuals. Similar to the current study's result, Whiston (1996) did not find associations with family factors and career self-efficacy, which is a similar construct to competence in overcoming barriers. Again there were differences in the way the family variables related to competence when examined separately for gender, once more providing support that males and females should be examined separately. The current study also did not find associations between competence in overcoming career barriers and aspects of career

development (e.g., career congruence and career maturity) in contrast to other research (Hargrove, Creagh, & Burgess, 2002).

Implications

The current study has implications for those who work with young adults especially career counselors and teachers who help facilitate successful career development in individuals. First, it is important that an assessment is made of the family environment and how much a family encourages or expects an importance placed on career and academic pursuits. This may help to understand how important career is in the individual's life and can give an indication of their broader aspirations in life. Individuals who report high achievement orientation in the family may be assessed for the amount of pressure they feel to succeed academically or in their career. Although not assessed in the current study, achievement orientation that is perceived as controlling or pressured may lead adolescents to pursue careers their parents approve of rather than something they would enjoy. In addition, it will be helpful for career counselors to understand the parent-child relationships and the amount of support, conflict, and autonomy in the relationships. It may not be clear as to how the interactions of these factors are associated with different career development, but exploring this will be important because they do appear to play a role. Additionally, both researchers and clinicians should take into account the nuances in the way these constructs related for males and females.

Limitations

The design of the current study was complex, using multiple variables and several regression models. Using a simple design would not have been appropriate given that in the real world the relationship between family and career development is convoluted. However, when using a complex design it can lead to difficulty in fully interpreting the findings. Two suppressor

variables emerged in the models indicating that a variable not linked to the outcome variable in a simple correlation can still add a unique contribution in an analysis. Making simple interpretations regarding the relatedness of variables is not accurate then given the inter-relationship between the variables contribution to prediction. Additionally, it is important to note that multiple regression is based on correlation and thus causation among variables cannot be implied.

Another limitation of the research is the reliance upon self-report, which has the potential to lead to biases in reporting. When asking participants about their family relationships, some may have wanted to present themselves in a socially desirable manner. Admitting to themselves that they have problematic family relationships may be difficult for some individuals. Some of the means for this study were relatively high compared to other studies, such as the importance placed on intrinsic values. This finding could be an exaggeration of individuals' true beliefs due to the desire to believe they do value more intrinsically oriented aspirations when the opposite may be accurate. Other measures such as the Support and Depth subscales of the QRI (Pierce, Sarason, & Sarason, 1991), also had means that were high and negatively skewed distributions, but this is a consistent finding with other similar populations (Schapeler, 2004). If some participants attempted to present themselves in a socially desirable manner this could have biased the results.

Some limitations to the current study are due to its limited generalizability. Characteristics of the sample limit its generalizability to other populations. First, the sample was made up of a majority of Caucasian participants, limiting its extrapolation to other races and ethnicities. Second, the sample was almost 75% female thus prohibiting the findings to be understood fully in terms of male development. The findings, which suggested some gender

differences, should be interpreted with caution given the low numbers of male participants. The differences in the correlations when males and females were examined separately limit the generalizability of the findings. Third, as with much of the research in this area, all the participants were enrolled in a state university and thus were already taking steps toward career development goals. The results of this study cannot then be generalized to other populations who are not college bound and may be studying a trade or getting on the job training.

A measurement issue that has been discussed is the issue of measuring career congruence. Although the index used to measure congruence had positive aspects such as taking into account the participants top three Holland (1973) code types and weighing the position of the code accordingly, it still did not account for the magnitude of differences among participants. In addition, because these students were mostly made up of freshman, they are likely to change their career plans as they continue to develop and therefore the measure of congruence now may not be meaningful for them in the future. Longitudinal research that examines career congruence at different times in an individuals life may be more meaningful and give more understanding of how the family or other relationships may impact one's career development over time.

Multiple regression is sensitive to violations of assumptions if multicollinearity (when independent variables are highly correlated, $>.9$), outliers, normality, linearity, and homoscedasticity. Violations of these assumptions were checked and transformations were made for problems with skewed distributions on two subscales of the QRI (Pierce, Sarason, & Sarason, 1991) and the Intrinsic subscale of the Aspirations Index (Ryan & Kasser, 1996). However all the scales were not exactly normally distributed which could cause a bias in the results (Cohen, Cohen, West, & Aiken, 2003).

Internal consistency was also an issue for some of the scales. The reliability of a scale is considered to be good if it has a Cronbach's alpha above .7 (Pallant, 2003). The Achievement Orientation subscale of the Family Environment Scale (Moos & Moos, 1986) had an alpha coefficient of .38. Career maturity also had a lower than ideal Cronbach's alpha coefficient of .57. These lower values may indicate that the meaning of these scales is broader than one single construct and thus the scales' meanings are less clear.

Another issue that came up during collection of data and subsequently analyzing it is that some participants left parts of the questionnaires blank, which caused missing data. Some participants wrote in that one of their parents was deceased and therefore they did not complete scales regarding that parent. In other cases, there was no explanation for why the information was missing, and it was not possible to speculate what their responses would have been. In cases where one item was left blank on a scale, an appropriate response was estimated based on the other questions that loaded into that scale. As suggested by Cohen, Cohen, West, and Aiken (2003) the cases where data were missing from an entire variable, these participants were dropped from that analysis. The *N* that some analyses were conducted with did not drop below that needed to run multiple regression per Tabachnick and Fidell's (2001) strategy of using the formula: $N > 50 + m$ (where *m* is the number of independent variables). At most the analysis had nine independent variables necessitating at least 122 participants, and the smallest analysis was conducted with $N = 126$. The missing data could still have had an effect on the results, because those participants' data could not be analyzed.

A final limitation to discuss is that one important construct was not included in the design. Career exploration has been researched as an important aspect of career development and a factor that the family influences in a way that positively promotes career development (e.g.,

Blustein, Prezioso, & Schultheiss, 1995). The current study was originally designed to include a measure of career exploration as a process variable, but due to mistakenly omitting this measure in the assessment packet, the variable could not be included in the final analyses.

Future Directions

This study aimed to understand more about the family's role in the career development process of young adults. Findings from this study in conjunction with other research suggest the need for continued assessment of the family in understanding career development concerns. Future studies should include multiple family relationship dimensions in an effort to tease out the complexities of how these factors relate to career development. It may be important to also specifically examine aspects of family conflict, autonomy, and closeness to understand how these factors interrelate. This study was not successful in finding support for mediating factors that promote career development, but future research should continue to examine what family relationships tend to promote or thwart processes within the young person that associates with greater career maturity or other career development factors like vocational identity. For example, one important career development construct not included in the current study is career exploration. It will be helpful to include this variable in future studies to better understand how the family influences career development. Another area to explore is the association of the achievement orientation of the family and career salience and extrinsic aspirations. Perhaps even more than the quality of the relationships in the family, it is the transmission of certain values related to career and work that promote the importance of career and external aspirations being important. Finally, the role that gender plays in how the family influences young adult career development should continue to be examined, as there is significant support to suggest that family plays a different role for some aspects of career development in males and females. It is

suggested that future studies examine males and females in separate models to further comprehend the way that family relationships and family values may influence sons and daughters differently. To obtain a better understanding of these issues, more sophisticated designs and analyses may be warranted. For example, using much larger samples and structural equation modeling would allow for testing various models concerning interrelationships among a set of variables, and may be needed to more fully comprehend the family's influence on young adult career development.

Taking into consideration the issues with the current study and the other issues in the research, future research in this area should address measurement issues, populations sampled, and design of studies. Regarding measurement, more research on measuring career congruence should be conducted perhaps comparing different measurement methods in a single study to identify their convergent validity. Congruence measures may also take into account other important factors such as ability and work values, two other important factors that go into making a good career decision (Super, 1957). Adding these other aspects when examining career congruence would add to the construct validity of career congruence.

The two scales Career Maturity (Crites & Savickas, 1996) and Achievement Orientation (Moos & Moos, 1986) were both significant variables in this study yet they both demonstrated internal consistency problems. Future research could utilize the constructs behind these two variables and redesign the subscales to improve their reliability. This would allow for a clearer understanding of what role they play in the family associations with career development. Finally, future research should include more diverse samples in terms of race/ethnicity, socioeconomic background, educational training, and gender.

Conclusion

Although it is difficult to study the many influences on career development of young people, it continues to be important due to important roles career and family play in many individuals' lives. For some, career is not only a way to provide financial means, it can also be an aspect of life that is rewarding, enjoyable, and may even meet needs that other aspects of life cannot meet. Supportive family relationships may be important at certain times and for specific aspects of career development, but encouraging achievement strivings and allowing for autonomy or conflict may be important for other times and other aspects. Career development is important to continue to understand given the amount of time, education, training and dedication that is often times spent on the pursuit of a career. It is important that we continue to understand how to help foster efficacious career development in individuals.

Table 1

Means, Standard Deviations, Ranges for All Variables

Variable	<i>M</i>	<i>SD</i>	Possible Range	Actual Range
Achievement	6.37	4.40	0-10	2-9
Mother Support/Depth	3.26	.60	1-4	1.14-4
Father Support/Depth	2.90	.79	1-4	1-4
Mother Conflict	2.13	.61	1-4	1-3.75
Father Conflict	2.15	.75	1-4	1.08-4
Competence	57.66	15.42	28-112	28-94
Autonomy	2.74	.35	1-4	1.65-3.75
Career Salience	90.08	11.61	27-135	64-125
Career Congruence	.59	.27	0-1	.06-1
Career Maturity	35.05	4.40	0-50	16-47
Intrinsic Aspirations	6.2	.71	1-7	3.33-7
Extrinsic Aspirations	3.90	1.33	1-7	1.13-7

Note. Values have been rounded to two decimal places. Variables represent the following scales: Achievement (Family Environment Scale); Mother Support/Depth, Father Support/Depth, Mother Conflict, Father Conflict (Quality of Relationships Inventory); Competence (Perception of Educational Barriers, Difficulty subscale); Autonomy (Emotional Autonomy Scale); Salience (Work Role Salience Scale); Congruence (Career Decision Making System & K-P Index); Maturity (Career Maturity Inventory); Intrinsic Aspirations, Extrinsic Aspirations (Aspirations Index)

Table 2

Correlations for all Variables and Scales' Alpha Coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender		.03	-.15	-.07	-.06	-.00	-.10	-.19*	.04	.04	-.25**	-.13	-.13
2. FES-Achievement		(.38)	-.09	-.08	.21*	.13	.03	.27**	.08	.02	-.09	.07	.36**
3. Mother Support/Depth			(.92)	.34**	-.62**	-.06	-.04	-.16	-.66**	.11	.23**	.17	-.06
4. Father Support/Depth				(.94)	-.29**	-.53**	-.03	-.09	-.44**	-.02	.03	.07	-.06
5. Mother Conflict					(.89)	.24**	.12	.26**	.60**	-.10	-.10	-.06	.10
6. Father Conflict						(.92)	.18*	-.07	.30**	-.00	-.14	-.01	.08
7. Competence							(.93)	-.04	.05	.04	.01	-.01	.01
8. Career Salience								(.81)	.08	.03	.19*	-.04	.28**
9. Autonomy									(.78)	-.12	-.01	-.11	-.04
10. Career Congruence											.15	.09	-.06
11. Career Maturity											(.57)	.17	-.03
12. Intrinsic Aspirations												(.89)	.10
13. Extrinsic Aspirations													(.93)

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$, Cronbach's alpha coefficients are reported on the first diagonal when appropriate for the variable. Values have been rounded to two decimal places.

Table 3

Correlations for All Variables after Transformations of Three Scales

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender		.03	-.18	-.08	-.06	-.00	-.10	-.19*	.04	.04	-.25**	-.19*	-.13
2. FES-Achievement			-.08	-.08	.21*	.13	.03	.27**	.08	.02	-.09	.05	.36**
3. Mother Support/Depth				.33**	-.61**	-.04	-.03	-.12	-.67**	.11	.24**	.17	-.03
4. Father Support/Depth					-.28**	-.53**	-.04	-.09	-.45**	-.02	.03	.09	-.06
5. Mother Conflict						.24**	.12	.26**	.60**	-.10	-.10	-.07	.10
6. Father Conflict							.18*	-.07	.30**	-.00	-.14	-.05	.08
7. Competence								-.04	.05	.04	.01	-.06	.01
8. Career Salience									.08	.03	.19*	.13	.28**
9. Autonomy										-.12	-.01	-.16	-.04
10. Career Congruence											.15	.10	-.06
11. Career Maturity												.15	-.03
12. Intrinsic Aspirations													.10
13. Extrinsic Aspirations													

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$; Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

Table 4

Correlations for Females for All Variables after Transformations of Three Scales

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. FES-Achievement		-.07	-.12	.17	.21*	-.04	.29**	.10	.00	-.05	.14	.36**
2. Mother Support/Depth			.30**	-.65**	-.01	-.10	-.17	-.70**	.17	.16	.14	.03
3. Father Support/Depth				-.24*	-.54**	-.04	-.13	-.44**	.04	.06	.14	-.05
4. Mother Conflict					.26	.11	.19	.62**	-.14	-.05	-.10	-.05
5. Father Conflict						.24*	-.11	.27**	-.06	-.19	-.11	.05
6. Competence							-.12	.09	.02	-.01	-.05	-.05
7. Career Salience								.07	.01	.21*	.12	.20*
8. Autonomy									-.27**	-.03	.21*	-.10
9. Career Congruence										.09	.14	-.11
10. Career Maturity											.02	-.07
11. Intrinsic Aspirations												.08
12. Extrinsic Aspirations												

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$; Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

Table 5

Correlations for Males for All Variables after Transformations of Three Scales

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. FES-Achievement		-.09	.05	.32	-.18	.24	.24	-.01	.06	-.17	-.25	.38*
2. Mother Support/Depth			.41*	-.59**	-.16	.11	-.12	-.56**	-.04	.34*	.11	-.31
3. Father Support/Depth				-.49**	-.47**	-.09	-.03	-.47**	-.10	.06	-.20	.17
4. Mother Conflict					.18	.13	.46**	.52**	.03	-.28	.00	.49**
5. Father Conflict						-.02	.07	.47**	.18	-.05	.21	.16
6. Competence							.12	-.09	.13	-.03	-.21	.11
7. Career Salience								.16	.14	.01	.00	.43*
8. Autonomy									.37*	.07	.13	.18
9. Career Congruence										.32	-.01	-.01
10. Career Maturity											.34	-.06
11. Intrinsic Aspirations												-.02
12. Extrinsic Aspirations												

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$; Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

Table 6

Summary of Hierarchical Regression Analysis Predicting Competence

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.10	.01	1.31	.26	.01	1.31	.26			
Gender								-.10	-.09	.32
Block 2 Family Environment	.11	.01	.71	.50	.00	.12	.73			
Achievement								.03	-.01	.94
Block 3 Parental Relationship	.23	.05	1.15	.34	.007	1.36	.25			
Mother Support/Depth								-.03	-.02	.85
Father Support/Depth								-.04	.09	.44
Mother Conflict								.12	.08	.52
Father Conflict								.18	.21	.06

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places. β values are for the entire model. β values are for the entire model.

β values reported in the table are for the entire model. Gender: Model 1 β = -.10, Model 2 β = -.10; Achievement: Model 2 β = .03.

Table 7

Summary of Hierarchical Regression Analysis Predicting Autonomy

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.04	.00	.18	.67	.00	.18	.67			
Gender								.04	-.05	.44
Block 2 Family Environment	.09	.01	.46	.63	.01	.74	.39			
Achievement								.08	-.04	.55
Block 3 Parental Relationship	.75	.57	26.51	.00	.56	39.26	.00			
Mother Support/Depth								-.67**	-.49	.00
Father Support/Depth								-.45**	-.15	.04
Mother Conflict								.60**	.22	.01
Father Conflict								.30**	.15	.04

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values reported in the table are for the entire model. Gender: Model 1 β = .04, Model 2 β = .04; Achievement: Model 2 β = .08

Table 8

Summary of Hierarchical Regression Analysis Predicting Career Salience

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.19	.04	4.72	.03	.04	4.72	.03			
Gender								-.19	-.19	.03
Block 2 Family Environment	.33	.11	7.70	.01	.07	10.33	.00			
Achievement								.27	.24	.01
Block 3 Parental Relationship	.43	.19	4.65	.00	.08	2.89	.03			
Mother Support/Depth								-.12	.06	.60
Father Support/Depth								-.09	-.16	.12
Mother Conflict								.26	.25	.03
Father Conflict								-.07	-.24	.02

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values reported in the table are for the entire model. Gender: Model 1 β = -.19, Model 2 β = -.20; Achievement: Model 2 β = .27.

Table 9

Summary of Hierarchical Regression Analysis Predicting Career Salience without Father Conflict

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.19	.04	4.72	.03	.04	4.72	.03			
Gender								-.19*	-.19	.03
Block 2 Family Environment	.33	.11	7.70	.01	.07	10.33	.00			
Achievement								.27**	.23	.01
Block 3 Parental Relationship	.34	.15	4.26	.00	.04	1.86	.14			
Mother Support/Depth								-.12	-.01	.99
Father Support/Depth								-.09	-.03	.77
Mother Conflict								.26	.18	.10

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places. β values are for the entire model.

β values reported in the table are for the entire model. Gender: Model 1 β = -.19, Model 2 β = -.20; Achievement: Model 2 β = .27.

Table 10

Summary of Hierarchical Regression Analysis Predicting Career Congruence

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.04	.00	.18	.67	.00	.18	.67			
Gender								.04	.06	.52
Block 2 Family Environment	.04	.00	.10	.90	.00	.03	.86			
Achievement								.02	.01	.89
Block 3 Parental Relationship	.14	.02	.38	.89	.02	.52	.72			
Mother Support/Depth								.11	.07	.63
Father Support/Depth								-.02	-.07	.56
Mother Conflict								-.10	-.04	.79
Father Conflict								-.00	-.01	.95
Block 4 Process Variables	.17	.03	.39	.93	.01	.41	.74			
Competence								.04	.06	.52
Career Salience								.03	.06	.51
Autonomy								-.12	-.09	.57

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values reported in the table are for the entire model. Gender: Model 1 $\beta = .04$, Model 2 $\beta = .04$, Model 3 $\beta = .05$; Achievement: Model 2 $\beta = .02$, Model 3 $\beta = .03$; Mother Support/Depth: Model 3 $\beta = .12$; Father Support/ Depth: Model 3 $\beta = -.06$; Mother Conflict: Model 3 $\beta = -.04$; Father Conflict: Model 3 $\beta = -.02$.

Table 11

Summary of Hierarchical Regression Analysis Predicting Career Maturity

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.24	.06	7.93	.01	.01	7.93	.01			
Gender								-.25**	-.14	.12
Block 2 Family Environment	.26	.07	4.43	.01	.01	.92	.34			
Achievement								-.09	-.10	.24
Block 3 Parental Relationship	.38	.14	3.35	.00	.08	2.68	.04			
Mother Support/Depth								.24**	.47	.00
Father Support/Depth								.03	-.10	.35
Mother Conflict								-.10	-.03	.79
Father Conflict								-.14	-.25	.02
Block 4 Process Variables	.47	.22	3.72	.00	.08	3.97	.01			
Competence								.01	.05	.53
Career Salience								.19*	.20	.03
Autonomy								-.01	.34	.01

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values reported in the table are for the entire model. Gender: Model 1 $\beta = -.24$, Model 2 $\beta = -.24$, Model 3 $\beta = -.20$; Achievement: Model 2 $\beta = -.08$, Model 3 $\beta = -.07$; Mother Support/Depth: Model 3 $\beta = .31$; Father Support/ Depth: Model 3 $\beta = -.18$; Mother Conflict: Model 3 $\beta = .10$; Father Conflict: Model 3 $\beta = -.23$.

Table 12

Summary of Hierarchical Regression Analysis Predicting Career Maturity without Autonomy

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.24	.06	7.93	.01	.06	7.934	.01			
Gender								-.25**	-.16	.08
Block 2 Family Environment	.26	.07	4.43	.01	.01	.92	.34			
Achievement								-.09	-.11	.22
Block 3 Parental Relationship	.38	.14	3.35	.00	.08	2.68	.04			
Mother Support/Depth								.24**	.30	.01
Father Support/Depth								.03	-.15	.15
Mother Conflict								-.10	.05	.67
Father Conflict								-.14	-.20	.07
Block 4 Process Variables	.41	.17	3.06	.00	.03	2.03	.14			
Competence								.01	.04	.65
Career Salience								.19*	.19	.05

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values are for the entire model. Gender: Model 1 $\beta = -.24$, Model 2 $\beta = -.24$, Model 3 $\beta = -.20$; Achievement: Model 2 $\beta = -.08$, Model 3 $\beta = -.07$; Mother Support/Depth: Model 3 $\beta = .31$; Father Support/ Depth: Model 3 $\beta = -.18$; Mother Conflict: Model 3 $\beta = .10$; Father Conflict: Model 3 $\beta = -.23$.

Table 13

Summary of Hierarchical Regression Analysis Predicting Intrinsic Aspirations

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.19	.04	4.81	.03	.04	4.81	.03			
Gender								-.19	-.16	.10
Block 2 Family Environment	.20	.04	2.58	.08	.00	.38	.54			
Achievement								.05	.04	.68
Block 3 Parental Relationship	.25	.06	1.31	.26	.02	.70	.60			
Mother Support/Depth								.17	.08	.57
Father Support/Depth								.09	.02	.89
Mother Conflict								-.07	.02	.88
Father Conflict								-.05	.01	.93
Block 4 Process Variables	.29	.08	1.16	.33	.02	.84	.47			
Competence								-.06	-.07	.45
Career Salience								.13	.10	.31
Autonomy								-.16	-.12	.40

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values reported in the table are for the entire model. Gender: Model 1 β = -.19, Model 2 β = -.19, Model 3 β = -.17; Achievement: Model 2 β = .05, Model 3 β = .07; Mother Support/Depth: Model 3 β = .14; Father Support/ Depth: Model 3 β = .01; Mother Conflict: Model 3 β = .01; Father Conflict: Model 3 β = .05.

Table 14

Summary of Hierarchical Regression Analysis Predicting Extrinsic Aspirations

Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	Sig. <i>F</i>	Change in <i>R</i> ²	Change in <i>F</i>	Sig. <i>F</i> Change	<i>r</i>	β	Sig. <i>t</i>
Block 1 Control	.13	.02	2.24	.14	.02	2.24	.14			
Gender								-.13	-.13	.15
Block 2 Family Environment	.34	.15	10.85	.00	.13	19.14	.00			
Achievement								.36**	.31	.00
Block 3 Parental Relationship	.39	.15	3.57	.00	.00	.08	.99			
Mother Support/Depth								-.03	-.13	.32
Father Support/Depth								-.06	-.04	.73
Mother Conflict								.10	-.01	.95
Father Conflict								.08	.09	.41
Block 4 Process Variables	.44	.20	3.20	.00	.05	2.24	.09			
Competence								.01	-.02	.45
Career Salience								.28**	.18	.06
Autonomy								-.04	-.20	.12

Note. For *r*, * = $p < .05$. ** = $p < .01$. *** = $p < .001$. Zero order correlations are represented by “*r*.” Transformations were performed on the following variables: Mother Support/Depth, Father Support/ Depth, and Intrinsic Aspirations. Reflections were performed and therefore signs have been changed when appropriate to reveal the conceptual meaning of the variable. Values have been rounded to two decimal places.

β values are for the entire model. Gender: Model 1 $\beta = -.13$, Model 2 $\beta = -.14$, Model 3 $\beta = -.15$; Achievement: Model 2 $\beta = .36$, Model 3 $\beta = .36$; Mother Support/Depth: Model 3 $\beta = -.02$; Father Support/ Depth: Model 3 $\beta = -.04$; Mother Conflict: Model 3 $\beta = -.01$; Father Conflict: Model 3 $\beta = .01$.

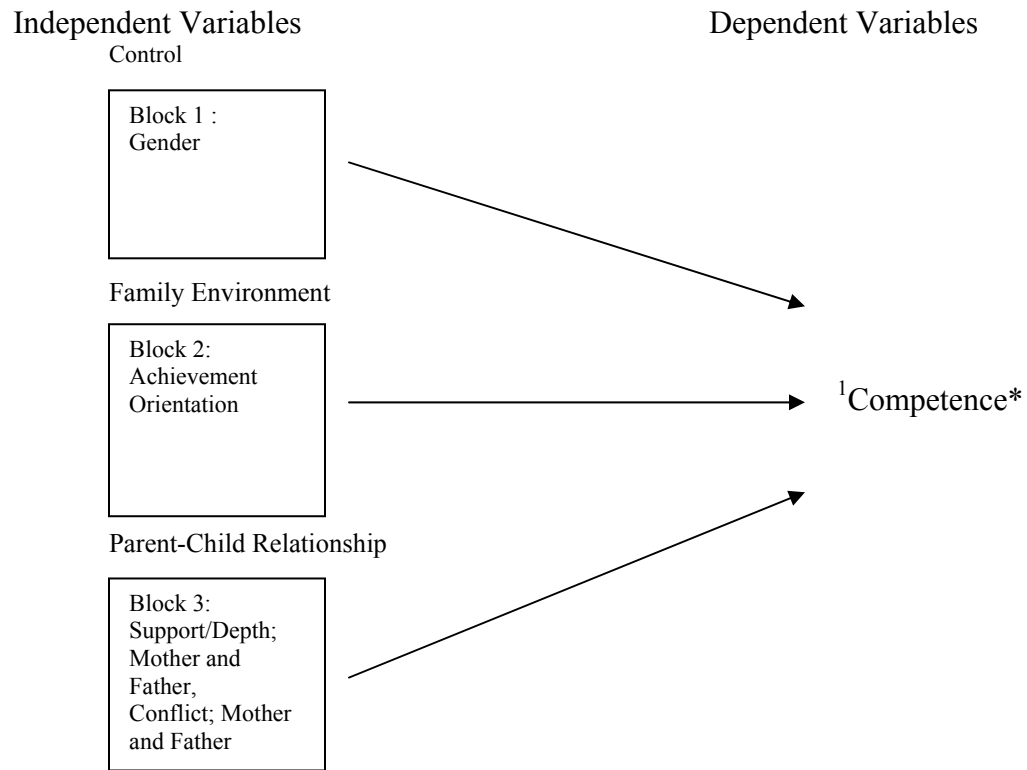
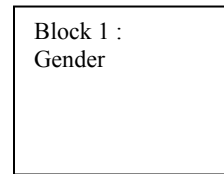


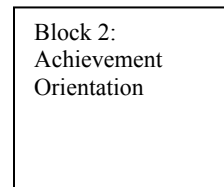
Figure 1. Hierarchical regression analysis to test Hypothesis 1 and 3. In addition to Competence, regression analyses will be repeated for each of the following dependent variables: ²Autonomy, and ³Career Salience.

Independent Variables

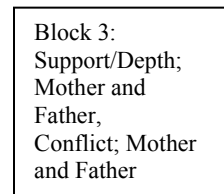
Control



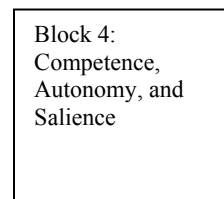
Family Environment



Parent-Child Relationship



Processes



Dependent Variable

¹Congruence*

Figure 2. Hierarchical regression analysis to test Hypotheses 2 and 3. Regression analyses were conducted for each of the following variables: ²Career Maturity, ³Intrinsic Aspirations, and ⁴Extrinsic Aspirations.

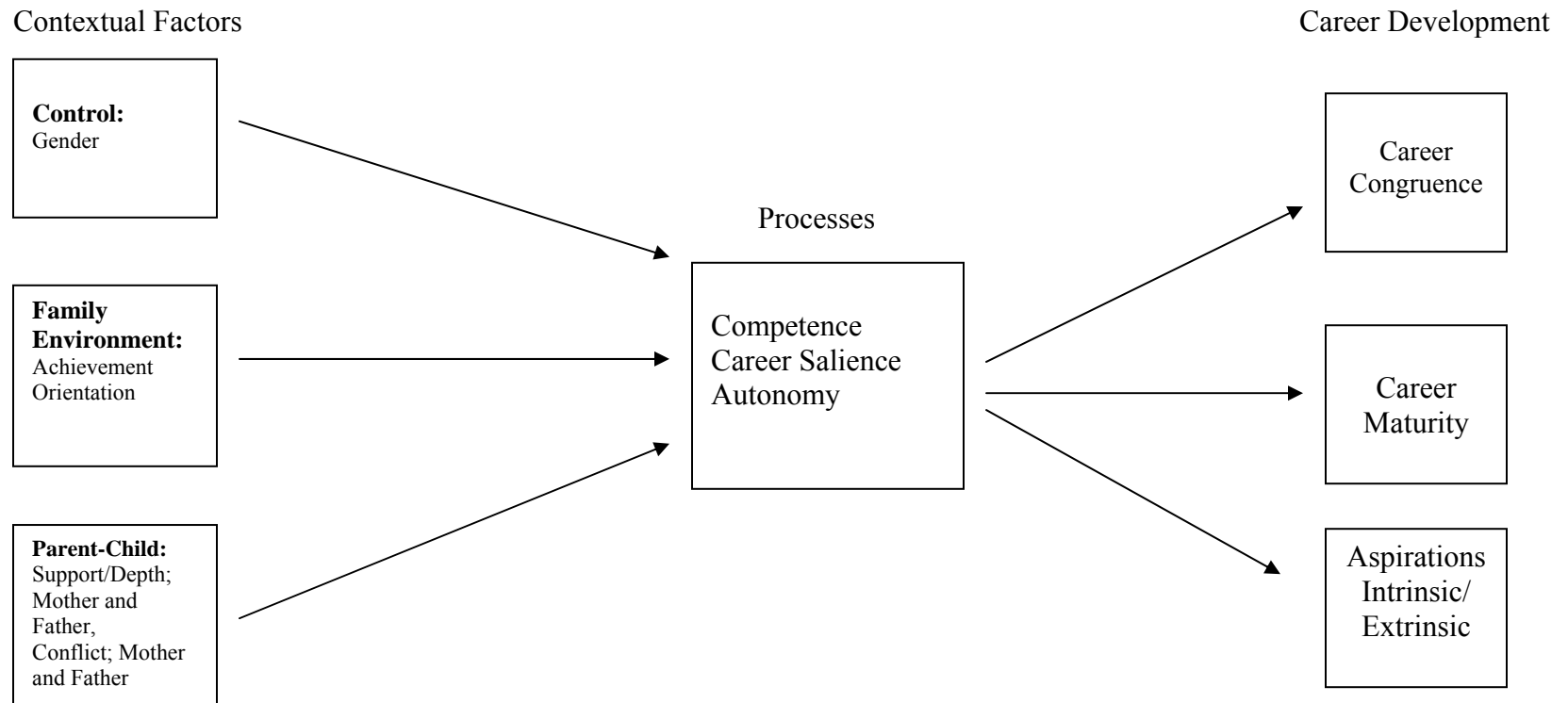


Figure 3. Conceptual model depicting Hypothesis 3. Design testing influences of Control, Family Environment, Parent-Child Relationship on Processes within the adolescent which were hypothesized to facilitate aspects of Career Development.

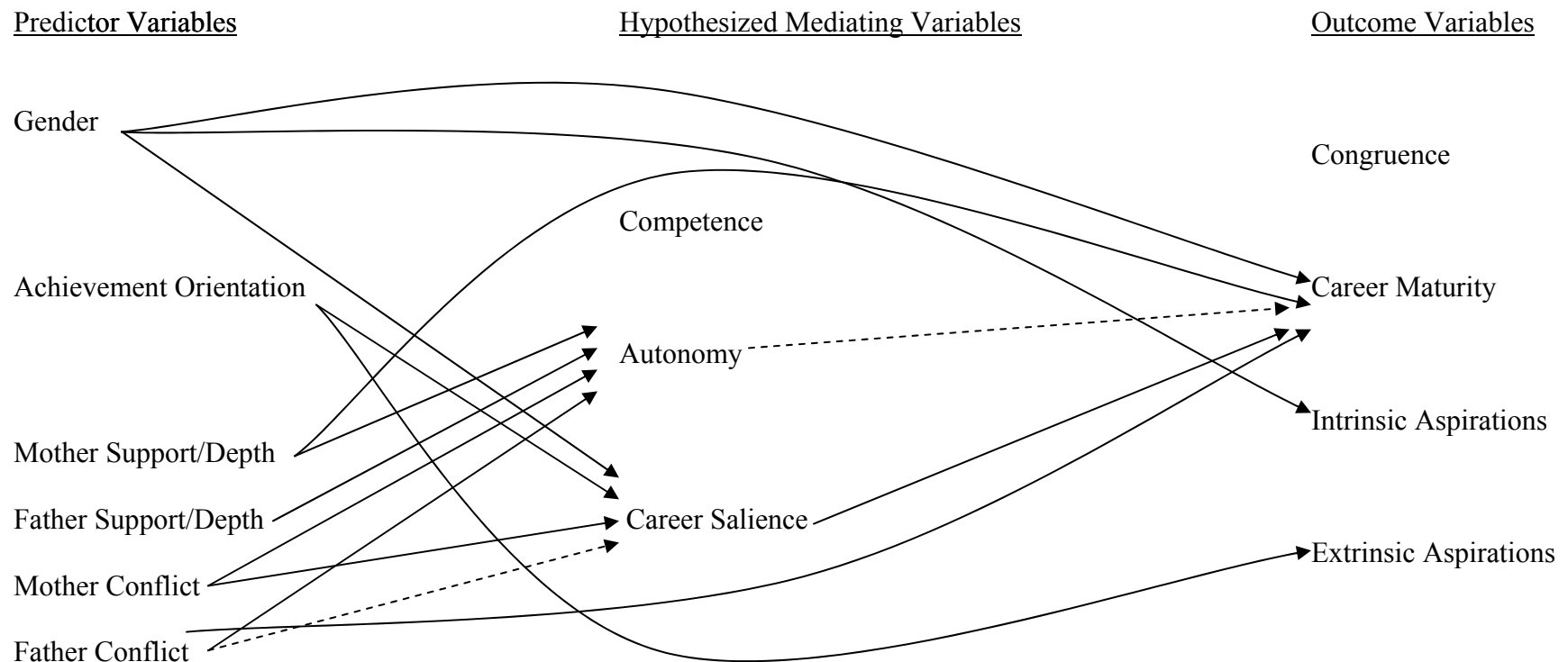


Figure 4. Visual depiction of significant predictors for all the models. Solid lines represent significant beta weights. Dashed lines represent significant beta weights for suppressor variables.

APPENDIX
CONSENT FORM

CONSENT TO PARTICIPATE IN RESEARCH

Families & Futures Study

You are being asked to participate in a study of the ways family influence young adult's development and ideas about the future.

YOUR PARTICIPATION

If you agree to participate, the time commitment will be 1½ to 2 hours. You will fill out questionnaires asking about your family, how your life is going, and your ideas about the future. We know that families are important and that every family is different. We are not asking for this information to judge you or your family, but because you can help us learn more about the many roles that families play in young adult development.

CONFIDENTIALITY

To safeguard your privacy your consent form will be separated from the questionnaires. Only the researchers will see your specific responses and your name will not be on any of the materials. All of your responses will be kept confidential. Only summarized data will be reported concerning the study. Please feel free to ask questions at any time.

BENEFITS

Possible benefits of the study are that it may help you think about where you are in your life and your ideas about the future, including ideas about career and relationships in your life. Per your course's description, you will be given extra credit for your participation. Your participation will help us understand more about families and young adult development, and what we learn will eventually help parents, young adults, and those who work with young adults and families.

POSSIBLE RISK

The risks from participating in this study are considered minimal. Some questions may address information you feel is personal. It could be uncomfortable to disclose this information, or make you more aware of concerns that you have, or you may find that it doesn't bother you at all. If you have any concerns or problems please let the researchers know at once. They will be prepared to help you find appropriate assistance. We believe the potential benefits outweigh any minimal risk.

VOLUNTARY PARTICIPATION/WITHDRAWAL

Your participation in this study is voluntary. You may decide not to participate and you can discontinue participation at any time. Should you decide not to participate or discontinue participation, there will be no penalty or loss of benefits to which you would otherwise be entitled.

If you have any questions or concerns, feel free to contact us.

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If you are willing to participate, please sign the consent on the following page.

This study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940 565-3940).

CONSENT TO PARTICIPATE IN RESEARCH
Families and Futures Study

CONSENT

This study, including the risks and benefits, has been explained to my satisfaction. I have been given the opportunity to have my questions answered to my satisfaction. I have read and I understand the information in this consent form. I voluntarily agree to participate in this research study and have been given a copy of the consent form.

Participant

Name (print): _____ Age: _____

Signature: _____ Date: _____

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