Abstract

Title of Thesis: THE CHANGING FACE OF PSYCHOLOGY: CAREER AND LEADERSHIP ASPIRATIONS OF FEMALE DOCTORAL STUDENTS IN COUNSELING AND CLINICAL PSYCHOLOGY

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This study aimed to advance understanding of career-related experiences of female graduate students in counseling and clinical doctoral programs. Specifically, the study investigated achievement motivation, career role salience, consideration for future family and partner, and social support as predictors of leadership and career aspirations. Two hundred and two female graduate students in either counseling or clinical Ph.D. programs were sampled. Results indicated that achievement motivation, specifically the desire to work hard, was the most important predictor of career and leadership aspirations, and was the only consistent predictor across different types of aspirations. Additionally, work role salience contributed to the prediction of career-related aspirations. Last, differences emerged among women who were in the early years of their graduate program versus those in the later years of doctoral study. These findings could contribute to the literature on womens career decision making and have implications for practice and research.

Keywords: Career Aspiration, Leadership Aspiration, Female Graduate Students

THE CHANGING FACE OF PSYCHOLOGY: CAREER AND LEADERSHIP ASPIRATIONS OF FEMALE DOCTORAL STUDENTS IN COUNSELING AND CLINICAL PSYCHOLOGY

by

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CHAPTER 1: Introduction

"Leadership should be born out of the understanding of the needs
of those who would be affected by it."
~Marian Anderson

Women have begun to dominate the field of counseling psychology. In 2005, nearly 72% of new doctoral graduates entering psychology and 75% of the American Psychological Association of Graduate Students (APAGS) members were women (Cynkar, 2007; Williams-Nickelson, 2005). Women are having a powerful impact on the field of psychology due to the increasing amount of women entering the field (Williams-Nickelson, 2005). Yet despite this "feminization" of psychology, women are not well represented in the leadership of the American Psychological Association. Females held less than 38% of the editor and associate editor positions within APA journals, and only 11 of APA's 115 presidents have been women. In addition, only about 25 % of full professors in graduate departments in psychology are women, despite an equal number of females and males at the associate professor level (Cynkar, 2007). Most psychologists acknowledge that discrimination and social structure has a powerful influence on achievement outcomes for women, they do not provide a complete explanation (Mednick & Thomas, 2008). The purpose of this study was to examine factors that may relate to career and leadership aspirations among a group of female graduate students in counseling and clinical psychology.

History of Women's Career Development

The study of women's career development is complex and numerous models address different components influencing women's vocational development. A number of theorists have focused on individual differences (Betz & Fitzgerald, 1987; Farmer, 1985;

Fassinger, 1985, 1990). One of the earliest theories by Farmer (1985) proposed that background variables (e.g., gender, race, and age) interact with psychological variables (e.g., self-esteem, values, success attributions) and environmental variables (e.g., attitudes towards women working, support from teachers and parents) to foster achievement and career motivation. These variables in turn were hypothesized to relate to three motivational factors: level of aspirations, mastery strivings and career commitment. Subsequently, a literature review completed by Betz and Fitzgerald (1987) identified sets of factors which correlate with women's career choices. These factors were deemed particularly important in predicting career choice and included individual variables (self-concept, ability, liberal gender role values), background variables (parental support and work experience), educational variables (women's schools and higher education), and life style variables (timing of marriage and number of children). However, Fassinger (1985, 1990) proposed several changes to the theory and suggested including family orientation (predicted by feminist orientation and career orientation) and career orientation (influenced by ability, achievement orientation, and feminist orientation) to predict women's career choices. Fassinger (1990) tested a model which showed that high ability, interacting with gender role attitudes and instrumental personality characteristics predicted career choice and career orientation. Moreover, in a study to expand Fassinger's (1990) model, O'Brien and Fassinger (1993) found that career orientation and career choice of adolescent women were predicted by ability, agentic characteristics, gender role attitudes, and relationship with mother.

Consistently, models of women's career development have organized salient constructs into internal (the person's characteristics or perspective) and external (the

person's environment) factors (Fitzgerald, Fassinger, & Betz, 1995). For the purposes of this study, we investigated both internal (achievement motivation, career salience and consideration for future family) and external factors (social support) that were hypothesized to relate to women's career and leadership aspirations. The variables chosen to represent the internal and external variables were selected because of their use in recent research supporting their relevancy to women's career and leadership outcomes.

Internal Factors

Achievement Motivation

Based on several theoretical models, internal and external factors play a role in women's career choices (Fitzgerald et al., 1995). In particular, one internal factor that may be related to women's aspirations is their degree of achievement motivation. Achievement motivation has been hypothesized to be a variable that is foundational and inherent to the person, similar to a personality characteristic (Mednick & Thomas, 2008) and was first highlighted in the work of McClelland (1961) and Atkinson (1958) who defined this construct as the desire to accomplish something of value or importance through one's efforts to meet standards of excellence (McClelland, Atkinson, Clark, & Lowell, 1953). However, this traditional definition of achievement motivation was criticized as being unsatisfactory in explaining the achievement behaviors of women. Feminist psychologists noted the sex bias and methodological flaws in the traditional methodology used to study achievement behaviors (Hyde & Kling, 2001). Recently, research has focused more on constructs hypothesized to predict achievement motivation such as ability, perceived competence and achievement goals (Cury, Elliot, Da Fonseca & Moller, 2006).

It may seem like an obvious assumption that women in a graduate program would be motivated to achieve in their careers. However, previous research has shown that achievement motivation for women may decline over time (Ferriman, Lubinski, Benbow, 2009; Hyde, 2004; O'Brien, Friedman, Tipton & Linn, 2000). For example, researchers have found that girls often experience pressure to do an "about face" during adolescence and shift their priorities away from academic achievement to a focus on romantic relationships (Kerr, 1997). Kerr (1997) did an extensive program of research on gifted girls, and noted that although the aspirations of girls start out as high as those of their male counterparts, achievement goals declined throughout their lives (Kerr, Foley-Nipcon, & Zapata, 2005). The shift in priority away from career aspirations has also been documented in young adult female populations. This was supported by the work of O'Brien et al. (2000) who found that young women may decide to pursue less prestigious careers because of the expectation of future marriage and family responsibilities. Women selected more traditional, less prestigious careers which underutilized their abilities.

A few studies have investigated the achievement values of doctoral trainees and practicing counselors, specifically their motivations for pursing a doctoral degree. A longitudinal study of 530 graduate students who 10 years prior were in top ranked math/science graduate departments found that in general, men placed more value on success, recognition and advancement in their career. Additionally, even the most talented and passionate women, after having children, expressed a strong preference for short work hours, and may experience an increased interest to take a leave of absence or exit their careers all together to become a homemaker (Ferriman et al., 2009). A qualitative study by Hoskins and Goldberg (2005) found that female graduate students

noted achievement, fulfillment, challenge and power to control one's destiny as some of the personal motivations for pursuing their doctorate degree. Similarly, Kelly (1995) randomly sampled 479 professional counselors who were American Counseling Association members. Results from their value profiles revealed that counselors highly valued achievement. Last, Sommers (1993) aimed to determine if need for achievement differed among two groups of female graduate students who either chose male-dominant or female-dominant programs of study in graduate school. The need to achieve was high across both groups of women. Although some research has examined achievement motivation among doctoral students, no studies have focused on how achievement motivation might be related to career or leadership aspirations for graduate students or if the achievement motivation of graduate students differs across levels of students.

Career Salience

Career salience is defined as "aspirations for work as the central feature of adult life, regardless of financial necessity or under conditions of free choice" (Almquist & Angrist, 1971, p. 263) and was a variable of interest because it has been found to play a role in women's career aspirations. However, this construct may change and develop as individuals grow older (Farmer, 1997; McClintock-Comeaux, 2007; Parasusraman & Greenhaus, 1993). Farmer (1997) proposed a model in which support for women working was related to three motivational variables (mastery motivation, career aspiration, and career salience). A study was conducted of Farmer's model in three different time periods: 1980, 1990, and 1991- 1993. Results found that support for women working was related to all three motivational variables for women but not for men.

Parasuraman and Greenhaus (1993) did an extensive review of the women's career literature relating to the interdependence of women managers' career and family involvements. They theorized that women managers varied in their salience toward work and family roles which were reflected in three orientations: career-primary, family-primary, and career and family. Parasusraman and Greenhaus proposed that women's orientation had direct and indirect effects on their career outcomes; specifically manager's career achievements. Additionally, they noted that women's strategies to manage the work family conflict could possibly impede their career advancement and earning potential. This research suggested that career salience was linked to career achievement; however the work family conflict that arises may cause women to cope through means of sacrificing their career achievement. Although these studies are important for understanding the role of career role salience for working women, research should seek to understand how career role salience may impact the career and leadership aspirations of undergraduate and graduate students.

McClintock-Comeaux (2007) aimed to identify factors that influence female doctoral student's choices of whether or not to enter tenure track faculty. Additionally, the study sought to analyze the factors that influence women's choices of the type of institution from which they seek employment (research I, liberal arts universities, or community college). Career salience was a positive predictor of women's interest in pursuing faculty positions. Specifically, career salience was a positive predictor of students' intent to pursue research I and liberal arts university tenure track positions; such that, respondents with high career salience were more likely to report intentions to pursue research I positions than those with low career salience.

Last, in relationship to women's career salience, one study explored college student's role balance expectations for their future career, marital, and parental identities (Kerpelman & Schvaneveldt, 1999). Parental identity was more important to women than men, men had more traditional gender attitudes than women, and women expected to marry sooner and start careers later than men. Additionally, family-oriented women scored the lowest in career identity salience, and family-oriented men were lower in career identity salience than career-oriented women. Interestingly, career-oriented women had the highest mean for career identity salience (Kerpelman & Schvaneveldt, 1999). This body of previous research highlighted the link between career role salience and career aspirations of women, not only in undergraduate education but also for graduate students and working women.

It is important to note that career role salience has not been studied frequently in the graduate student literature despite its relationship to women's decisions about their future. In addition, research is needed to advance understanding regarding the relationships among career salience and career and leadership aspirations, and to determine if career salience changes over the course of graduate training.

Consideration for Future Family

The negotiation of responsibilities for both family and career has been a topic of much consideration in the field of women's career development. Many women's plans to raise a family may change as they grow older. If they choose to have children, the challenge of managing career with the desire to have a family may influence their career and leadership goals (Betz, 2006; Holland & Eisenhart, 1990; Marks & Houston, 2002; O'Brien et al., 2000).

The desire to have a family seems to relate to career decisions for many women starting at a very early age. A longitudinal study found that girls at a young age may decide to pursue less prestigious careers because of the expectation of future marriage and family responsibilities (O'Brien et al., 2000). Kerr (1997) found similar results as the priorities of gifted girls switched from academic achievement to the "achievement of romance." These girls prioritized having romantic relationships and family, such that the stronger the family priorities, the more quickly there was a decline in both aspirations and self-esteem. Moreover, Kerr et al. (2005) spoke of a "culture of romance" which prioritizes the achievement of relationships over career. Gifted young women lower their major and career aspirations and women are more likely than men to follow their partner to their job location, take responsibility for childcare, and decline full time work or leadership opportunities.

Prioritizing relationships exists at the undergraduate educational level as well (Holland & Eisenhart, 1990). The "culture of romance" was coined originally in a study on college women's experiences, in which Holland and Eisenhart (1990) theorized that female students experience both subtle and overt pressure to participate in romantic pursuits, thus taking time away from their academic interests and motivation. Two-thirds of the women in this study had changed their career goals in college, with most of them prioritizing their boyfriend's goals.

The conflict of career and family exists for women at all levels, including the graduate level (Barata, Hunjan, & Leggatt, 2005; Moyer, Salovey, & Casey-Cannon, 1999). For example, an investigation of 224 female doctoral candidates or recent graduates found that 36% of respondents reported concerns regarding personal and

professional responsibilities and activities, often mentioning the struggle between academic work and personal relationships or family (Moyer et al., 1999). Additionally, Barata et al. (2005) found similar results in a study of the experiences of women in graduate school. A salient concern that was raised was the "ticking biological clock" (referring to the time limit of female fertility) and the overwhelming amount of time that can be involved in raising a family. Even as women finish their graduate program and move into academia, research shows the negotiation between the biological clock and tenure clock is often a problem for female faculty members who want to have children (Ward & Wolf-Wendel, 2004). Thus, the current study sought to further understanding regarding how women in the field view their family and partner and how this might impact their career and leadership aspirations for the future.

In summary, the internal variables of interest in this investigation included achievement motivation, career role salience, and consideration for future family and partner. Each of these variables was selected because they had been studied in relation to career achievement of women; however there was a dearth in the current literature that examined these variables collectively with regard to graduate students' future career and leadership aspirations.

External Factors

Social Support

Perceived social support may serve as a facilitative environmental influence that may relate to women's career orientation. In the work-family literature, a great deal of research has examined the construct of social support and its relation to work-family balance (Erdwins, Buffardi, Casper, & O'Brien, 2000; Farmer, 1980; Grzywacz &

Marks, 2000). Perceived social support was defined by Shumaker and Brownell (1984) as "an exchange of resources between at least two individuals perceived by the provider or the recipient to enhance the well-being of the recipient. Social support can come from friends, family, peers or personal networks" (p. 11). Greenhaus and Parasurmans (1994) defined four categories of social support: informational (information, advice, suggestions), instrumental (aid in time, money or other forms of help), emotional (provision of esteem, affection, trust), or appraisal (feedback and affirmation).

Farmer (1980) examined the psychological, environmental and background variables related to achievement and career motivation of adolescent girls. In a study of 158 high school girls, she found that career choice and achievement motivation were related to perceived support for career and achievement goals. The literature has shown that for working women, perceived social support can also be vital to balancing work and family. For example Erdwins et al. (2001) conducted a study of 129 married, employed women with at least one preschool aged child. Instrumental support, in addition to, informational or emotional support related to women's role strain, such that the greater the spousal support, the lower the role conflict. Additionally, emotional support from a partner and other family members has shown to be related to decreased perceptions of work-family conflict (Grzywacz & Marks, 2000).

In 2003, Quimby completed an extensive review of existing career development models and identified social support as a salient predictor of women's career development. Quimby hypothesized that perceived social support would directly affect career self-efficacy and role management self-efficacy. Results supported this hypothesis,

finding that perceived social support accounted for 12% of the variance in career self-efficacy, and explained 20% of the variance in role management self-efficacy.

Additionally, perceived social support has been shown to be an important factor for women in graduate programs. Maher, Ford, and Thompson (2004) collected qualitative data of 160 doctoral alumni of Stanford's school of education, and aimed to identify themes among women earning their doctoral degree relatively quickly ("early-finishers") and those taking noticeably longer ("late-finishers"). Results of the study found that female doctoral students who completed their degrees quickly were likely to report receiving various types of support from family members, and had supportive and involved advisors and mentors. Moreover, women who were late finishers were likely to report having their progress slowed by child care responsibilities or other family related obstacles.

Last, qualitative studies have shown that as women progresses to positions of leadership, perceived social support can be an important factor. A study examining the role of mentoring, family support, and networking in the career trajectory of female senior leaders in health care and higher education showed that support of family was salient throughout the female leader's lives and their career trajectories (Watson, 2008). A similar study of a female chancellor at a public four year institution of 15,000 students reported that in addition to her abilities and attributes, a key contributing factor to her success and leadership was her husband's support and willingness to pursue careers at a similar level, while she sought to advance her career with leadership opportunities (Mockelstrom, 2000).

There is a great deal of research that examined the construct of perceived social support and its impact on work family balance (Erdwins et al., 2001; Farmer, 1980; Grzywacz & Marks, 2000). The brief extant literature reviewed above noted that social support can be beneficial for many women, ranging from full time working mom's struggling with work life balance to women in top positions of leadership. Although one study found that perceived social support was facilitative of female graduate students completing their programs on time (Maher et al., 2004), little research has investigated the role of perceived social support on women's career and leadership aspirations during their doctoral education.

Outcomes

Career Aspiration

The outcomes of interest in this study were the career and leadership aspirations of women entering the field of counseling or clinical psychology and were selected because of the paucity of women in the highest positions and leadership roles in psychology. Women's career aspiration is a construct that has evolved over time as women's presence in the workforce has increased. Historically, women's career choices were viewed as either career or homemaking-oriented. Later, career aspiration referred to an individual's desire to select a specific career (Farmer, 1985). More recently, women's career choices have been analyzed in terms of career and family, prestigious or non-prestigious, and traditionally female careers vs. nontraditional careers. However, these distinctions may not adequately capture a woman's career aspirations (Fassinger, 1990; O'Brien & Fassinger, 1993). In 1996, O'Brien proposed a more general definition of

career aspiration in which she defined this construct as the degree to which women aspire to leadership positions and continued education within their careers (O'Brien, 1996).

Although the previous classical literature has been criticized for its ineffective measurement of career aspirations (Gray & O'Brien, 2007), research consistently has found that women reported lower career aspirations when compared to males. In a retrospective study of career decisions of gifted high school juniors (69 boys and 125 girls), Leung, Conoley, and Schell (1994) compared the prestige and gender traditionality of career alternatives of the participants earlier in life, compared with careers considered later in life. Results showed that although girls were more likely to obtain a bachelors or master's degree, they were less likely than boys to seek a doctoral or professional degree. Gender differences were accredited with gifted girls perceiving extensive post-graduate education as non-compatible with raising a family.

Similarly, Kerr et al. (2005) noted that gifted women tend to reduce their major and career aspirations, more so than males. Women tend to choose stereotypically female professions that often reflect lower levels of educational fulfillment, career aspirations and achievement when compared to their male counterparts of the same educational level (Leung et al., 1994). However, some research has demonstrated that women have a broader range of career interests and greater gender role flexibility than males. Mendez and Crawford (2002) examined the career aspirations of gifted early adolescent boys and girls. This study looked at career aspirations that differentiated between careers that had been ruled out versus careers that were still being considered by each student. Results showed that girls were interested in a greater number of the 60 occupations then boys. Results also found that the only gender difference in achievement motivation was on

competitiveness. Boys were more competitive than girls; however, in all other subscales including desire to work hard, mastery and concern of negative reactions based on success, girls were matched equally to boys. However, as previous literature has supported, boys were interested in occupations that required higher educational levels and prestige levels than girls. The current study investigated doctoral level women's level of career aspirations, and the degree to which they change over the course of graduate training.

Leadership Aspiration

The second outcome variable of interest for the current study was leadership aspiration. Leadership aspiration has been defined as the extent to which a person is inherently motivated to become a leader (Chan & Drasgow, 2001). In the past two decades, researchers have investigated ways in which social factors such as gender bias and sexist promotional practices have contributed to the underrepresentation of women in leadership roles (Buttner, 2001; Swanson, 2000). There are social-environmental factors that are detriments to women's advancement to leadership roles; however, these external factors do not adequately explain the paucity of women leaders. Studies have shown that when women are in positions of leadership, they are effective and collaborative. A meta-analysis of 370 leadership studies was conducted by Eagly and Johnson (1990) and looked at the effectiveness of leaders, measured either subjectively or objectively. After averaging all of the studies, there were no gender differences in leaders' efficacy. Similarly a study evaluating 3,482 managers from over 400 organizations demonstrated that female leaders (as opposed to male leaders) were rated as more effective using skills

frequently associated with collaborative leadership style (Pfaff, Boatwright, Egidio, & Lenz, 2003).

Although no differences in skill were found in the aforementioned studies, some research has suggested that women desire leadership promotions less than men, and are more likely to anticipate relationship problems associated with potential leadership positions (Lips, 2000, 2001; Savery, 1990). Additionally, women's lack of aspiration to be a leader could be associated with the demands of women's domestic responsibilities which may deter women from seeking leadership roles (Bianchi, 2000). Boatwright and Egidio (2003) attempted to study the influence of psychological variables that influenced female college student's aspirations for leadership in their future careers. Interestingly, need for connectedness was the strongest predictor of leadership aspirations, which may offer a new perspective on correlates to ambition.

In conclusion, both the career aspirations and leadership aspirations of women tend to be lower than their male counterparts and seem to decrease over time. Few studies have investigated the variables that relate to aspirations among female graduate students in psychology.

Summary

To summarize, with increasing numbers of women obtaining their doctorates in psychology, it was important to understand the factors that relate to graduate students' aspirations to positions of leadership and career advancement. These highly achieving women enter graduate school with presumably high expectations for their career, yet their career goals may change over time; this study analyzed factors that might relate to changes in career aspirations. Specifically, this study investigated the contributions of

achievement motivation, career role salience, plans for future family and partner and perceived social support to the prediction of career and leadership aspirations of female doctoral students in counseling and clinical psychology (see Figures 1 and 2). Additionally this study examined whether achievement motivation, career role salience, consideration for future family and partner, perceived social support, career aspiration, and leadership aspiration differed depending on year in graduate programs, as these variables may decrease over time.

The findings of this study provided important information regarding the aspirations of future members of our field. It is our hope that the results will be used to inform interventions to enhance the career and leadership aspirations of talented graduate students in psychology.

CHAPTER 2: Review of Literature

The literature review is divided into subsections. The first section addresses the history of women's participation in the work force followed by a brief summary of the theories related to women's career development. The second section addresses the internal variables of interest including achievement motivation, career role salience, and plans for future family. The third section discusses the external variable of interest, perceived social support. The final section outlines the outcome measures of career aspiration and leadership aspiration.

History

Over the past 25 years, there has been an increase in worker diversification among major fields. Women have earned more bachelor's degrees than men every year since 1981 and more master's degrees since 1985 (U.S. Department of Education, 2005). In some fields, women have exceeded men in the number of doctorate degrees earned. For example, between 1971 and 2005, women's share of doctorates awarded in psychology rose from 13% to 42%. Additionally in 2005, women received 37.7% of doctorates in science and engineering fields overall (National Science Foundation, 2006). Nearly 72% of new doctoral students entering psychology and 75% of the American Psychological Association Graduate Student (APAGS) members were women in 2005 (Cynkar, 2007; Williams-Nickelson, 2005).

As a result of the increasing number of women receiving degrees across various majors, many professions have had noticeable shifts in gender composition with the most dramatic shift being in psychology. In 1991, psychology had the largest percentage of

women in its ranks among the science and engineering disciplines. In response to this increase, the APA appointed the "Task Force on the Changing Gender Composition of Psychology" to examine the gender shift and identify the implications of this shift on the profession. The task force concluded that women's representation had increased in many other disciplines and employment sectors, and was likely attributed to an increased demand for psychological personnel and a decrease in the number of men choosing to enter the discipline (Mednick & Thomas, 2008).

Yet even with this "feminization" of psychology taking place over the past 30 years, men continue to dominate the most prestigious roles in psychology including tenured positions and APA appointments. The lack of women in leadership roles is not limited to careers in psychology. Nationally, most leadership positions are held by men. Women hold only 15.7% of corporate officer positions in Fortune 500 companies and 3% of CEO positions (Williams-Nickelson, 2005).

Theory

Women's career development was not a topic of serious interest by psychologists until the late 1960s with a substantial amount of growth in the 1970s and 1980s. Psychologists began to take an interest in the unique psychological experiences of women and developed new theories, methods, and perspectives on their experiences and development (Mednick & Thomas, 2008). A great deal of interest has been given to the topic of women's career choices and it is a vibrant and important field of study within psychology (Betz, 2008). One of the earliest theories of women's career development was proposed by Hackett and Betz (1981). Hackett and Betz built upon the self-efficacy theory original proposed by Bandura (1977) and applied it to career theory. In particular,

they proposed that self-efficacy (a person's beliefs concerning their ability to successfully perform a given task) had a basis in understanding women's career development. They hypothesized that women's gender role socialization negatively impacted their ability to form strong career related self-efficacy. They argued that women were not meeting their full potential, particularly in male dominated professions, due in part to low self-efficacy in those occupations (Hackett & Betz, 1981).

Farmer (1985) proposed a multidimensional model of women's career development and achievement motivation for women. This model, like that of Hackett and Betz (1981), also was heavily influenced by Bandura's (1977) social learning theory. Farmer proposed that career motivation was influenced by three sets of interacting dimensions: background variables, psychological components, and environmental characteristics. She suggested that career motivation developed through the interaction of the aforementioned influences. Farmer stressed that the multidimensional nature of her model was especially applicable when studying women of different ethnicities and social status' because of a wide array of personal and cultural influences that could be present. She tested her theory on adolescent girls (N=929) and boys (N=934) between 9^{th} and 12^{th} grade at an Illinois high school and found that all three sets of influences were related to each of the three motivation dimensions (Farmer, 1985). In particular, career motivation was influenced approximately three times as much by personal factors (e.g., expressiveness and independence, homemaking commitment, personal unconcern) as by background and environmental factors. Additionally, she found that homemaking commitment was related negatively to the long range career motivation for young women but not for young men (Farmer, 1985). Later, Farmer, Wardrop, Anderson, and Risinger

(1995), in an attempt to extend Farmer's original model, did a follow up study that revealed that of the 173 students who sought careers in math, science, or technology, fewer women (36%) than men (46%) persisted in these career fields. Additionally, they found women's career commitment was correlated negatively with commitment to home. Based on the findings, Farmer revised the model to include instrumental self-concept, the value of math and science, and a positive attitude towards women combining family and work roles, as these additionally were predictors of women's career commitment (Farmer et al., 1995).

Subsequently, Betz and Fitzgerald (1987) conducted a literature review and identified sets of factors which correlate to women's career choices. These factors were deemed particularly important in predicting career choice and included individual variables (self-concept, ability, liberated sex role values), background variables (parental support and work experience), educational variables (women's schools and higher education), and life style variables (timing of marriage and number of children). Fassinger (1985) set out to test this model in a study of junior and senior female college students (N= 308) using structural equation modeling. Fassinger proposed changes to the theory to better predict women's career choices including career orientation (influenced by ability, achievement orientation, and feminist orientation) and family orientation (predicted by feminist orientation and career orientation). Then in 1990, Fassinger performed a second study of undergraduate females from two universities (N= 663) and added the new construct of a mathematics orientation to further improve upon the model. Fassinger's (1990) final model showed that high ability, interacting with gender role attitudes and instrumental personality characteristics, predicted career choice and career

orientation. Furthermore, O'Brien and Fassinger (1993) examined two models of career choice in a sample of 409 female senior high school students in an all-female private liberal arts high school. Results of structural equation modeling found that career orientation and career choice were predicted by ability, agentic characteristics, gender role attitudes, and relationship with mother.

Due to abundance and history of theories surrounding women's career development, the current study was organized by constructs that either fall into internal (the person's characteristics or perspective) or external (the person's environment) factors (Fitzgerald et al., 1995).

Internal Variables

Achievement Motivation

Achievement motivation is a psychological construct that has been a topic of research interest for some time. While the definition of achievement is somewhat agreed on, the theories of explanation as well as measurement techniques have changed substantially over the past few decades (Mednick & Thomas, 2008). Achievement motivation was first highlighted by the work of McClelland (1961) and Atkinson (1958) and hypothesized that it was based on three factors: the individual's predisposition to achievement, the individual's perception of the probability of success, and the individual's perception of the value of the task. The work by Atkinson and McClelland acted as a catalyst for a great deal of research on the prediction and explanation of achievement motivation (Mednick & Thomas, 2008).

Traditionally, achievement motivation was measured through the use of the Thematic Apperception Test (TAT), a projective technique in which participants created

stories in response to an ambiguous series of pictures while being told that it was a test of creative imagination (Hyde, 2007). Most of the classic literature on gender differences asserted that females had a lower level of achievement motivation than males and women were motivated by social concerns or desire for approval rather than achievement of excellence (Hoffman, 1972). However, this traditional definition of achievement motivation was criticized in being unsatisfactory in explaining the achievement behaviors of women. Feminist psychologists noted the sex bias and methodological flaws in this traditional methodology and conceptualization of achievement behavior (Hyde & Kling, 2001).

Recent research has conceptualized achievement motivation differently, focusing on constructs such as ability, perceived competence, and achievement goals (Cury et al., 2006). Three types of achievement goals have been theorized: performance approach goals (attaining competence relative to others), performance avoidance goals (avoiding incompetence relative to others), and mastery goals (development of competence itself and of task). This approach offers a link between motivation and performance (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997). However, in regards to the unique development of women's careers, Hyde (2004) notes a striking paradox in the achievement literature. Based on an extensive review of the literature, Hyde concluded that girls start out in life with good abilities and higher educational performances, yet end up in adulthood with lower status jobs and less recognized achievement than men. Although it is widely acknowledged that there are structures that discriminate against women from obtaining the same levels of achievement as men, that discrimination alone does not provide a complete explanation for the lower achievement of women.

Kerr (1985) was one of the earliest authors to write on intelligent young females losing sight of their dreams and aspirations. Kerr discussed the ways in which internal and external barriers prevent girls from fulfilling their full potential, usually in careers related to math and science. Kerr identified girls who were gifted and designed a special curriculum intended to foster leadership and success. She defined giftedness as not only academic ability but also creative and specific talents which broadly described these girls as "high potential." Ten years and twenty years after the girls had graduated from the program, Kerr followed up with the group. Kerr and Colleagues (Kerr 1997; Kerr et al., 2005) noted an often dramatic shift in the personal priorities of adolescent girls from academic achievement to the achievement of romance with an increased worry that high achievement would be perceived negatively by their male peers. Although the aspirations of girls and boys start out at the same level, there is a theme of girl's achievement goals declining throughout their lives.

This shift in priority has been theorized to be related to the dramatic decline in aspirations in girls once they enter college. Around college, gifted young women not only have lower aspirations but also lower self-esteem. This is similarly supported by the work of Arnold (1994) who found college women's confidence and aspirations tended to decline. Additionally, Arnold noted a shift in women's career goals to less demanding college majors, as well as lowering their estimations of their own intelligence. As women reached adulthood, their vocational and academic achievement compared to gifted men continued to decline, particularly during child bearing years.

With these previous studies highlighting college women's depreciation in achievement motivation, it is important to consider whether those women who pursue

graduate school continue the same pattern. A number of studies have investigated the values of doctoral trainees and practicing counselors. For instance, Ferriman et al., (2009) conducted a longitudinal study which followed a group of exceptionally talented graduate students who 10 years prior were in their first or second year of a math/science program in top ranked graduate departments. The sample included 275 men, and 255 women who were primarily White (85 %). The results indicated that men and women did not differ in the proportion of individuals who eventually secured tenure track positions at top universities. However in general, men placed more value on success, recognition, and advancement in their career, while women placed more value on community, family and having a part-time career. Additionally, women became homemakers at a ratio of 9 to 1 in comparison to men. Moreover, for women, parenthood was related to work preferences. It appears that even the most talented women after entering motherhood, may experience a desire to reduce their work hours, take a leave of absence, or exit their careers to care for their children. These results may help to explain the overrepresentation of men in high-achieving positions in the STEM field.

A qualitative study of doctoral student persistence in counselor education programs sampled 33 female graduate students representing 17 different doctoral programs. The results found that an important factor in dropout rates among graduate students was a good match between the student and faculty member's expectations and goals. However, this study also examined some of the incentives for pursuing the doctorate degree. Results found that achievement and fulfillment were important personal motivators among other factors.

One participant- Nellie described her goals for her degree: “Personal achievement. I may become a professor, I may not…I have not yet decided. I am single and responsible for myself, so hopefully the degree will help me with salary. But, the primary goal for the degree is personal achievement” (Hoskins & Goldberg, 2005, p. 181).

This study helps support the notion that motivation for achievement is a factor that women describe in their rationale for attending graduate school. This study was limited in its lack of diversity among its students as it was a predominantly White sample in their early stages of doctoral study. Thus the motivations of international students, students of color, and also students in the later stages of doctoral study are still unknown and should be explored.

Additionally, a study done by Kelly (1995) obtained a value profile from a national sample of 479 counselors. The subjects included randomly sampled professional counselors who were American Counseling Association (ACA) members. The purpose of the study was to survey counselors on their value orientations in four domains: mental health, universal, individualistic-collectivistic, and religious values. Counselors highly valued universal qualities such as benevolence, self-direction, and achievement. Respondents rated achievement motivation (defined as aspiration toward demonstrated and effective competence and personal success) one half a standard deviation above the mean (M= 4.63, SD= .96). Thus, members of the counseling community generally value achievement.

Last, one study aimed to determine if need for achievement differed among female graduate students who either chose male dominant or female dominant programs

of study in graduate school. This study surveyed 189 full time and part time female graduate students studying at the master's level. Fields of study were limited to engineering, business, education, and healthcare specializations at three universities: University of New Haven, Sacred Heart University, and Quinnipiac College. The results found that the need to achieve was high across both groups of women (Sommers, 1993). There has been some literature regarding the value of achievement among doctoral students; however, no research has focused on how achievement motivation might be related to career or leadership aspirations for graduate students.

Career Salience

Career salience has been found to be related to women's career aspirations (Farmer, 1997; McClintock-Comeaux, 2007; Parasusraman & Greenhaus, 1993). Farmer (1997) found that support for women working was related to three motivational variables: mastery motivation, career aspiration, and career salience. The model was grounded in social learning theory and emphasized sex role socialization's effects on women's career motivation. A study was conducted of the model in three time phases: 1980, 1990, and 1991 to 1993. The first two phases involved questionnaire surveys; the third involved interviews. The participants in 1980 were 1,863 9^{th} and 12^{th} grade students in six Midwest high schools: two rural, two suburban, and two inner-city. In 1990, 459 of the 1980 original sample returned follow-up questionnaires. The phase three interviews focused on 57 female and 48 male participants who had expressed an interest in a science, mathematics, or technology careers in 1980. The purpose of the follow-up study was to investigate the factors influencing persistence in these careers. Results indicated that gender, school location, and age were related to motivation. Additionally, Farmer found that support for women working was related to all three motivational variables for

women but not for men. Last, results showed that high school may be too early developmentally to assess career salience for women.

Salience of family and work roles was the focus in the research of Parasusraman and Greenhaus (1993). In an extensive review of the women's career literature, they theorized that women managers varied in their salience toward work and family roles which were reflected in three orientations: career-primary, family-primary, and career and family. These authors identified the career-primary orientation as represented by strongly career committed women who gave top priority to achieving success in their career and subordinated their personal and social lives. Family-primary orientation was represented by women who placed emphasis primarily on family; pursuing careers within the constraints of family demands and obligations. This group was thought to reflect the majority of married women in dual-earner relationships whose career was tied to the need to be responsive to the family. The career and family orientation was represented by women who placed equal emphasis on career and family, expecting to combine a rapidly advancing career with rigorous involvement in marriage and parenthood.

Parasusraman and Greenhaus proposed that women's family experiences affect their career outcomes. They theorized that negative outcomes on career would be caused by: career-family time conflicts, symptoms of strain that would impede on job related activities, reinforced organizational stereotypes about women with children in the workforce, and spousal feelings of competition which could result in less career involvement. Parasuraman and Greenhaus (1993) asserted that women using coping mechanisms to manage the work family conflict (limiting career involvement, seeking less demanding jobs and/or refusing a promotion, cutting back on job related travel)

could impede women managers' career advancement and earning potential. Thus, this research illustrated that women with higher career role salience experienced more work family conflict, which may have influenced less career achievement.

One study aimed to determine factors that may influence female doctoral student's choices of whether or not to enter tenure track faculty positions and the type of institution at which they seek employment (research I, liberal arts universities, or community college). It was hypothesized that factors both of the individual (e.g. career salience, work/family balance) and of the environment (e.g. family structure, social support, faculty role models) would relate to the intended career tracks of female doctoral students. The sample included female doctoral students at a large eastern university (N=273). Most of the women included were either married (68.1 %) or partnered (24.5%), however the study also included women who had previously been married or were single with children. The majority of the women sampled were representative of the College of Education (35.5 %) and the College of Arts and Humanities (20.2%). The results of this study revealed that career salience was a positive predictor of students' increased interest to pursue faculty positions in general, and specifically to pursue research I and liberal arts university tenure track positions. Respondents who had high career salience were more likely to report intent to pursue a research I position (M=2.32, SD=.95) than those with low career salience (M=2.0, SD=.94). Marriage was a negative predictor for intent to pursue research I and liberal arts positions. Additionally, family support was positively related to the intent to pursue liberal arts positions. Moreover, respondents with low family support were more likely to report no intent to pursue tenure track positions (M=2.57, SD=.96) than those with high family support (M=2.26,

SD=1.07) (McClintock-Comeaux, 2007). Although this study had a limitation of not including childless, single women, it was informative in the importance of career role salience in doctorate female's pursuit towards high career aspirations.

Last, a study done by Kerpelman and Schvaneveldt (1999) discussed two studies that explored college student's role balance expectations for their future career and marital/ parental identities. A total of 1,267 men and women who were never married, had at least one child, and were between 18-25 years old, volunteered to participate. Students were recruited from social science classes at two southern public universities. In the first study, men and women who were family, balanced, career, or career/marriage oriented were compared. Results showed parental identity was more important to women than men, men had more traditional gender attitudes than women, and women expected to marry sooner and start careers later than men. Additionally, family oriented women scored the lowest in career identity salience whereas family oriented men were lower in career identity salience than career oriented women. Last, career oriented women had the highest mean for career identity salience overall. This body of research highlights the link between career role salience and career aspirations of women. However, career role salience has not been studied frequently in the graduate student literature despite its influence on women's decisions about their futures.

Consideration for future family

The negotiation of responsibilities of both family and career has been a topic of much consideration in the field of women's career development (Betz, 2006; Holland & Eisenhart, 1990; Marks & Houston, 2002; O'Brien et al., 2000). Most women have the challenge of managing a career with the desire to have a family, which may influence their career and leadership goals. This challenge may be even more salient for women at

the graduate level who may place more consideration and importance on family as they grow older (Barata et al., 2005; Moyer et al., 1999).

The desire to have a family seems to have an influence on career decisions for many women starting at a very young age. A longitudinal study tested a proposed model investigating the relations among young women's attachment to parents, career self-efficacy, and career aspiration over five years. The study began in 1991 with a sample of 409 female seniors from a Catholic high school to determine their educational and career aspirations as well as attachment and separation to parents in their vocational development (O'Brien & Fassinger, 1993). Five years later, follow up data was collected from 207 of the original sample. The results suggested that parental attachment may lead to development of confidence in career, which relates to career aspiration. However, results also found that girls at a young age may decide to pursue less prestigious careers because of the expectation of future marriage and family responsibilities. Women's career plans changed over the five year period such that women selected more traditional, less prestigious careers, which underutilized their abilities. Additionally, these women indicated family as more important than a career. Specifically, only two women in the sample of 207 believed that career pursuits were far more important than family pursuits (O'Brien et al., 2000).

Some theorists such as Betz (2006) have suggested that women's career prestige has been influenced by societal messages that suggest women are primary caregivers and their priority should be to stay at home with their children. Numerous studies have supported this explanation. For example, a study examining career development, education, children, and combining work and motherhood surveyed 92 high achieving

young women ages 15 to 17(Marks & Houston, 2002). The results found that both career and educational plans of these young women were influenced by their expectations about their role as a mother. Furthermore, they were influenced by societal messages prioritizing family and motherhood, even to the extent of leaving work or lowering their plans to gain further education. As women felt more pressure to become a full-time mother, the more uncertain they were in planning to further their educational qualifications. This indicates that relatively early in their academic career young women's plans about their education are being shaped by their perceptions of their potential role as a mother (Marks & Houston, 2002).

Research further suggested that these societal messages can be very strong, particularly as adolescent women enter adulthood. Young women are particularly at risk to a phenomenon known as the "culture of romance" which describes the pressure for women to become heavily involved in the romantic world (Holland & Eisenhart, 1990). One study used an intensive ethnographic methodology to study 23 women at the college level starting their freshman year till the middle of their sophomore year. The study aimed to discover at an in depth level which aspects of campus life were most salient and problematic for women. The data analysis categorized these women's college experiences into four types: school-work, romantic relationships, friendships, and family relationships. Follow-up interviews were conducted two and six years after the original study to investigate the plans of the women since graduating. The results found that rather than focusing on academic goals and career development, women often found themselves being pressured to participate in activities that promoted meeting and dating men, such as parties, dances, and bars. Female students were theorized to experience both

subtle and overt pressure to participate in romantic pursuits, thus taking time away from their academic interests and motivation. Two thirds of the bright women in the study had changed their career goals in college, with most of them reportedly putting their boyfriend's goals first (Holland & Eisenhart, 1990). Although this study is dated, the findings added valuable knowledge to women's career decisions and is supported by more current research (Sax, Lindholm, Astin, Korn, & Mahoney, 2003).

Even throughout college, it seems that women are still being socialized to start taking on conventional marital roles. This process may influence college women to take primary responsibility of home care, which may prevent them from finding and seeking more egalitarian partners that support their career goals. Evidence from NSF studies of women in science, technology, engineering, and math show that the nature of marriage, relationships, and family is the strongest predictor of women's tenure and promotion in the sciences (Kerr & Larson, 2008).

Few investigations assess whether the "culture of romance" extends into the graduate level. Some literature has suggested the conflict of career and family exists for women at all levels, including the graduate level. For example, one investigation had 224 female doctoral students and recent doctoral graduates in the sciences, social sciences, and humanities complete an open-ended questionnaire about their most pressing personal and professional concerns about their field and academia. Results found that 36% of respondents reported concerns regarding personal and professional responsibilities and activities, often citing the struggle between academic work and personal relationships or family (Moyer et al., 1999). This conflict was more salient for women than it was for men: "Women experience more career disruptions than men, and when women with

career disruptions are compared to women with career continuity they are significantly less likely to achieve tenure. For men however, career disruption has no such effect on achieving tenure" (p. 609). Additionally, Barata et al. (2005) found similar results in a study aimed at the experiences of women in graduate school. Women often mentioned a concern for the "ticking biological clock" and the overwhelming amount of time that can be involved in raising a family, however, also noted a definite feeling of "wanting it all" referring to both a career and family. Last, a longitudinal study of 530 graduate students who 10 years prior were in top ranked math/science graduate departments found that after the birth of a child even the most talented and passionate women expressed a strong preference for short work hours, and expressed an increased interest to take a leave of absence or exit their careers to become a homemaker (Ferriman et al., 2009).

Additionally, there is literature that addresses female professors' decisions about having children. For example, Armenti (2000), in a qualitative study of how female academics combine their private and academic lives, found that the structure of academic careers often silences women's personal lives and can create the perception that parenthood is a taboo. Armenti also concluded that childless faculty members worried about the negative effect children might have on their careers. A similar study of female faculty done by Ward and Wolf-Wendel (2004) took special note of newly hired women faculty members who want to have children, and goes on to comment that the tenure clock often ticks simultaneously with the biological clock. These concurrent pressures often put women in the difficult position of finding a way to become both a professor and a mother. In this study, Ward and Wolf-Wendel aimed to describe how women who are simultaneously mothers of children and also tenure-track faculty at research universities

combine and manage their twofold role as professor and parent. Twenty nine women from nine different research universities were selected to represent a range of disciplinary backgrounds, geographic locations, and levels of prestige. Responses from women suggested that some female professors choose less selective schools because those institutions had a reduced amount of academic pressure, and would be less difficult to combine career with motherhood (Ward, & Wolf-Wendel, 2004).

There is a plethora of literature that supports that women have a unique challenge of not only pursuing career, but also the demands and societal expectations for family. This can be found at a very early age (O'Brien et. al, 2000) extending through adolescence and college (Holland & Eisenhart, 1990; Marks & Houston, 2002) and can even be found as an issue facing women who achieve high professional careers in academia (Ward, & Wolf-Wendel, 2004). Yet, relatively little has been written about this challenge for graduate students, or the implications for their future plans.

External Variable

Social Support

Perceived social support can serve as a facilitative environmental influence in women's career achievement (Quimby, 2003). In the work-family literature, research has examined the construct of perceived social support and its impact on work-family balance (Erdwins et al., 2000; Farmer, 1980; Grzywacz & Marks, 2000). Social support can come from friends, family, peers or personal networks. Greenhaus and Parasurmans (1994) defined four categories of social support: informational (information, advice, suggestions), instrumental (aid in time, money or other forms of help), emotional (provision of esteem, affection, trust) or appraisal (feedback and affirmation).

When examining the gifted women literature, we find support from extended networks at all ages to provide a positive influence. In a study of 158 high school girls, Farmer (1980) examined the psychological, environmental, and background variables related to achievement and career motivation. She found that career choice and achievement motivation were significantly related with perceived support for career and achievement goals. Specifically, Farmer found that girls who had community support (e.g. teachers, peers, families) who encouraged women to combine home and work had higher levels of career motivation and levels of achievement.

The literature has shown that for working women, perceived social support can be vital to balancing work and family. For example Erdwins et al. (2001) conducted a study of 129 married, employed women, with at least one preschool aged child. The purpose of the study was to explore the relationship of social support, role satisfaction, self-efficacy, and role strain. Results found that instrumental support in addition to informational or emotional support significantly effected women's role strain, such that the greater the spousal support, the lower the role conflict.

Additionally, research has reinforced that emotional support from a partner or other members of the family can decrease negative perceptions of work/family conflict. In a study designed to look at the positive and negative spillover from work to family, or family to work, data were collected from employed adults (N = 1,986). An additional aim of the study was to look at factors that lessen the spillover between work and family domains. Analyses indicated that work and family factors, such as family support were connected with more positive, less negative spillover between work and family (Grzywacz & Marks, 2000).

Perceived social support also has been shown to be crucial for women pursuing undergraduate degrees. One study of college re-entry women found students listed social support as a beneficial influence on their behavior (Lent et al., 1998). The authors interviewed students to find what they described as supports and barriers to their education. Social support was reported as beneficial by 87 % of the sample. Additionally, students reported that negative social and/or family influences were a hindering factor on their career path. Similarly, Quimby (2003) completed an extensive review of existing career development models and identified social support as a salient variable predictive of women's career development. She hypothesized that perceived social support would directly affect career self-efficacy and role management self-efficacy. To test these variables she sampled 354 female undergraduate re-entry women ages ranging from 25 to 68 years (M =33.95). She hypothesized that perceived social support would directly affect career self-efficacy and role management self-efficacy which was supported by the results. The sample of women reported high levels of perceived social support. Moreover, perceived social support accounted for 12 % of the variance in career self-efficacy and explained 20 % of the variance in role management self-efficacy. Although this sample was done on undergraduate women who were also re-entering college, studies have shown these women tend to have high achievement motivation (Badenhoop & Jonansen, 1980; Pickering & Galvin-Schaefers, 1988) and may be comparable to the older students in graduate programs. Thus, the findings are still relatable to the perceived social support of graduate students in the pursuit of their careers.

Perceived social support also has been shown to be an important supporting factor of women in graduate programs. Doctoral students enduring stress because of their

partner or other family relationships during their time in school report greater emotional turmoil compared to other doctoral students. Maher et al. (2004) collected qualitative data of 160 doctoral alumni of Stanford's school of education and aimed to identify themes among women earning their doctoral degree relatively quickly ("early-finishers") and those taking noticeably longer ("late-finishers"). Results of the study found that female doctoral students who completed their degrees quickly were more likely to report receiving various types of support from family members then late finishers (74% versus 53%). Moreover, women who were late finishers were more likely to report having their advancement slowed by child care responsibilities (36% versus 10%), or other family-related obstacles including marital problems (28% versus 7%).

Finally, qualitative studies have shown that as women progress to positions of leadership perceived social support can be a very important factor. Recently, a study examined the role of mentoring, family support, and networking in the career trajectory of female senior leaders who had attained the highest career level – president of their organizations. The narratives of three female senior leaders from health care and three female leaders from higher education were captured through personal interviews and analyzed for patterns and themes. Findings revealed that support of family was salient throughout the female senior leader's lives and their career trajectories. One of the participants, "Laura," described her husband's support while she was working full time and going to school to receive her master's degree. While Laura worked towards attaining a position as a health care executive, her husband worked part-time so that he could be with their children while they were young. Laura expressed that she wouldn't

have been so successful if she hadn't had the support of her husband in raising her children, which allowed her to have a more flexible work schedule (Watson, 2008).

An additional study on female leaders showed that they tend to utilize support systems (e.g., spouses, parents, other family members and friends) which can be a vital component of their professional success. In a study that examined the career development of three former female presidents of community colleges, Ballentine (2000) used a sociological multiple life history to examine these women's self-perceptions and the circumstances that influenced their career advancement. A combination of multiple factors including family support, self-esteem, and resilience were important influences in their career success and rise to presidency (Ballentine, 2000).

For others, spouses have been supportive and influential in their career trajectory. For example a similar in-depth study of life history was used to explore the life experiences of a female chancellor. The subject of this study was a chancellor at a four-year public institution in which she oversaw approximately 15,000 students. The study focused on her perceived experience as well as her role in academic leadership. The researchers also conducted interviews with secondary informants, including her spouse, which supplied an outside perspective as well as added information about her life and leadership. In addition to this woman's exceptional abilities and attributes, a key contributing factor to her success and leadership was her husband's support and willingness to pursue careers at a similar level of achievement, while she sought to advance her career with leadership opportunities. This study helps to articulate the importance of a supportive spouse, particularly for women in high-level, demanding leadership or academic roles (Mockelstrom, 2000).

Outcome Variables

Career Aspiration

Women's career aspiration is a construct that has progressed over time as women's presence in the workforce has increased. Historically, women's career choices have been viewed as either career oriented or homemaking oriented. More recently, however, women's career choices have been analyzed in terms of career and family, prestigious or non-prestigious, and traditionally female careers vs. nontraditional careers. Yet these distinctions may not adequately capture a woman's career aspirations (Fassinger, 1990; O'Brien & Fassinger, 1993). Historically, career aspiration has referred to an individual's desire to select a specific career (Farmer, 1985). Instruments measuring this construct assessed the degree of commitment an individual had to a given career choice. Researchers assumed that women who entered traditional or less prestigious careers were less achievement oriented. Some of the classic literature on gender differences asserted that females had lower levels of achievement motivation as compared to males, and that women were motivated by social concerns or desire for approval rather than achievement of excellence (Hoffman, 1972). Gray and O'Brien (2007) argued that this is not necessarily the case. For example, a woman may select a traditionally female career such as teaching or a helping profession and still aspire to leadership roles within the field. O'Brien (1996) developed the Career Aspiration Scale to move beyond the traditional measures of career choice to capture this construct.

Although the previous literature has been criticized for its ineffective measurement of career aspirations and gender differences, there is literature to support that women tend to underachieve in their career aspirations and often choose stereotypically female professions reflecting lower levels of educational and career

prestige when compared to men of the same educational level (Leung et al., 1994). In a retrospective study of career decisions of gifted high school juniors (69 boys and 125 girls), Leung et al. (1994) assessed the prestige and gender observance of career options considered at the time of the study with the possible careers the subjects considered earlier in life. Results showed that girls were more likely to obtain a bachelor's or master's degree; however, they were less likely than boys to aspire to a doctoral or professional degree. One explanation of this gender difference may be attributed to female perceptions that post-graduate education would conflict with having a career and family. This may indicate that although gifted girls aspire to highly prestigious occupations, their perceptions of the commitment needed to obtain post-graduate training at the doctoral or professional level may prevent them from fulfilling these aspirations (Leung et al. 1994).

However, more recent studies have argued that females have interest in a broader range of careers. Mendez and Crawford (2002) examined the career aspirations of gifted early adolescent boys and girls by having subjects differentiate between careers that had been ruled out versus careers that were still being considered by each student. Careers were grouped by gender composition (e.g. male dominated, female dominated or balanced), education required (e.g. high school, college, or graduate degree), and prestige associated with the career. Two hundred and twenty seven students (132 girls, 95 boys) grades six through eight, who were previously selected for a program for gifted students, were given assessments of gender related personality attributions, achievement motivation, and attitudes towards women. Results showed that girls were interested in a greater number of careers (M= 22.28, SD =9.44) of the 60 occupations than boys

(M=18.53, SD=8.31). Girls also showed greater gender role flexibility than their counterparts. Results also found that the only gender difference in achievement motivation was in competitiveness. Boys were more competitive than girls; however, in all other subscales, including desire to work hard, mastery, and concern of negative reactions based on success, girls matched equally to boys. However, as previous literature has supported, boys were interested in occupations that required higher educational levels and prestige levels then the careers selected by girls.

The body of literature representing the career aspirations of women seems to support the notion that even gifted women reduce their major and career aspirations much more than their male counterparts (Kerr et al., 2005). Additionally, women tend to choose stereotypically female professions that reflect lower levels of career aspiration, educational attainment, and career achievement when compared to men of the same educational level (Leung et al., 1994). With such a pervasive body of literature representing the lower levels of career aspirations of women, it seems pertinent that researchers continue to measure this construct. One limitation of this body of literature is the lack of studies that assess the career aspirations of graduate students. Particularly, this literature has a dearth in its assessment of the career aspirations of the female graduate student population and to what degree women's career aspirations change over time in their doctoral training.

Leadership Aspiration

Previous research has investigated ways in which social factors such as gender bias and sexist promotional practices have added to the underrepresentation of women in leadership roles (Barreto, Ryan & Schmitt, 2009). Historically, social and environmental factors have been clear detriments to women's advancement to leadership roles, but these

external factors are not the only explanation for women's striking low representation in leadership positions.

Studies have shown that when women are in positions of leadership they are effective and collaborative. A meta-analysis of 370 leadership studies conducted by Eagly and Johnson (1990) looked at effectiveness of leaders, measured either subjectively or objectively. After averaging all of the studies, there was found to be no gender difference amongst leaders' efficacy, regardless if it was rated by self-report or observer report. However, this study showed that female leaders were more relational and participative, meaning that they facilitated decision making among subordinate workers. These two behaviors were more commonly used by female leaders than male leaders and are considered a more democratic leadership style (Eagly & Johnson, 1990). A more recent study looking at leadership gender stereotypes by Vinkenburg, Van Engen, Eagly, and Johannesen-Schmidt (2011) found similar results. They surveyed 271 (122 U.S. and 149 Dutch) business travelers at airports and major metropolitan areas (44% female, and 75% had management experience). Similarly to Eagly and Johnson (1990), results indicated that women were reported as having more transformational and contingent reward behaviors and fewer laissez-faire behaviors than men, such that women displayed more effective and fewer ineffective leadership behaviors. Additionally, a study evaluating 3,482 managers from over 400 organizations demonstrated that female leaders as opposed to male leaders were rated as more effective in using a collaborative leadership style, which includes the ability to communicate, provide feedback, and empower employees (Pfaff et al., 2003). Thus, when women are in positions of

leadership, they do well. As such, the research indicates that the deficit in the number of women in leadership positions is not due to a difference in leadership ability.

Few studies have attempted the difficult question of which variables influence leadership aspirations. Boatwright and Egidio (2003) attempted to study the influence of psychological variables that influenced female college student's aspirations for leadership in their future careers. Participants included 213 female, predominantly European American (94%) college students at a liberal arts college in the Midwest. Results found that connectedness needs, gender role, self-esteem, and fears of negative evaluation accounted for variance in predicting college women's leadership aspirations. Interestingly, connectedness needs was the strongest predictor of leadership aspiration, such that greater interest in healthy and meaningful connections with others was related to the likelihood that women would express interest in future leadership positions. Although this study had limitations regarding the homogeneity of its sample, it offers a new perspective on possible correlates of leadership aspiration, particularly a need for connection.

Moreover, a study by Singer (1990) examined age and gender differences in leadership aspirations among adolescents. It was hypothesized that adolescent's valence (level of significance), self-efficacy, and attribution perceptions about leadership would be predictive of their aspirations to leadership. To test this hypothesis, 130 high school students were sampled. Results showed that female teenagers had higher valence scores than their male counterparts. Females attached a greater valence or significance to being in leadership positions and on the opportunity to learn new things, whereas males placed the greatest importance on obtaining a higher salary and being one's own boss in

response to the outcomes of leadership. Although this study had a number of limitations including a single item measure of overall leadership aspiration, the results provide information regarding women's perceptions of the importance of leadership.

In a study looking at college students' views of leadership, Lips (2000) studied Radford University undergraduates (33 women and 30 men) and asked them to imagine who they would be if they were a person with power. Results indicated that women rated the possibility of becoming a person with power or political leadership lower than men did. Additionally, women were more likely to anticipate relationship problems associated with a political leadership role. In a similar study, Lips (2001) studied 86 university students in Virginia and 46 in Puerto Rico and again asked them to imagine themselves in a series of powerful roles, describe what they imagined, and rate how positively they saw the role. The female students from Virginia were more likely than their male counterparts to anticipate relationship problems with powerful roles and also rated the images of themselves in powerful roles as more negatively than the Puerto Rican women. Interestingly, in all samples, women were more likely than men to imagine themselves in education and counseling professions.

In summary, although women's effectiveness as leaders is equal to that of men, and they employ more democratic forms of leadership, they are still underrepresented in leadership positions (Eagly & Johnson, 1990; Pfaff et al., 2003; Vinkenburg et al., 2011). Women desire leadership roles less and expect more relationship problems associated with them than men (Lips 2000, 2001). However, few studies have examined variables that may relate to these lower aspirations. Additionally, there is a gap in the literature that pertains to the leadership aspirations of graduate students.

Research Questions/ Hypotheses

The research questions and hypotheses were as follows:

1. After controlling for age and year in program, to what degree did achievement motivation, career salience, consideration for future family and partner, and perceived social support predict the career aspirations of female psychology graduate students? See Figures 1, 2, and 3.
    a. Achievement motivation was hypothesized to account for variance in career aspirations (and correlate positively with career aspirations).
    b. Career salience was hypothesized to account for variance in career aspirations beyond the contributions of achievement motivation (and correlate positively with career aspirations).
    c. Consideration for future family and partner was hypothesized to account for variance in career aspirations beyond the contributions of achievement motivation and career salience (and correlate negatively with career aspirations).
    d. Perceived social support was hypothesized to account for variance in career aspirations beyond the contributions of achievement motivation, career salience and consideration for future family and partner (and correlate positively with career aspirations).
2. After controlling for age and year in program, to what degree did achievement motivation, career salience, consideration for future family and partner, and perceived social support predict the level of leadership aspirations of female psychology graduate students? See Figure 4.

a. Achievement motivation was hypothesized to account for variance in leadership aspirations (and correlate positively with leadership aspirations).
b. Career salience was hypothesized to account for variance in leadership aspirations beyond the contributions of achievement motivation (and correlate positively with leadership aspirations).
c. Consideration for future family and partner was hypothesized to account for variance in leadership aspirations beyond the contributions of achievement motivation (and correlate negatively with leadership aspirations).
d. Perceived social support was hypothesized to account for variance in leadership aspirations beyond the contributions of achievement motivation, and consideration for future family and partner (and correlate positively with leadership aspirations).

3. To what degree did achievement motivation, career salience, consideration for future family and partner, perceived social support, career aspirations, and leadership aspirations differ depending on year in graduate programs?
    a. Students who were in their fourth year or beyond were hypothesized to have lower achievement motivation as compared to students who were in the first three years of their degree program.
    b. Students who were in their fourth year or beyond were hypothesized to have lower career salience as compared to students who were in the first three years of their degree program.

c. Students who were in their fourth year or beyond were hypothesized to have higher consideration for future family and partner as compared to students who were in the first three years of their degree.
d. Students who were in their fourth year or beyond were hypothesized to have lower perceived social support as compared to students who were in the first three years of their degree.

CHAPTER 3: Method

Design

The purpose of this correlational field study was to examine the factors that relate to the career and leadership aspirations of female graduate students. Consistent with women's vocational development theory, this study included variables representing both internal and external constructs that may relate to women's aspirations. The independent variables were achievement motivation, career salience, consideration for family or partner, and perceived social support. These variables were expected to predict the outcomes of career aspiration and leadership aspiration.

Procedure

An *a priori* statistical power analysis, using the G*POWER v3 software (Faul, Erdfelder, Lang, & Buchner, 2007), was used to calculate the total number of participants needed to achieve statistical power of 0.80, a medium effect size ($f^2 = 0.15$), with an overall $\alpha = 0.05$. The results yielded a total sample size of 82. Due to the multiple statistical tests being utilized, a sample size of 200 was the targeted recruitment number. Participant recruitment involved contacting program directors of 35 counseling and 35 clinical psychology PhD programs that were selected at random using the most recent list of APA accredited counseling and clinical doctoral programs. Programs were eliminated if they were no longer accredited, on probation, or phasing out their program.

First, ten counseling and ten clinical programs were randomly selected and the directors of the training programs contacted by email. The emails requested that the program directors forward the invitation to participate in the study to their current students, and inform the primary investigator that they sent this email to their students. A reminder email was sent one week after the original request for participation and a second

time a week after the first reminder. This process was repeated with a second and third round of 10 counseling and 10 clinical programs, with two reminders sent to each program. Finally, the recruitment email message was sent to five additional counseling and five additional clinical programs. These programs did not receive reminders because we reached the desired sample size after the first email was sent. Of 35 counseling programs contacted, 17 programs sent the email message to their students (48.6%); of the 35 clinical programs contacted, 11 sent the email to their students (31.4%).

The recruitment email message stated that the purpose of the study was to investigate the correlates of leadership and career aspirations of female graduate students in APA accredited programs in counseling or clinical psychology, and also included information about two $50 gift cards to Amazon.com as an incentive to participate in the study. Those individuals who chose to participate followed a link to an online survey where they encountered an introduction page where participants were asked if they were a current Ph.D. student in an APA accredited counseling or clinical psychology program and their gender. If participants indicated that they were female and enrolled in an APA accredited Ph.D. program in counseling or clinical psychology, they were linked to the 10 to 15 minute online survey. The questionnaire contained all measures and a demographic form. Two $50 gift cards to Amazon.com were awarded in a raffle after completion of data collection.

Two hundred fifty students accessed the survey, four students did not meet the qualifications necessary to participate (female and currently enrolled in a counseling or clinical Ph.D. program) and were directed to a thank you page. Two hundred thirty participants signed the consent form, however only 208 of the participants completed the

first measure, indicating that 22 people dropped out at the beginning of the survey. Last, six participants completed only part of the survey - a total of 202 completed responses were received.

Participants

Two hundred and two psychology graduate students enrolled in counseling or clinical psychology participated in this study. All of the participants were female graduate students. Of the 140 counseling psychology women, the average age was 28.29 (SD = 5.00) with ages ranging from 20 to 54. In addition, 75.0 % identified as White/ non-Hispanic, 10.0% identified as Asian/Asian American, 6.4% identified as African American, 5.0% identified as Hispanic/Latina, 2.1% identified as Biracial/Multiracial, .7% identified as American Indian, and .7% identified as Other. The majority of participants surveyed were heterosexual (85%), and in a committed romantic relationship (70.0%). Those who were in a relationship had been with their partners ranging from five months to 28 years, the majority described being extremely committed to the relationship (76.5%), and considered their partners extremely supportive (72.4%). For those not in a relationship, 90.5% of women planned to get married or enter a committed relationship in the future. Most women did not have children (88.6%), but planned on having children in the future (80.6%).

For the clinical psychology students, the average age was 27.65 (SD = 4.12) with ages ranging from 22 to 48. Of the 62 participants, 72.36% identified as White/ non-Hispanic, 8.1% identified as Asian/Asian American, 6.5% identified as African American, 4.8% identified as Biracial/Multiracial, 3.2% identified as Hispanic/Latina, and 4.8% identified as Other. The majority of participants surveyed were heterosexual (95.2%), and in a committed romantic relationship (79.0%). Those who were in a

relationship had been with their partners ranging from a month to 12 years, a majority described being extremely committed to the relationship (54.8%) and considered their partners extremely supportive (46.8%). For those not in a relationship, 100% of women planned to get married or enter a committed relationship in the future. Most women did not have children (90.3%), but planned on having children in the future (74.2 %).

When looking at response rates from both counseling and clinical psychology students, the majority described their program as "Scientist-Practitioner" (75.7%). Participants were representative of each year in graduate school with 24.3% in their first year, 19.8% in their second year, 16.8% in their third year, 16% in their fourth year, and 22.8% in their fifth year and beyond. The location of the graduate schools were most frequently in the Midwest (43.1%) followed by the East Coast (30.7%), West Coast (13.4%) and South (12.9%).

When asked about careers that they would like to pursue after obtaining their graduate degree, the most frequent responses were professor at a liberal arts university (49.5%), therapist in private practice (44.6%), therapist in a hospital (43.6%), and therapist in a university counseling center (37.6%). When asked how possible it would be for a psychologist to manage both family and work in each of those professions, the majority indicated they were quite or extremely confident, with the exception of professor at a research I university in which 32.7% indicated that it was slightly or not at all possible.

When asked about their confidence level in their research, many participants indicated they were moderately (34.2%) or quite (33.7%) confident. When asked about their clinical work and leadership roles, many responded that they were quite confident in

both (48.5%) and (46.5%) respectively. Last, when asked about their participation in APA, 40.6% indicated that being a member of APA throughout their career was important (very true of me) however when asked if they planned to seek a leadership position within their APA division many indicated they would not (38.6% - not at all true of me, 27.7% slightly true of me). Additionally, when asked if their work would include leadership roles in the APA, many replied negatively (39.1% not at all true of me, 31.7% slightly true of me). Last, when asked if being active in the work of APA was important, many participants answered not true of me (23.8%) or slightly true of me (34.2%).

Measures

Achievement motivation. The Work and Family Orientation Questionnaire (WOFO) is a 19 item self-report measure developed by Spence and Helmreich (1983) to measure achievement motivation (see Appendix A). Participants responded to items on a 5-point Likert scale from 1 (s*trongly agree*) to 5 (*strongly disagree*). The WOFO has three dimensions of achievement motivation: competitiveness, mastery, and work. The competitive scale consists of five items (e.g., it is important for me to perform better than others on a task). The mastery scale consists of eight items (e.g., once I undertake a task, I persist). The work scale consists of six items (e.g., I find satisfaction in working as well as I can). Previous research has shown the work and mastery scales to be highly correlated (r = .51). Spence and Helmreich (1983) recommended combining them into a single subscale, resulting in two measures of achievement orientation: work/mastery and competitiveness. Thus, two subscales were used in this study: work-mastery, and competitiveness. High scores on subscales indicated high levels of commitment and satisfaction, and competitiveness in work, respectively.

In a study of the personality predictors on achievement goals, 311 psychology undergraduates were sampled using the two subscales (work-mastery and competitiveness). Results found adequate reliability for the two subscales (α =.80, α = .76) respectively. In addition, the study provided support for construct validity as work-mastery oriented students were more likely to adopt mastery goals and less likely to adopt work avoidance goals (Harackiewicz et al., 1997). Exploration of the relationships of the WOFO scales with other measures (e.g., Attitudes toward Women Scale) provided additional support for construct validity (Adams, Priest & Prince 1985; Platow & Shave, 1995). In this study, the subscales and total score were found to have adequate reliability, work-mastery (α =.80), competitiveness (α = .85), and total score (α =.80).

Career Salience. The Work Role Salience (WRS) Scale- Short Form is a six item self-report measure developed by Greenhaus (1973; see Appendix B). Participants responded to items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item is: "I enjoy thinking about and making plans about my future career." The WRS was designed to assess attitudes toward work and career. The WRSS- short form will be used as a total score, with high scores indicating higher salience for career. Internal consistency was reported at .64 (O'Brien & Fassinger, 1993). In a more recent study, the Work Role Salience Scale was used in predicting the career development of 220 urban high school students. Results indicated adequate reliability (α = .73), and provided support for construct validity as the WRSS was strongly correlated with commitment to career (Diemer & Blustein, 2007). In this study, the WRS scale had a reliability estimate of 65.

Consideration for Future Family. The Planning for Career and Family Scale (PLAN) is a 24 item measure developed by Ganginis, O'Brien, Mereish, and Miller (2011; see Appendix C). Participants were asked to rate items on a 4 point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The PLAN consists of two subscales: Compromising career plans for children and Prioritizing partner. The compromising career plans for children scale assesses the degree to which individuals are willing to adjust their careers to prioritize the needs of their children. An example item is: "I will select a career that can be put on hold when my children are young," (α = .86). The second subscale: Prioritizing partner scale assesses the degree to which individuals were willing to adjust their careers to prioritize the needs of their partner. An example item is: "When selecting a career, I will consider the needs of my partner" (α = .84). High scores on the children and partner subscales indicate higher consideration for children's and partner's needs (respectively) when thinking about their careers. Validity for both subscales was supported in an investigation of 325 college women. Results indicated that the family and partner scales did not correlate with career decision-making self-efficacy or life satisfaction, and both were found to relate negatively with career orientation (Ganginis et al., 2011). In this study, there was an error in the PLAN administration, which resulted in the inclusion of a fifth option "neither agree nor disagree," creating a 1-5 scale, rather than 1-4. In this study, the subscales and total score were found to have adequate reliability, compromising career plans for children (α =.95), prioritizing partner (α = .90), and total score (α =.94).

Perceived Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12 item self-report measure developed by Zimet, Dahlem, Zimet,

and Farley (1988; See Appendix D). Participants responded to items on a 7 point Likert scale ranging from 1 (very *strongly disagree*) to 7 (very *strongly agree*). An example item is: "There is a special person who is around when I am in need." The MSPSS is used to quantify the subjective assessment of experienced perceived social support from three sources: family, friends and significant other. Each of the subscales have shown adequate internal reliability and validity (Zimet et al., 1988; Zimet, Powell, Farley, Werkman & Berkoff, 1990). High scores on the family, friends and significant other's subscales indicated higher levels of perceived social support from each of these groups (respectively).

The internal consistency for the family, friends and significant other subscales were .90, .94, and .95 respectively with a sample of 154 diverse college students (Dahlem, Zimet, & Walker, 1991). Support of subscale validity of the MSPSS was found using three different subject groups: 265 pregnant women, 74 adolescents living in Europe and 55 pediatric residents. Authors found married subjects had greater "significant other" support than single subjects supporting construct validity of the subscale: significant other. Additionally, perceived support from family was related to reported frequency of sharing concerns with mothers, providing support for construct validity of the family subscale (Zimet et al., 1990).

In this study, the subscales and total score were found to have adequate reliability, significant other (α =.98), family (α = .93), friends (α =.94), total score (α =.91).

Career Aspirations. The original Career Aspiration Scale (CAS) is an eight item scale developed by O'Brien (1996) to assess career aspiration (which was hypothesized to include both educational and leadership aspirations). The original CAS was rated on 5-

point Likert scale ranging from 0 (*not at all true of me*) to 4 (*very true of me*). Internal consistency estimates ranged from .72 to .77 (Gray & O'Brien, 2007). The original Career Aspiration Scale correlated with career-decision, occupational, and multiple role self-efficacy, attitudes toward women's roles, and relative importance of career versus family (Gray & O'Brien, 2007).

For this study, additional items were added to increase the reliability of the measure (Career Aspiration Scale – Revised (CAS-R), see Appendix E). To generate new items for the CAS-R the primary researcher and her advisor defined the domains and presented them to the research team. The primary researcher, advisor and research team (including both graduate students and undergraduate students) generated items in teams. Subsequently, the primary researcher and advisor independently selected items from the pool of items and then collaboratively discussed and identified additional items for inclusion on the measure. The primary researcher, advisor, two psychologists and an undergraduate independently sorted the items into their respective domains and reviewed the items for clarity and representativeness of the domains. Additional edits were made based on the suggestions from these reviewers.

The CAS-R that was administered to the participants in this study had 33 items and 3 proposed subscales including achievement aspiration, leadership aspiration and educational aspiration. However, after factor analysis of the CAS-R (described in the following results section), the measure was found to have a total of 20 items and four hypothesized subscales including leadership aspirations, "I hope to move up to a leadership position in my organization or business;" educational attainment aspirations, "Even if not required, I would take continuing education courses to become more

knowledgeable;" recognition aspirations, "I want to be among the very best in my field;" and no career related aspirations or career complacency, "I will be content to stay at the entry level of my career." For this study, the subscales and total score were found to have adequate reliability: leadership (α =.88), educational (α = .86), recognition (α =.84), career complacency (α =.71), and total score (α =.84).

Leadership Aspiration. The Motivation to Lead Scale (MTL) is a 29 item scale developed by Chan and Drasgow (2001) to assess the extent to which a person strives to be a leader (see Appendix F). The measure is comprised of three subscales: Affective–Identity MTL (motivation to lead due to personality), Non-Calculative MTL (motivation to lead based on benefits and rewards), and social-normative MTL (motivation to lead based on a sense of responsibility). For the purpose of this study, only the Affective-Identity MTL subscale was used, which consists of nine items. The Affective-Identity MTL subscale assessed the extent to which an individual strives to be a leader because of their personality. Participants responded to items on a 5 point likert type scale ranging from 1 (*not at all like me*) to (*very much like me*). Example items included "I usually want to be a leader in the groups that I work in", and "I am definitely not a leader by nature" (α = .85). Reliability estimates for this subscale have been found in samples of professionals in school districts α = .82 (Clemmons, 2008), and undergraduate and graduate students α = .82 (Bobbio & Rattazzi, 2006). Additionally, the MTL has been shown to be valid when used in 3 large samples at various settings. Data were collected to test the reliability and validity of the MTL from 1,594 male Singapore military personal, 274 Singapore junior college students and 293 U.S. undergraduate psychology students. Results indicated that the MTL provides incremental validity over other

traditional predictors (e.g., general cognitive ability, past leadership experience, and leadership self-efficacy) (Chan & Drasgow, 2001). In this study, the MTL scale was found to have adequate reliability (α =.92).

Demographic Questionnaire. The demographic questionnaire was developed by the researcher to collect data regarding type of program (counseling or clinical), year in program, age, race, gender, sexual orientation, partnership status, number of children, and interest in leadership positions within the American Psychological Association (see Appendix G).

Analyses

Descriptive statistics were calculated. Bivariate correlations were used to examine the relationships among the variables of interest in this study. To examine differences between counseling and clinical students prior to collapsing the data for analyses, a Multiple Analysis of Variance (MANOVA) was calculated. The independent variable was the focus of training program (counseling or clinical). The dependent variables were achievement motivation, career role salience, consideration for future family and partner, social support, career aspiration and leadership aspiration.

Next, the assumptions for conducting multiple regressions were examined. Four hierarchical multiple regressions were calculated to analyze the total and unique variance accounted for in the dependent variables by achievement motivation, career salience, consideration for future family and partner, and perceived social support.

First, age and year in program were entered into the regression to control for these variables. Second, achievement motivation was entered into the regression equations because achievement motivation was hypothesized to be a personality

characteristic of the individual which is fairly stable. Next, career salience was entered in each regression because this variable is likely to develop in adolescence and adulthood, subsequently after achievement motivation. This variable was followed by consideration for future family and partner because this variable is likely to develop and change in early adulthood. Finally, perceived social support was entered last in the regression equation, because we are interested in the degree to which an external variable accounts for variance in the outcome variables beyond the internal variables.

Finally, to study differences among women in different levels of their doctoral training programs, a Multiple Analysis of Covariance (MANCOVA) was used. Two groups were created by year in program, such that first, second, and third years were grouped, and students in their fourth year and beyond were grouped. We controlled for both age and year in program. The independent variable was stage in program either early (first through third) or late (fourth and beyond). The dependent variables were achievement motivation, career salience, consideration for future family and partner, social support, career aspiration and leadership aspiration.

CHAPTER 4: Results

MANOVA

To investigate if there were any differences between the counseling and clinical participants, a MANOVA was calculated to examine differences on the achievement motivation, career role salience, consideration for future family, social support, career aspiration and leadership aspirations between the two groups. Of the 13 subscales examined, only one difference emerged on the family social support subscale (1,200) = 4.52, $p<.05$, with clinical students reporting more family support (M =24.11, SD =4.40) then counseling students (M=22.39, SD= 5.65). Thus, the sample was collapsed for subsequent analyses.

Factor Analyses

To investigate the factor structure of the Career Aspiration Scale–R, exploratory factor analyses were conducted. We hypothesized that three factors would emerge: achievement aspirations, leadership aspirations, and educational aspirations.

The factorability of the data for the CAS-R measure was assessed using the Kaiser-Meyer Measure of Sampling Adequacy (KMO) and Bartlett's test of sphericity; the KMO was .937, and Bartlett's test was significant, χ^2 (528, N=202) = 6329.591, $p <$ .01, indicating that this data set was factorable. To examine the factor structure of the CAS-R, a principal axis factor analysis with promax rotation (number of factors unspecified) was conducted. The scree plot and variance accounted for suggested solutions ranging from one to five factors. Therefore, five factor analyses were conducted with one, two, three, four, and five factors extracted. Then, the principal investigator of this study and her advisor independently considered each factor solution to determine the best solution (i.e., the highest loading items with the fewest cross-loadings and the

greatest variance explained while maintaining parsimony). Both researchers independently selected the four factor solution as having the best fit for the data.

Using the four factor solution, two items were deleted because they did not load at .30 or greater on any factor (item 17, and then item 2). Seven items were deleted because they loaded at .30 on more than one factor (items 20, 32, 23, 10, 14, 3, and 19). Finally, 4 items with the lowest loadings (items 6, 15, 89, and 1) were removed so each subscale would have five items (see Table 1). Item 7 loaded greater than .30 on more than one factor but was retained to maintain five items per subscale (*first factor = - .49, second factor -.36*). The final scale had 20 items ($\alpha = .84$), with the four factor model explaining 38.67% of the total variance.

Of the three hypothesized factors (achievement aspirations, leadership aspiration and educational aspirations) leadership aspirations seemed to correspond with the hypothesized factor of leadership, and educational aspirations with the hypothesized factor of education. Moreover, an aspect of achievement aspirations corresponded to the hypothesized factor of achievement, which appeared to be desire for recognition. The fourth factor appeared to represent a lack of interest in career, which we labeled "career complacency."

The first factor, leadership aspiration included items that assessed the desire to rise to a leadership position or manage other employees ($\alpha = .90$). The second factor, educational aspiration reflected the desire to gain additional training and remain current regarding knowledge in one's occupational area ($\alpha = .86$). The third factor, recognition aspiration assessed the desire to be nationally known and recognized for

Table 1: *Final items retained for Career Aspiration Scale –R*

Item	Factor loadings
FACTOR 1: Leadership Aspiration	
22. I hope to move up to a leadership position in my organization or business.	.93
33. I plan to rise to the top leadership position of my organization or business.	.88
9. When I am established in my career, I would like to manage other employees.	.77
11. I want to have responsibility for the future direction of my organization or business.	.71
31. I plan to obtain many promotions in my organization or business.	.67
FACTOR 2: Educational Aspiration	
27. Even if not required, I would take continuing education courses to become more knowledgeable.	.80
16. I will pursue additional training in my occupational area of interest.	.77
28. I would pursue an advanced education program to gain specialized knowledge in my field.	.72
21. I know I will work to remain current regarding knowledge in my field.	.65
18. I will always be knowledgeable about recent advances in my field.	.63
FACTOR 3: Recognition Aspiration	
30. Being one of the best in my field is not important to me. (R)	-.78
4. I want to be among the very best in my field.	.71
20. I want to be a nationally known leader in my field.	.68
26. I know that I will be recognized for my accomplishments in my field.	.63
12. I want my work to have a lasting impact on my field.	.53
FACTOR 4: Career Complacency	
5. Once I finish the basic level of education needed for a particular job, I see no need to continue in school.	.59
13. I will be content to stay at the entry level of my career.	.56
29. Achieving in my career is not at all important to me.	.55
25. If I have a choice, I will not spend my time or money on continuing education courses.	.55
7. Becoming a leader in my job is not at all important to me.	.49

accomplishments in one's field (α =.84). The fourth factor, career complacency included items measuring a lack of interest in furthering education or obtaining leadership

positions in one's career (α =.71). The first three factors were related positively to each other, and negatively to the fourth factor (see Tables 3 and 4). Given that the focus of this study was on career aspiration (rather than lack of career aspiration), the first three scales (and not the career complacency subscale) were included in the regression analyses.

Descriptive Statistics

To better understand our sample, demographic characteristics as well as descriptive statistics were calculated for all variables and subscales (see Table 2).

The counseling students reported somewhat agreeing or strongly agreeing to items assessing work motivation, indicating moderately strong motivation to work hard and master skills. For the subscale of work/mastery on the achievement motivation scale, participants had a mean of 53.18 (SD = 6.29, range 14-70). However, on average, the participants were not very competitive, scoring a mean of 14.23 on the competitiveness subscale (SD=4.55, range 5-25) indicating disagreement with the items. The clinical students responded similarly, having moderately high work motivation (M=52.90, SD=6.44, range 14-70), and mild competitive drive (M=15.27, SD =4.60, range 5-25).

In terms of career role salience, counseling and clinical students placed moderately high importance on their careers (agreeing to strongly agreeing with most items; M = 21.63, SD = 3.54, range 6 -30) and (M= 22.01, SD = 3.14, range 6 -30).

In regards to consideration for future family, the counseling students had a slight tendency to disagree with statements indicating that they were willing to adjust their careers to prioritize the needs of their children (M=32.55, SD= 11.17, range 12-60) and a slight tendency to agree with statements, indicating a small willingness to adjust their

Table 2: *Demographic characteristics of sample, N=202*

Variable	Total		Counseling		Clinical	
	%	(N)	%	(N)	%	(N)
Sexual Orientation						
Bisexual	7.4	(15)	8.6	(12)	4.8	(3)
Gay/Lesbian	4.0	(8)	5.7	(8)	0	(0)
Queer	.5	(1)	.7	(1)	0	(0)
Straight	88.1	(178)	85.0	(119)	95.2	(59)
Transgendered		(0)	0	(0)	0	(0)
Ethnicity						
African American	6.4	(13)	6.4	(9)	6.5	(4)
Asian/Asian American	9.4	(19)	10.0	(14)	8.1	(5)
American Indian	.5	(1)	.7	(1)	0	(0)
Biracial/Multiracial	3.0	(6)	2.1	(3)	4.8	(3)
Hispanic, Latina	4.5	(9)	5.0	(7)	3.2	(2)
White, non-Hispanic	74.3	(150)	75.0	(105)	72.6	(45)
Other	2.0	(4)	.7	(1)	4.8	(3)
Relationship Status						
Single (never-married)	47.0	(95)	46.4	(65)	48.4	(30)
Single (divorced)	1.5	(3)	2.1	(3)	0	(0)
Single (widowed)	.5	(1)	.7	(1)	0	(0)
Living with partner	22.8	(46)	22.1	(31)	24.2	(15)
Married	27.2	(55)	27.1	(38)	27.4	(17)
Married (separated)	1.0	(2)	1.4	(2)	0	(0)
Are you in a committed romantic relationship?						
Yes	72.8	(147)	70.0	(98)	79.0	(49)
No	27.2	(55)	30.0	(42)	21.0	(13)
How committed are you to this romantic relationship?						
Not at all committed	0	(0)	0	(0)	0	(0)
Slightly committed	0	(0)	0	(0)	0	(0)
Moderately committed	12.9	(19)	13.3	(13)	12.2	(6)
Quite a bit committed	12.9	(19)	10.2	(10)	18.4	(9)
Extremely committed	74.1	(109)	76.5	(75)	69.4	(34)
How supportive is your partner regarding your work?						
Not at all supportive	0	(0)	0	(0)	0	(0)
Slightly supportive	0	(0)	0	(0)	0	(0)
Moderately supportive	4.8	(7)	5.1	(5)	4.1	(2)
Quite a bit supportive	27.2	(40)	22.4	(22)	36.7	(18)
Extremely	68.0	(100)	72.4	(71)	59.2	(29)

supportive						
If not in a relationship, do you plan to get married/serious relationship?						
Yes	92.7	(51)	90.5	(38)	100.0	(13)
No	7.3	(4)	9.5	(4)	0	(0)
Do you have children?						
Yes	10.9	(22)	11.4	(16)	9.7	(6)
No	89.1	(180)	88.6	(124)	90.3	(56)
If yes, how many?						
0	23.8	(5)	20.0	(3)	33.3	(2)
1	47.6	(10)	46.7	(7)	50.0	(3)
2	23.8	(5)	26.7	(4)	16.7	(1)
3	4.8	(1)	6.7	(1)	0	(0)
If no, do you plan on having children?						
Yes	81.1	(146)	80.6	(100)	82.1	(46)
No	18.9	(34)	19.4	(24)	17.9	(10)
Location of grad school?						
East Coast	30.7	(62)	27.1	(38)	38.7	(24)
Midwest	43.1	(87)	48.6	(68)	30.6	(19)
South	12.9	(26)	17.9	(25)	1.6	(1)
West Coast	13.4	(27)	6.4	(9)	29.0	(18)
Status in school?						
First Year	24.3	(49)	27.1	(38)	17.7	(11)
Second Year	19.8	(40)	17.1	(24)	25.8	(16)
Third Year	16.8	(34)	15.0	(21)	21.0	(13)
Fourth Year	16.3	(33)	17.9	(25)	12.9	(8)
Fifth Year	12.9	(26)	11.4	(16)	16.1	(10)
Sixth Year	6.4	(13)	7.9	(11)	3.2	(2)
Seventh Year	2.0	(4)	2.1	(3)	1.6	(1)
Beyond Seventh Year	1.5	(3)	1.4	(2)	1.6	(1)
Focus of your graduate program?						
Clinical-Scientist	8.4	(17)	0	(0)	27.4	(17)
Clinician-Researcher	4	(8)	2.1	(3)	8.1	(5)
Practitioner-Scholar	5	(10)	3.6	(5)	8.1	(5)
Practitioner-Scientist	3	(6)	2.9	(4)	3.2	(2)
Scientist-Practitioner	75.7	(153)	87.9	(123)	48.4	(30)
Research-Practitioner	4	(8)	3.6	(5)	4.8	(3)
Indicate where you are in your program						
Course work in progress	65.3	(132)	66.4	(93)	62.9	(39)
Course work completed	29.2	(59)	31.4	(44)	24.2	(15)
Comprehensive	30.7	(62)	35.0	(49)	21	(13)

exams completed						
Dissertation proposal accepted	24.8	(50)	27.1	(38)	19.4	(12)
Dissertation completed	3.0	(6)	2.1	(3)	4.8	(3)
On internship	6.9	(14)	7.9	(11)	4.8	(3)
Which of the following do you plan to pursue?						
Consultant	34.2	(69)	37.9	(53)	25.8	(16)
Professor at a community college	20.8	(42)	24.3	(34)	12.9	(8)
Professor at a liberal arts college	49.5	(100)	49.3	(69)	50.0	(31)
Professor at a research I university	28.7	(58)	22.9	(32)	41.9	(26)
Therapist at a community clinic	37.6	(76)	39.3	(55)	33.9	(21)
Therapist in a hospital	43.6	(88)	39.3	(55)	53.2	(33)
Therapist in private practice	44.6	(90)	46.4	(65)	40.3	(25)
Therapist in university counseling center	37.6	(76)	45.7	(64)	19.4	(12)
Therapist in a veterans medical center	28.7	(58)	28.6	(40)	29.0	(18)
Other	17.3	(35)	17.1	(24)	17.7	(11)

careers to prioritize the needs of their partner (M= 42.33, SD =8.32, range 12-60). Clinical students responses were very similar to the counseling students in both their priority for their children (M=35.55, SD= 10.61, range 12-60) and their adjustment for a partner (M= 42.16, SD =8.04, range 12-60).

In terms of social support, counseling students agreed strongly with most items, indicating high levels of social support across multiple domains. For significant other support, counseling students reported a mean of 24.19 (SD=5.45, range 4-28); for friends support they reported a mean of 23.79 (SD= 4.54, range 4-28); and for family support they reported a mean of 22.39 (SD= 5.65, range 4-28). Clinical students reported similarly, agreeing strongly with most items, indicating high levels of support across all domains: significant other mean = 24.97 (SD= 5.29, range 4-28); friends support mean = 24.58 (SD = 3.17, range 4-28); and family support mean = 24.11 (SD= 4.40, range 4-28).

On the measurement of career aspirations, counseling students responded with slight interest in having a leadership component to their future career (M=11.79, SD=4.78, range 0-20), a moderate interest in aspirations toward further education and training (M=15.35, SD =3.88, range 0-20), and a slight to moderate endorsement of recognition aspirations (M=12.58, SD =4.6, range 0-20). Last, counseling students endorsed very little career complacency, indicating that the items were not at all to slightly true of them (M=1.89, SD=2.71, range 0-20). Clinical students responded with slight interest in leadership aspirations (M=12.72, SD =4.57, range 0-20), moderate interest toward educational aspirations (M=15.76, SD = 3.18, range 0-20), and had slight to moderate endorsement of recognition aspirations (M=13.24, SD= 3.53, range 0-20). Similarly to counseling students, clinical students also had very little career complacency

(M=1.90, SD= 2.05, range 0-20) indicating that the items were not at all to slightly true of them.

Last, in terms of their leadership motivation counseling, students reported agreeing or strongly agreeing to items indicating desire to be a leader (M=30.97, SD=7.16, range 9-45). Clinical students endorsed similar levels of leadership motivation (M=31.47, SD=7.81, range 9-45).

Correlational Analyses

To examine the relationships among the variables with our sample, Pearson's correlations were conducted for the total sample (see Table 3) and for counseling and clinical populations individually (see Table 4). Because the clinical and counseling groups only varied in family support, only the total population correlations will be discussed below. Additionally, a p value of <.01 was chosen for significance given the number of analyses.

Consistent with expectations, the work/mastery subscale of achievement motivation was related positively to all subscales of career aspiration, with the exception of the fourth subscale of career aspiration. Work/mastery was related positively to leadership aspirations (r = .38), educational aspirations (r = .40), and recognition aspirations (r = .41), and was related negatively to career complacency (r = -.33). However, the competitiveness subscale of achievement motivation was only related positively to leadership aspirations (r = .26), and recognition aspirations (r = .29).

Consistent with expectations, career role salience related positively to all subscales of career aspirations with the exception of the fourth subscale. Role salience was related positively to leadership aspirations (r = .39), educational aspirations (r = .43), and recognition aspirations (r = .49), and negatively to career complacency (r = -.35).

Table 3: *Total Sample Correlations*

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13
Work-Family Orientation													
1.Work	1												
2.Comp	.15	1											
Career Role Salience													
3.Total	.47*	.15	1										
PLAN													
4.Child	-.10	.08	-.38*	1									
5.Partner	-.26*	.02	-.51*	.49*	1								
MSPSS													
6.Sig Other	-.02	-.05	-.09	.07	.17	1							
7.Family	-.01	-.03	-.03	.11	.11	.37*	1						
8.Friend	.16	-.02	.01	.01	.03	.35*	.43*	1					
CAS													
9.Leader	.38*	.26*	.39*	.01	-.22*	.05	.08	.14	1				
10.Educatio	.40*	.15	.43*	-.10	-.13	.04	.14	.16	.50*	1			
11.Recogn	.41*	.29*	.49*	-.11	-.23*	.00	.05	.03	.62*	.53*	1		
12.Career Compl.	-.33*	-.11	-.35*	.14	.18	-.04	-.03	-.05	-.42*	-.39*	-.40*	1	
MTL													
13.Total	.38*	.23*	.22*	.03	-.04	.10	.05	.170	.47*	.16	.28*	-.23*	1
Mean	53.09	14.55	21.75	35.34	42.28	24.42	22.90	24.03	12.08	15.47	12.78	1.89	31.12
Stand. Deviation	6.32	4.58	3.42	10.98	8.22	5.47	5.35	4.17	4.73	3.67	4.31	2.52	7.35
Range	33-67	5-25	11-30	12-58	15-60	4-28	4-28	4-28	0- 20	0-20	2-20	0-17	12-45
Possible Range	14-70	5-25	6-30	12-60	12-60	4-28	4-28	4-28	0-20	0-20	0-20	0-20	9-45
Alpha	.80	.85	.65	.95	.94	.98	.93	.94	.88	.86	.84	.71	.92

Note. $*p < .01$

Table 4: *Correlations for Clinical and Counseling Populations (Clinical population indicated on bottom half,*

counseling population on upper half)

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13
Work-Family Orientation													
1.Work	1	.12	.48*	-.12	-.29*	.07	.05	.18	.48*	.42*	.39*	-.29*	.43*
2.Compete	.25	1	.14	.10	.09	-.06	-.10	-.06	.12	.12	.25*	-.07	.20
Career Role													
3.Total	.47*	.14	1	-.42*	-.55*	-.07	-.02	-.03	.48*	.50*	.53*	-.36*	.27*
PLAN													
4.Child	-.05	.03	-.29	1	.47*	.03	.06	-.04	-.04	-.19	-.13	.22*	.06
5. Partner	-.20	-.12	-.40*	.52*	1	.11	.04	.03	-.28*	-.20	-.22*	.23*	-.10
MSPSS													
6.Sig other	-.22	-.04	-.14	.19	.31	1	.35*	.34*	.07	.05	.08	-.05	.11
7.Family	-.17	.11	-.10	.24	.34*	.41*	1	.43*	.04	.12	.07	-.07	.04
8.Friend	.12	.10	.13	.15	.03	.35*	.40*	1	.12	.16	.01	-.07	.18
CAS													
9.Leadership	.18	.57*	.12	.10	-.07	-.00	.14	.16	1	.53*	.64*	-.46*	.49*
10.Education	.35*	.25	.22	.17	.07	.02	.18	.16	.42*	1	.54*	-.45*	.18
11.Recognitio	.49*	.40*	.36*	-.05	-.24	-.25	-0.12	.1	.57*	.47*	1	-.42*	.28*
12.Career Complacency	-.47*	-.22	-.31	-.10	.03	0	.10	.02	-.28	-.18	-.34*	1	-.18
MTL													
13.Total	.29	.28	.09	-.02	.08	.06	.05	.13	.42*	.13	.30	-.37*	1

Note. $*p < .01$

Inconsistent with the hypotheses, there was no relationship between compromising career plans for children and career aspirations. However, consistent with expectations, prioritizing partner was related negatively to leadership aspirations (r = -.22) and recognition aspirations (r = -.23). However there were no relationships between prioritizing partner and educational aspirations or career complacency. Additionally, inconsistent with expectations, there was no relationship between social support in any domain (significant other, friends or family) and any subscales of career aspiration.

Consistent with expectations, both subscales of achievement motivation were related positively to motivation to lead. Work/mastery was related positively (r = .38), as well as competitiveness (r = .23). Additionally, consistent with expectations, career role salience related positively to motivation to lead (r = .22).

Inconsistent with the hypotheses, there were no relationships between compromising career plans for children or prioritizing partner and motivation to lead. Additionally inconsistent with our hypotheses, there were no relationships between social support in any domain (significant other, friends or family) and any subscales of motivation to lead.

Linear Regressions

To examine the contributions of achievement motivation, career role salience, consideration for future family, and social support to the prediction of career aspirations and leadership motivation, four hierarchal linear regressions were conducted. Before conducting the statistical tests, assumptions of regression (normal distribution, linear

relationship between IV and DV, reliability, homoscedasity) were assessed. Findings indicated that the assumptions were met and the regressions could be calculated.

In the first step for all four of these regressions, age and year in program were entered as the first step. Both subscales of achievement motivation (work/mastery and competitiveness) were entered in the second step. In the third step, career role salience was entered and in the fourth step, both subscales of the planning for future family and partner were entered (compromising for children, and prioritizing partner). In the fifth and final step, all subscales measuring social support were entered (significant other, friends, and family).

In the regression predicting the leadership aspiration subscale of career aspirations (see Table 5), the variables collectively accounted for 27.9% of the variance, with achievement motivation (19%) and the career role salience variables (5%) accounting for the most variance. Achievement motivation predicted leadership aspirations, and career role salience predicted leadership aspirations above and beyond achievement motivation. When all variables were entered in the equation, work/mastery, competitiveness, and career role salience were salient predictors of leadership aspirations (see Figure 1).

In the hierarchical regression predicting the educational aspiration subscale of career aspirations (see Table 6), the variables collectively accounted for 29.3% of the variance. The most variance was accounted for by achievement motivation (19%) and career role salience (7%). Achievement motivation predicted educational aspirations, and career role salience predicted educational aspirations above and beyond achievement motivation. When all variables were entered in the equation, work/mastery, and career role salience were predictive of educational aspirations (see Figure 2).

Table 5: *Summary of hierarchical regression analysis of achievement motivation, career role salience, planning for family, and social support as predictors career aspirations subscale of leadership aspirations (N = 202)*

Variable	B	SE B	β	t	df	R	R2	F	Δ R2	ΔF
Step 1	13.16	2.02		6.51*	2, 199	.04	.00	.15	.00	.15
Age	-.04	.08	-.04	-.54						
Year in Program	.032	.21	.01	.15						
Step 2	-3.99	3.15		-1.27	2, 197	.44	.19	11.59*	.19	22.99*
Age	-.05	.07	-.05	-.66						
Year in Program	.09	.19	.03	.46						
WOFO_work	.26	.05	.35	5.42*						
WOFO_compete	.21	.07	.21	3.13*						
Step 3	-6.36	3.12		-2.04	1, 196	.49	.24	12.48*	.051	13.17*
Age	-.07	.07	-.07	-1.03						
Year in Program	.17	.18	.06	.91						
WOFO_work	.18	.05	.23	3.28*						
WOFO_compete	.19	.07	.19	2.92*						
WRS_tot	.36	.10	.26	3.63*						
Step 4	-5.94	4.25		-1.40	2, 194	.51	.26	9.87*	.02	2.78
Age	-.06	.07	-.06	-.95						
Year in Program	.17	.18	.07	.96						
WOFO_work	.16	.05	.21	3.01*						
WOFO_compete	.18	.07	.18	2.77*						
WRS_tot	.38	.11	.28	3.39*						
PLAN_partner	-.06	.05	-.11	-1.44						
PLAN_child	.07	.03	.16	2.26						
Step 5	-8.94	4.48		-2.00	3, 191	.53	.28	7.38*	.016	1.43
Age	-.06	.07	-.06	-.95						
Year in Program	.18	.18	.07	.96						
WOFO_work	.15	.05	.20	2.69*						
WOFO_compete	.19	.07	.19	2.90*						
WRS_tot	.39	.11	.28	3.43*						
PLAN_partner	-.07	.05	-.13	-1.65						
PLAN_child	.07	.03	.16	2.26						
MSPSS_Sigother	.05	.06	.05	.75						
MSPSS_Family	.03	.06	.03	.48						
MSPSS_Friends	.09	.08	.08	1.12						

Note. **p* <.01

Table 6: *Summary of hierarchical regression analysis of achievement motivation, career role salience, planning for family, and social support as predictors career aspirations subscale – educational aspirations(N = 202)*

Variable	B	SE B	β	t	df	R	R2	F	Δ R2	ΔF
Step 1	11.84	1.55		7.67*	2, 199	.18	.03	3.49	.03	3.49
Age	.15	.06	.20	2.61*						
Year in Program	-.22	.16	-.11	-1.40						
Step 2	-.55	2.44		-.23	2, 197	.44	.19	11.84*	.16	19.55*
Age	.14	.05	.18	2.60*						
Year in Program	-.20	.14	-.10	-1.35						
WOFO_work	.21	.04	.37	5.67*						
WOFO_compete	.09	.05	.11	1.66						
Step 3	-2.62	2.40		-1.09	1, 196	.51	.26	13.67*	.07	17.11*
Age	.12	.05	.16	2.30						
Year in Program	-.13	.14	-.06	-.90						
WOFO_work	.14	.04	.23	3.33*						
WOFO_compete	.07	.05	.09	1.39						
WRS_tot	.31	.08	.29	4.14*						
Step 4	-6.59	3.28		-2.01	2, 194	.52	.27	10.27*	.01	1.57
Age	.12	.05	.16	2.34						
Year in Program	-.14	.14	-.07	-1.01						
WOFO_work	.14	.04	.24	3.37*						
WOFO_compete	.06	.05	.07	1.14						
WRS_tot	.39	.09	.36	4.43*						
PLAN_partner	.05	.03	.12	1.56						
PLAN_child	.01	.02	.02	.22						
Step 5	-8.98	3.44		-2.61*	3, 191	.54	.29	7.90*	.02	2.00
Age	.12	.05	.16	2.30						
Year in Program	-.13	.14	-.06	-.94						
WOFO_work	.13	.04	.22	3.11*						
WOFO_compete	.07	.05	.08	1.27						
WRS_tot	.39	.09	.36	4.43*						
PLAN_partner	.05	.04	.10	1.34						
PLAN_child	.00	.02	.01	.12						
MSPSS_Sigother	.01	.05	.01	.15						
MSPSS_Family	.07	.05	.10	1.47						
MSPSS_Friends	.06	.06	.07	.94						

Note. $*p < .01$

Table 7: *Summary of hierarchical regression analysis of achievement motivation, career role salience, planning for family, and social support as predictors career aspirations subscale – recognition aspirations(N = 202)*

Variable	B	SE B	β	t	df	R	R2	F	Δ R2	ΔF
Step 1	11.47	1.81		6.34*	2, 199	.20	.04	3.96	.04	3.96
Age	.10	.07	.11	1.49						
Year in Program	-.51	.18	-.21	-2.78*						
Step 2	-5.02	2.77		-1.82	2, 197	.50	.25	16.30*	.21	27.58*
Age	.10	.06	.11	1.61						
Year in Program	-.46	.16	-.19	-2.79*						
WOFO_work	.25	.04	.37	5.89*						
WOFO_compete	.21	.06	.22	3.49*						
Step 3	-7.88	2.66		-2.96*	1, 196	.58	.34	20.02*	.09	26.49*
Age	.07	.06	.08	1.20						
Year in Program	-.36	.16	-.15	-2.33						
WOFO_work	.15	.05	.21	3.19*						
WOFO_compete	.19	.06	.20	3.28*						
WRS_tot	.43	.08	.34	5.15*						
Step 4	-8.98	3.67		-2.45	2, 194	.58	.34	14.25*	.00	.23
Age	.07	.06	.08	1.23						
Year in Program	-.37	.16	-.15	-2.34*						
WOFO_work	.14	.05	.21	3.10*						
WOFO_compete	.18	.06	.19	3.13*						
WRS_tot	.46	.10	.37	4.73*						
PLAN_partner	.00	.04	.01	.08						
PLAN_child	.02	.03	.04	.59						
Step 5	-9.72	3.89		-2.50	3, 191	.59	.35	10.16*	.01	.75
Age	.08	.06	.08	1.28						
Year in Program	-.39	.16	-.16	-2.45						
WOFO_work	.15	.05	.22	3.17*						
WOFO_compete	.18	.06	.19	3.17*						
WRS_tot	.45	.10	.36	4.60*						
PLAN_partner	-.00	.04	-.01	-.10						
PLAN_child	.01	.03	.04	.51						
MSPSS_Sigother	.05	.05	.06	.91						
MSPSS_Family	.05	.06	.06	.92						
MSPSS_Friends	-.06	.07	-.06	-.85						

Note. $^{**}p < .01$

Table 8: *Summary of hierarchical regression analysis of achievement motivation, career role salience, planning for family, and social support as predictors of motivation to lead (N = 202)*

Variable	B	SE B	β	t	df	R	R2	F	Δ R2	ΔF
Step 1	34.43	3.13		10.99*	2, 199	.09	.01	.75	.01	.75
Age	-.10	.12	-.07	-.85						
Year in Program	-.15	.32	-.04	-.47						
Step 2	8.79	4.93		1.78	2, 197	.42	.18	10.69*	.17	20.48*
Age	-.12	.11	-.08	-1.06						
Year in Program	-.08	.29	-.02	-.28						
WOFO_work	.42	.08	.36	5.48*						
WOFO_compete	.25	.11	.16	2.36						
Step 3	8.31	5.05		1.65	1, 196	.42	.18	8.56*	.00	.21
Age	-.12	.11	-.08	-1.10						
Year in Program	-.07	.30	-.02	-.22						
WOFO_work	.40	.09	.34	4.64*						
WOFO_compete	.25	.11	.15	2.31						
WRS_tot	.07	.16	.03	.46						
Step 4	2.37	6.94		.34	2, 194	.43	.19	6.35*	.01	.87
Age	-.12	.11	-.08	-1.05						
Year in Program	-.09	.30	-.02	-.29						
WOFO_work	.40	.09	.34	4.58*						
WOFO_compete	.23	.11	.14	2.08						
WRS_tot	.19	.18	.09	1.04						
PLAN_partner	.06	.07	.07	.80						
PLAN_child	.04	.05	.05	.68						
Step 5	-2.37	7.30		-.32	3, 191	.45	.21	4.94*	.02	1.53
Age	-.11	.11	-.07	-1.02						
Year in Program	-.10	.30	-.02	-.33						
WOFO_work	.37	.09	.32	4.16*						
WOFO_compete	.24	.11	.15	2.19						
WRS_tot	.21	.18	.10	1.16						
PLAN_partner	.04	.07	.05	.58						
PLAN_child	.04	.05	.06	.77						
MSPSS_Sigother	.11	.10	.08	1.13						
MSPSS_Family	-.04	.10	-.03	-.38						
MSPSS_Friends	.18	.13	.10	1.37						

*Note: *p* <.01

In the hierarchical regression predicting the recognition aspirations subscale of career aspirations (see Table 7), the variables collectively accounted for 34.7% of the variance. Variance was accounted for by achievement motivation (25%) and career role salience (9%). Achievement motivation predicted recognition aspirations, and career role salience predicted recognition aspirations above and beyond achievement motivation. When all variables were entered in the equation, work/mastery, competitiveness, career role salience were predictive of recognition aspirations (see Figure 3).

Last, in a hierarchical regression predicting motivation to lead (see Table 8), the variables collectively accounted for 20.6% of the variance. Only achievement motivation predicted motivation to lead (18%). When all variables were entered in the equation, only the subscale work/mastery of achievement motivation predicted motivation to lead (see Figure 4).

MANCOVA

Finally, to study differences among women in different levels of their doctoral training programs, a Multiple Analysis of Covariance (MANCOVA) was used, controlling for age. The independent variable was stage in program either early (first through third) or late (fourth and beyond). The dependent variables were achievement motivation, career salience, consideration for future family and partner, social support, career aspiration and leadership aspiration. Differences were found between career role salience (1,198) = 5.09, $p<.05$, with earlier students reporting more career role salience (M =22.09, SD =3.40) than later students (M=21.17, SD= 3.40); compromising for children (1,198) = 4.19, $p<.05$, with later students compromising more (M=36.69, SD=10.62) than earlier students (M=34.38, SD= 11.14); and prioritizing partner (1, 198)

= 5.45, $p<.05$, with later students also prioritizing their partner more (M=43.67, SD=8.77) than earlier students (M= 41.35, SD=7.77).

CHAPTER 5: Discussion

This study aimed to advance understanding of career-related experiences of female graduate students in counseling and clinical doctoral programs. Previous research has studied the career development of women across many ages and levels of education, however, this study aimed to understand the factors that relate to graduate students aspirations to positions of leadership and career advancement. In this study, we learned that achievement motivation, specifically the desire to work hard, was the most important predictor of career and leadership aspirations, and was the only consistent predictor across different types of aspirations. Additionally, work role salience contributed to the prediction of career-related aspirations particularly in the leadership and recognition domains. Last, differences emerged among women who were in the early years of their graduate program versus those in the later years of doctoral study. Earlier in the program, women had higher levels of work role salience, whereas women at the end of their doctoral program prioritized their partner and children. Thus, this study advanced knowledge regarding factors related to female graduate student's career decision making.

The women who participated in this study appeared to be representative of graduate students in psychology in general. Compared to the 2008 APA Student Affiliate Survey, our sample was similar in age, ethnicity and sexual orientation to graduate student members of the American Psychological Association (APA Center for Workforce Studies; 2010). Additionally, responses were collected nationwide, across 28 graduate programs, increasing the likelihood of representativeness.

The first purpose of this study was to determine if there were any differences between graduate students in counseling psychology and clinical psychology doctoral programs. Only one difference was found - clinical students reported higher amounts of

family support. Previous research has shown that doctoral students with low family support were more likely to report no intent to pursue tenure track positions then those with high family support (McClintock-Comeaux, 2007); however there were no differences between the clinical and counseling psychology students in their desired future careers. The findings from this study suggest that there are more similarities than differences between counseling and clinical doctoral students.

Graduate students in our sample reported a commitment to being a member of APA throughout their careers, but were less likely to endorse wanting a leadership role within APA or their APA division. Poor leadership self-efficacy may relate to women's lack of interest in leadership positions (Hackett & Betz, 1981). However we asked participants to rate their confidence in their abilities in leadership and the majority of counseling and clinical students responded that they were quite confident in their leadership abilities. Thus, disinterest in leadership positions within APA did not appear to be due to a perceived lack of ability. Alternatively, students in counseling and clinical programs may want to be leaders in other aspects of their professional careers but not APA. Students may perceive leadership roles in APA as too bureaucratic or too removed from their roles as practitioners and scholars. Additionally, the majority of participants were in the first three years of their graduate program, and perhaps a leadership role in APA was beyond their consideration regarding future goals, or perceived as too much of a commitment as they try to focus on their career and families.

In addition, most women thought that their future careers would be manageable with family pursuits, with the exception of a career in a research I university. A faculty position at a research I university was the second least frequently chosen response of

career goals after graduation. Research by McClintock-Comeaux (2007) found that women with higher career role salience were more likely to enter positions at research I universities. The women in our sample were moderately high in career salience, yet responded with low interest in research I universities. One possible explanation is that women perceive barriers to faculty positions at these universities, which is supported by previous literature. Some female professors chose to enter less selective schools because those institutions had a reduced amount of academic pressure, which would alleviate the difficulties of combining career with family (Ward & Wolf-Wendel, 2004). Moreover, tenured associate professor women seeking full professorship at APA accredited counseling psychology doctoral programs reported being discouraged by conflicts between career and family obligations (Pruitt, Johnson, Caitlin & Knox, 2010). An alternative explanation is that women may not have received modeling at their institutions regarding how to combine work and family at a research I university. Of the programs sampled in this study, 10 of the 17 counseling programs (59%) and 6 of the 11 clinical programs (55%) were classified as one of Carnegie Mellon's Research Universities (very high research activity). Thus, the women in this sample may not view research I universities as conducive to work and family because of lack of exposure to professors managing work and family at research-intensive universities.

Our first research question investigated the degree to which achievement motivation, career role salience, consideration for future family and partner, and perceived social support predicted the career aspirations of female psychology graduate students. With regard to the leadership aspirations subscale of the Career Aspirations Scale-R, our hypotheses were partially supported. Collectively, achievement motivation

(work/mastery and competitiveness), and work role salience accounted for unique variance when all variables were entered in the equation. Female graduate students who had high levels of motivation to work hard and compete, or who prioritized their career in their lives, were more likely to report higher leadership aspirations. It makes sense that young women who want to achieve in their careers and for whom work is very important would be interested in becoming leaders in their fields. This finding is supported by the current literature which shows achievement motivation and work role salience to be important variables in graduate students' career decision making, such that higher achievement motivation and work role salience tend to relate to higher career aspirations (Ferriman et al., 2009; Hoskins & Goldberg, 2005; McClintock-Comeaux, 2007). However our study adds new information to this literature, because these studies have not looked at different domains of career aspirations such as the desire to lead or manage others. The current study adds to the previous literature by indicating that these variables were predictive of a more specific aspect of their future career decision making- pursuit of leadership positions.

Inconsistent with our hypothesis, the blocks containing planning for future family and social support failed to predict leadership aspirations above and beyond the contributions of achievement motivation and work role salience, seeming to indicate that the influences of social support and planning for future partner may not be important to the understanding of leadership aspirations. This finding was contrary to previous literature which has shown that planning for future family and social support were important predictors of women's career decision making (Maher et al., 2004; Moyer et al., 1999). One possible explanation for this finding may be that the sample collected was

relatively young, and the majority was without children. These young women could not completely understand the degree to which social support and having children could affect their ability to engage in leadership roles in their career given that they have not yet experienced the challenges associated with these multiple roles. Also, perhaps this sample's emphasis on family was not yet as well developed as their emphasis on work. Moreover, our results may indicate that social support was not as important in the prediction of career aspirations as the other variables, which may indicate that perhaps our hypotheses regarding social support were incorrect. However, the measurement of social support by the MSPSS (Zimet et al., 1988) may have affected the results. This measure of social support utilizes broad subscales that were perhaps too general to detect subtle differences in aspiration.

The results regarding the prediction of educational aspirations proved to be very similar to leadership aspirations. Consistent with expectations, achievement motivation predicted educational aspirations, and work role salience predicted educational aspirations beyond the variance accounted for by achievement motivation. Achievement motivation was the most important predictor of female graduate students' desire for continued education, followed by work role salience. However, neither planning for future family nor social support predicted educational aspirations beyond the contributions of achievement motivation and work role salience. It is likely that for graduate students, who have already achieved the highest level of educational attainment, future educational aspirations would mostly involve staying up to date on changes in the field, with possibly a small proportion of students going on to take on more substantive and time consuming educational goals. Thus one possible explanation for the non-

significant finding might be that educational aspirations of doctoral students might require less social support from others, and less consideration of future family responsibilities. However, we may also hypothesize that educational aspirations were not affected by planning for future family because these women already have committed to educational aspirations of the highest degree, and made the decision not to sacrifice their educational goals for family pursuits.

Last, when all variables were entered in the equation, only work/mastery, and work role salience were predictive of educational aspirations. This result proved interesting because educational aspirations differed from other outcomes (leadership aspirations, and recognition aspirations) in regards to competitive drive being absent from its significant predictors. This seems to indicate that the desire to outperform others is not related to one's desire to achieve educationally.

In the hierarchical regression predicting the recognition aspirations subscale of career aspirations, the results were consistent with the hypotheses. Achievement motivation and work role salience predicted recognition aspirations. Similar to other types of aspirations, a person's achievement motivation is the most important predictor of desire for recognition in one's field. These findings seem understandable, as recognition aspirations represent the desire to be the best and have a lasting impact on one's field. These goals would require a substantial amount of commitment from the individual, and a strong prioritization of career, thus, the indication that recognition aspirations were predicted by the desire to work hard, be competitive, and possess a strong salience for career, is not particularly surprising.

However, a more unexpected finding was that planning for future family and social support were not predictors of recognition aspirations. If this result was true of the population, it would indicate that social support and consideration for future children and partner have no substantial impact on women's desire for recognition in their careers. With regard to consideration for future children, recent research indicated that contrary to previous schemas which contrasted the roles of mother and worker, one study indicated that for mothers, valuing work success was associated positively with valuing motherhood (McQuillan, Greil, Shreffler, & Tichenor; 2008). Thus, there seems to be some conflicting research about the role of motherhood in women's career decisions. An additional explanation might be that young women cannot assess the degree to which social support and consideration for children may play a role in their aspirations once they are engaged in managing multiple roles. Young women may not be realistically appraising the degree to which compromise may be necessary in the pursuit of certain careers or leadership positions.

In summary, these findings suggested that achievement motivation and work role salience were the most salient factors in the prediction of career-related aspirations, with achievement motivation accounting for the most variance. Additionally, outside supports and barriers such as emotional care from friends and family, or planning for children and partner were not related to career aspirations as we had originally hypothesized. As discussed earlier, it is possible that social support and planning for future family simply are not important predictors of women's career aspirations. Alternatively, it is possible that our measurement of these variables was not adequate or sensitive enough to pick up on their relationship with the various subscales of career aspirations.

Last, with regard to the hypothesis predicting motivation to lead, only achievement motivation was predictive of motivation to lead, indicating that women who reported higher levels of wanting to work hard and compete were more likely to report wanting to be the leaders of groups in general. This result is consistent with the prediction of leadership aspirations as predicted by the career aspiration scale. Both of these measures were possibly predicted by achievement motivation for similar reasons, maybe because those women who were interested in leadership either in general or in the career domain were probably also those who enjoy working hard, and were motivated for achievement. However, work role salience, consideration for future family, and social support did not contribute to this construct. Some qualitative research has linked social support as being facilitative of women's pursuits towards leadership (Ballentine, 2000; Watson, 2008), however, social support may relate positively only when leadership pursuits are being actively pursued, which was the case for the participants in the studies mentioned previously.

Additionally, we hypothesized a negative relationship with planning for future family because some research suggested that women anticipate relationship problems associated with potential leadership positions, and are less likely to desire them (Lips, 2000, 2001; Savery, 1990). However, the current study found no relationship between planning for future family and leadership aspirations. Perhaps similar to social support, planning for future family may act as a barrier only for women actively pursuing leadership positions, rather than just having motivation to lead. Additionally, this result may indicate that motivation to lead as measured by the MTL (Chan & Drasgow, 2001) is considerably different in content than the Career Aspirations – R subscale of leadership

aspiration because the variables predicting each varied with the exception of achievement motivation.

An additional purpose of this study was to determine if there were any differences between students in the first three years of their program versus students who were in their fourth year and beyond. Consistent with our hypotheses, differences existed between students in their early years of study and late years of study with regard to work role salience, compromising for children, and prioritizing partner, with earlier students having higher work role salience, and later students indicating more willingness to compromise their careers for children and prioritize their partner.

It is possible that work role salience was higher for newer students due to burnout of the more advanced students. Even though more advanced students are about to enter their desired occupations, perhaps the stress and requirements associated with ending the program exhaust their energy to focus on career. Additionally, less work role salience for more advanced students may be associated with a shift in focus away from work and a focusing on family obligations.

Interestingly but not surprisingly, when controlling for age, students later in their program are more willing to compromise for children and partner, indicating that this may reflect a stage of development. As their graduate program comes to an end, there may be a reexamination of priorities, leading to a shift away from career roles and a focusing on concerns of partner and children. Additionally, these women are older upon graduating, and there may be more pressure to focus on these aspects from family members and society, or in anticipation of the difficulties of combining work and family (Ward & Wolf-Wendel, 2004).

However, inconsistent with our hypotheses, achievement motivation was not higher for students who were in the early years of their program, nor was social support higher for students who were in the later years of their program, which may indicate that achievement motivation and social support stay relatively stable despite movement through a graduate program. The finding regarding achievement motivation is contradictory to previous research, which has shown women's achievement motivation tends to decrease with time (Kerr et al., 2005). However, because this population of women was at the highest level of educational attainment, perhaps their achievement motivation was more stable and persistent to reflect their ongoing academically success.

Additionally, social support was hypothesized to increase with time. It was thought that as women continued in their programs they would find increasing sources of potential support. However, the women in this sample reported exceptional levels of support across all subscales, indicating that support may not be as likely to change through a graduate program as we previously hypothesized.

Strengths

This study focused on predictors of female graduate student's career and leadership aspirations. Aspirations of women in our field have not been studied extensively in the past, and this study contributes information not only about the future members of our field and which variables relate to their career decisions, but also provides insight into their views on the American Psychological Association and possible future careers.

Additionally, this study had the strength of an adequate sample size, representing both clinical and counseling psychology graduate students in different years in their

program, from across the nation. Moreover, the sample is consistent with the age, sexual orientation, and ethnicity of graduate students in psychology in general. This study used constructs that were theoretically grounded in women's vocational development theory and instruments that were empirically validated. Last, this study advanced knowledge regarding the Career Aspirations Scale (O'Brien, 1996) and contributed toward improving the measure.

Limitations

There were limitations in the study design. The study was correlational, so though we can find relationships between the variables, we cannot determine causation. Moreover this study employed a cross sectional design rather than a longitudinal design which limits our ability to know how women's attitudes change over time. Thus our interpretation of differences between students in early years of their program versus students in the later years of their program should be interpreted with caution. Future research may conduct a longitudinal study assessing women's development throughout their graduate program to determine if their perspectives and attitudes change over time, especially in regard to their willingness to compromise career choices for partner and child. Last, it is possible that because we had a smaller response rate from clinical students, we did not collect an adequate sample size which may have affected a number of the results, including whether or not there were any differences between the samples.

The measures that were used also had limitations. The Work Role Salience (WRS; Greenhaus, 1973) had less than ideal reliability, and there was an error in the administration of the Planning for Future Family (PLAN; Ganginis et al., 2011) which created an extra response of "neither agree nor disagree." This additional response may

have allowed participants an easy answer to difficult or uncomfortable questions about their willingness to compromise their careers for their partner or children. As mentioned previously, the measure of social support (MSPSS; Zimmet et al., 1988) may have measured social support too broadly to adequately detect domain specific differences in social support. Perhaps a measure examining perceived support for career and achievement goals or using instruments assessing differing categories of support including informational and instrumental support would have been more appropriate. Last, because the Career Aspirations Scale- R is a new measure, it lacks established reliability and validity. The four factors that emerged need to be tested with additional samples and confirmatory factor analyses.

Future Directions

Additional research is needed to further understand psychology graduate students' career and leadership aspirations. Future research might look at additional personality factors that may predict female graduate student's career decision making such as leadership self-efficacy and career and leadership goals. Additionally, it would be interesting to investigate a sample of male graduate students to explore gender differences that may exist in willingness to compromise for partner or children, or to assess if their career and leadership aspirations change over time. Moreover, it would be beneficial to determine if the tendency for men to have higher educational and career aspirations as compared to women (Kerr et al., 2005; Mendez & Crawford, 2002) holds true for a graduate population. Last, it might be beneficial to study women who are established in their careers to see if career and leadership aspirations change over time or after raising children.

Additionally, the doctoral students in this sample viewed positions at research I universities to be challenging to combine with family. Future research could explore whether the perceived barrier to work family balance at a research I university is based in fact or fiction. For example, is it far more difficult from the standpoint of an individual combining work and family in a research I setting as opposed to a women doing the same in a liberal arts college or as a training director in a counseling center? Additionally, how do students currently enrolled in research-intensive universities differ from students who are at other universities? Perhaps the stigma around research I universities is perpetuated by stereotype or a lack of role modeling, and it would be valuable to see if there were measurable differences in the workplace.

Although the current study added knowledge to our understanding of women's career decision making, there is much to learn about the career-related aspirations of female graduate students, and which variables relate to the decision to pursue those aspirations. This sample had fairly high achievement motivation, but only slight to moderate career and leadership aspirations. Also it is still unclear which specific leadership positions graduate student women desire within the field. Additionally, we have yet to determine the perceived supports and barriers to these goals, and whether these aspirations change over time. The current study was able to provide some insight, yet a future qualitative study might ask women about their goals for their career within the field of psychology, and what barriers might prevent them from reaching these goals. This would allow us to understand if women in our field are striving for top positions in career and leadership, and illuminate women's perceptions of leadership in research I universities or organizations like the American Psychological Association.

Implications for Training

One of the major findings of this study was the importance of achievement motivation on both the career and leadership aspirations for graduate students. Graduate training programs who want to educate leaders in our field may want to assess levels of achievement motivation and career salience when selecting students for their programs. In addition, one important implication of this study could be to find ways to help students maintain high levels of motivation. Although it is assumed that achievement motivation is inherent to the individual, it makes sense that the environment could influence students' motivation to work hard. Thus, an intervention for this population might include checking in with student's levels of motivation on an individual or group level basis, and discussing ways to keep achievement motivation high by perhaps taking adequate time for self-care to prevent burnout, as this might relate the student's aspirations for the future.

Additionally, our results indicated that work role salience was an important variable in the prediction of career aspirations; moreover, it may decrease for more advanced students in graduate programs. Similar to the recommendations made for achievement motivation, it might be beneficial to check in with students intermittently about their level of work role salience. Additional interventions could include support from faculty or motivational boosters during the semester to help restore and reinforce women's work salience. In addition, having more female role models who are committed to their work in psychology may also help to boost career salience, perhaps by offering reinforcement and reminders of the career opportunities that initially drew them to the field. Additionally, for therapists working with female graduate students in psychology, it

may prove beneficial to explore symptoms of burnout and frequently check in about any changes they may have in their achievement motivation and work role salience, as these may relate to their long term goals for their career.

Furthermore, based on the results of the study, more advanced graduate students become more likely to compromise their career for future family and partner. One intervention that could possibly be implemented might involve group support meetings to discuss the pressures graduate students are facing in combining work and family. Even if these meetings occurred sparingly, they may help students feel more supported and increase efficacy in their ability to manage the situation in the future. This is not intended to discourage the prioritization or valuing of family, but rather to increase the feeling that there is a safe support network to comfortably discuss these challenges. Moreover, therapists working with this population should be aware that women may shift their priorities over time possibly necessitating the reexamination of their current concerns and priorities over time. Because female graduate students may struggle with the management of career and family, and feel pressure from society to be able to do so, it may be useful to discuss their perceptions of their future careers, and help reexamine opportunities they may have foreclosed on, due to external influences or a lack of self-efficacy.

Last, the results of this study offered some insight into the future careers that women in our field were considering, and their views on their commitment APA in the future. It is possible that the lack of interest in leadership roles within APA or in research I universities is due to misperceptions of these job descriptions. If this is part of the problem, one relatively easy intervention is to make sure that graduate students are provided accurate and realistic information about the careers available to them after

graduation, and availabilities for leadership in organizations such as APA. Providing updated information to graduate students about possible future careers, particularly careers that seem to be associated with challenges such as research I universities, might elicit more realistic expectations and evoke more confidence in their ability to manage work and family. Moreover, having women from various forms of leadership positions (e.g., division leaders, leaders of APA) as role models and having them speak about their experiences may boost the interest of graduate students who may have overlooked these possibilities.

Additionally, it also is possible that in general, women need different models of leadership and success in their careers. To date, most models of leadership are based on male styles of leadership in male-dominant organizations and fields. Entertaining alternative models of leadership and exposure to successful female role models in the world of work may enhance motivation for involvement in leadership among young women. The goal of these interventions would be to increase graduate students knowledge so that students can make well informed decisions about their future careers.

Conclusion

To conclude, this study advanced knowledge regarding future members of our field, discovered their perceptions on involvement in the APA and possible future careers, studied the predictors of career and leadership aspirations, and provided initial support for an updated measure of career aspirations. One important finding of this study was that achievement motivation was the most salient factor in the prediction of career and leadership aspiration across domains. Work role salience also appeared to be an important variable in the prediction of career aspirations. In addition, early students and

later students differed in their salience towards career and their willingness to compromise their career for family. Further research is necessary to understand what other variables may play a role in the career and leadership decisions that graduate students make through qualitative research and longitudinal studies. We hope that these findings will illuminate the career and leadership aspirations of young women entering psychology, and help to create training interventions geared toward providing information and encouragement for career and leadership advancement. In conclusion, this study captured the voices of potential future leaders in counseling and clinical psychology; research is needed to ensure that women are empowered to seek and obtain leadership positions in psychology.

Appendix A- Work and Family Orientation Questionnaire (Spence & Helmreich, 1983)

Instructions: Rate yourself on each item below, using the following scale.

1 = strongly disagree
2 = somewhat disagree
3 = neither agree nor disagree
4 = somewhat agree
5 = strongly agree

Work-Mastery

1. It is important for me to do my work as well as I can even if it isn't popular with my co-workers.	1 2 3 4 5
2. I find satisfaction in working as well as I can.	1 2 3 4 5
3. There is satisfaction in a job well done.	1 2 3 4 5
4. I find satisfaction in exceeding my previous performance even if I don't outperform others.	1 2 3 4 5
5. I like to work hard.	1 2 3 4 5
6. Part of my enjoyment in doing things is improving my past performance.	1 2 3 4 5
7. I would rather do something at which I feel confident and relaxed than something which is challenging and difficult.	1 2 3 4 5
8. When a group I belong to plans an activity, I would rather direct it myself than just help out and have someone else organize it.	1 2 3 4 5
9. I would rather learn easy fun games than difficult thought games.	1 2 3 4 5
10. If I am not good at something, I would rather keep struggling to master it than move on to something I may be good at.	1 2 3 4 5
11. Once I undertake a task, I persist.	1 2 3 4 5
12. I prefer to work in situations that require a high level of skill.	1 2 3 4 5
13. I more often attempt tasks that I am not sure I can do than tasks that I believe I can do.	1 2 3 4 5

14. I like to be busy all the time.	1 2 3 4 5
Competitiveness	
15. I enjoy working in situations involving competition with others.	1 2 3 4 5
16. It is important to me to perform better than others on a task.	1 2 3 4 5
17. I feel that winning is important in both work and games.	1 2 3 4 5
18. It annoys me when other people perform better than I do.	1 2 3 4 5
19. I try harder when I'm in competition with other people.	1 2 3 4 5

Appendix B - Work Role Salience Scale (Greenhaus, 1973)

1 = Strongly Disagree
2 = Disagree
3 = Uncertain
4 = Agree
5 = Strongly Agree

1. It is more important to have some leisure time after work than to have a job in your chosen field, be devoted to it, and be a success at it.** (R)	1	2	3	4	5
2. I enjoy thinking about and making plans about my future career.	1	2	3	4	5
3. It is difficult to find satisfaction in life unless you enjoy your job.	1	2	3	4	5
4. I would consider myself extremely "career minded."	1	2	3	4	5
5. I intend to pursue the job of my choice, even if it allows only very little opportunity to enjoy my friends.**	1	2	3	4	5
6. The whole idea of working and holding a job is kind of distasteful to me. (R)	1	2	3	4	5

* As described in Greenhaus and Sklarew (1981), Career Salience (the concept and the scale) is now referred to as Work Role Salience.

** These items were previously used in a dissertation by George (cited in Greenhaus, 1970), the wording only slightly changed to accommodate the Likert format.

B. **Scoring**

1. **Response Categories**

1 = Strongly Disagree
2 = Disagree
3 = Uncertain
4 = Agree
5 = Strongly Agree

Appendix C- The Planning for Career and Family Scale (Ganginis et al., 2011)

The following are a number of statements that reflect the extent to which you think about your future family when deciding on a career. Rate the degree to which you agree or disagree with each statement using the following scale.

1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

*Note: there was an error in this scale's administration which included the a 5th option for response "Neither Agree Nor Disagree."

1. Any career that I will select must enable me to be home when my children come home from school.	1	2	3	4
2. Any relationship that I am in will need to realize that my career plans come first. (R)	1	2	3	4
3. I will have a career with flexible hours so that I can be home for the children I plan to have.	1	2	3	4
4. I will make my career plans independently of what my partner might need.(R)	1	2	3	4
5. I will select a career that can be put on hold when my children are young.	1	2	3	4
6. I will give up some of my career goals for my relationship.	1	2	3	4
7. Having quality time for raising children will be the most important consideration in my career choice.	1	2	3	4
8. I will never change my career plans for a relationship. (R)	1	2	3	4
9. When considering a future career, I will look for a job that will allow me the flexibility of being able to stay at home when my children are sick or out of school.	1	2	3	4
10. I will take a job that I find less satisfying if it means having more				

time for my partner. 1 2 3 4

11. My future career will allow me to have time off in the summer so I can be with my children. 1 2 3 4

12. When selecting a career, I will take a lesser paying job if it means I am able to prioritize my relationship. 1 2 3 4

13. When planning for my career, I will think about how much energy I will have for my children. 1 2 3 4

14. Taking a less demanding job to have more energy for my partner will not be an option. (R) 1 2 3 4

15. I will find a career where I do not have to work full-time after I have children. 1 2 3 4

16. My career choice will be based on my goals, not on my ability to balance work and love. (R) 1 2 3 4

17. Future parenting responsibilities will be an important factor in making my career plans. 1 2 3 4

18. The wishes of my partner will not figure into my career plans. (R) 1 2 3 4

19. I will select a career that allows me to slow down after I have children. 1 2 3 4

20. Having a fulfilling career will be very important to me, even at the expense of future responsibilities to my partner. (R) 1 2 3 4

21. I will not plan my career around future parenting responsibilities. (R) 1 2 3 4

22. When selecting a career, I will consider the needs of my partner. 1 2 3 4

23. When choosing a career, I will think about whether the work load will hinder my ability to care for my children. 1 2 3 4

24. Having a satisfying relationship is not as important as picking

a career I love. (R) 1 2 3 4

Odd numbered items: Sum responses to each item to get Considering Children Scale. Higher score represents considering your future children when making career plans

Even numbered items: Sum responses to each item to get Considering Partner Scale. Higher score represents considering your future partner when making career plans

Reverse score items (items 2, 4, 8, 14, 16, 18, 20, 21, 24).

Appendix D- Multidimensional Scale of Perceived Social Support (Zimet et al., 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree
Circle the "2" if you Strongly Disagree
Circle the "3" if you Mildly Disagree
Circle the "4" if you are Neutral
Circle the "5" if you Mildly Agree
Circle the "6" if you Strongly Agree
Circle the "7" if you Very Strongly Agree

1. There is a special person who is around when I am in need.
   1 2 3 4 5 6 7

2. There is a special person with whom I can share joys and sorrows.
   1 2 3 4 5 6 7

3. My family really tries to help me.
   1 2 3 4 5 6 7

4. I get the emotional help and support I need from my family.
   1 2 3 4 5 6 7

5. I have a special person who is a real source of comfort to me.
   1 2 3 4 5 6 7

6. My friends really try to help me.
   1 2 3 4 5 6 7

7. I can count on my friends when things go wrong.
   1 2 3 4 5 6 7

8. I can talk about my problems with my family.
   1 2 3 4 5 6 7

9. I have friends with whom I can share my joys and sorrows.
   1 2 3 4 5 6 7

10. There is a special person in my life who cares about my feelings.
    1 2 3 4 5 6 7

11. My family is willing to help me make decisions.

1 2 3 4 5 6 7

12. I can talk about my problems with my friends.

1 2 3 4 5 6 7

Scoring Information

To calculate mean scores:

Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4.

Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4.

Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4.

Total Scale: Sum across all 12 items, then divide by 12

Appendix E- Career Aspiration Scale- R

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

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Quite a bit true of me
4 = Very true of me

Leadership Aspirations

I hope to move up to a leadership position in my organization or business.	0	1	2	3	4
I plan to rise to the top leadership position of my organization or business.	0	1	2	3	4
When I am established in my career, I would like to manage other employees.	0	1	2	3	4
I want to have responsibility for the future direction of my organization or business.	0	1	2	3	4
I plan to obtain many promotions in my organization or business.	0	1	2	3	4

Education Aspirations

Even if not required, I would take continuing education courses to become more knowledgeable.	0	1	2	3	4
I will pursue additional training in my occupational area of interest.	0	1	2	3	4
I would pursue an advanced education program to gain specialized knowledge in my field.	0	1	2	3	4
I know I will work to remain current regarding knowledge in my field.	0	1	2	3	4
I will always be knowledgeable about recent advances in my field.	0	1	2	3	4

Recognition Aspirations

Being one of the best in my field is not important to me. (R)	0	1	2	3	4
I want to be among the very best in my field.	0	1	2	3	4

I want to be a nationally known leader in my field.	0	1	2	3	4
I know that I will be recognized for my accomplishments in my field.	0	1	2	3	4
I want my work to have a lasting impact on my field.	0	1	2	3	4
Career Complacency					
Once I finish the basic level of education needed for a particular job, I see no need to continue in school.	0	1	2	3	4
I will be content to stay at the entry level of my career.	0	1	2	3	4
Achieving in my career is not at all important to me.	0	1	2	3	4
If I have a choice, I will not spend my time or money on continuing education courses.	0	1	2	3	4
Becoming a leader in my job is not at all important to me.	0	1	2	3	4

Appendix F- Motivation to Lead Scale (Chan, 1999; Chan & Drasgow, 2001)

Instructions: How well do the following statements describe how you feel? Imagine a typical work or school situation where you are working in a group or team, and the question is raised if someone should be appointed as a group leader. Assume for now that everyone in the group has roughly the same level of training, knowledge and experience on the job. Please read each statement carefully and choose the one answer that best describes your agreement or disagreement using the scale below. There are no right or wrong answers. Please answer honestly and frankly. Indicate your answer on the answer sheet provided. Answer scale:

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

Affective/Identity MTL (AIMTL) Scale

1. I am definitely not a leader by nature. (R)	1 2 3 4 5
2. Most of the time, I prefer being a leader than a follower when working in a group.	1 2 3 4 5
3. I have a tendency to take charge in most groups or teams that I work in.	1 2 3 4 5
4. I am the type of person who is not interested to lead others. (R)	1 2 3 4 5
5. I believe I can contribute more to a group if I am a follower rather than a leader. (R)	1 2 3 4 5
6. I am the type of person who likes to be in charge of others.	1 2 3 4 5
7. I usually want to be the leader in the groups that I work in.	1 2 3 4 5
8. I am the type who would actively support a leader but prefers not to be appointed as leader. (R)	1 2 3 4 5
9. I am seldom reluctant to be the leader of a group.	1 2 3 4 5

Appendix G- Demographics Form

AGE:_____

SEXUAL IDENTITY:
_____ Bisexual
_____ Gay/Lesbian
_____ Queer
_____ Straight
_____Transgender

RACE/ETHNICITY:
_____African American
_____Asian/Asian American
_____American Indian
_____Biracial/Multiracial
_____ Hispanic, Latina
_____White, non-Hispanic
_____Other (Please Specify)

RELATIONSHIP STATUS:
_____Single (never-married)
_____Single (divorced)
_____Single (widowed)
_____Living with partner
_____Married
_____Married (separated)

Are you in a committed romantic relationship? _____ Yes _____ No

If in a relationship:

How long have you been romantically involved with your current partner? ____ Years

How committed are you to this romantic relationship?
1- Not at all committed
2- Slightly committed
3- Moderately committed
4- Quite a bit committed
5- Extremely committed

How supportive is your partner regarding your work?
1- Not at all supportive
2- Slightly supportive
3- Moderately supportive
4- Quite a bit supportive
5- Extremely supportive

If Single:
Do you plan to get married/be in a committed relationship? _____ Yes _____ No

Do you have children? _____ Yes _____ No
(If Yes) How many? _____
What are their ages?
_____
_____
_____

_____
_____
_____

(If No) Do you plan on having children? _____ Yes _____ No

LOCATION OF YOUR GRADUATE SCHOOL
_____East Coast
_____Midwest
_____South
_____West Coast

PROGRAM TYPE:
_____PhD
_____PsyD

STATUS IN SCHOOL:
_____First Year
_____Second Year
_____Third Year
_____Forth Year
_____Fifth Year
_____Sixth Year
_____Seventh Year
_____Eighth Year
_____Beyond eighth year

EMPHASIS:
_____Clinical
_____Counseling

How would you describe the focus of your graduate program?
_____Adapted Scholar Practitioner
_____Clinical-Scientist
_____Clinician-Researcher
_____Practitioner
_____Practitioner- Scholar
_____Practitioner-Scientist
_____Scientist-Practitioner
_____Scientist-Professional
_____Research-Practitioner

Please indicate where you are in your graduate program (check all that apply):
_____Course work in progress
_____Course work completed
_____Comprehensive exams completed
_____Dissertation proposal accepted
_____Dissertation completed
_____On internship

Which of the following do you plan to pursue as a career after graduation from your program?
_____Consultant
_____Professor at a community college

_____Professor at a liberal arts university
_____Professor at a Research 1 university
_____Therapist in community clinic setting
_____Therapist in a hospital
_____Therapist in a private practice
_____Therapist in a university counseling center
_____Therapist in a Veterans Medical Center
_____Other, please specify _____

How possible would it be for a psychologist to manage both family and work in each of the following careers?

1 = Not at all possible
2 = Slightly possible
3 = Moderately possible
4 = Quite possible
5 = Extremely possible

Consultant	1	2	3	4	5
Professor at a community college	1	2	3	4	5
Professor at a liberal arts university	1	2	3	4	5
Professor at a Research 1 university	1	2	3	4	5
Therapist in community clinic setting	1	2	3	4	5
Therapist in a hospital	1	2	3	4	5
Therapist in a private practice	1	2	3	4	5
Therapist in a university counseling center	1	2	3	4	5
Therapist in a Veterans Medical Center	1	2	3	4	5

Please indicate your degree of confidence in your ability to succeed in the following:
1 = Not at all confident
2 = Slightly confident
3 = Moderately confident
4 = Quite confident
5 = Extremely confident

Research	1	2	3	4	5
Clinical Work	1	2	3	4	5
Leadership Roles	1	2	3	4	5

I plan to be a member of the APA throughout my career.

_____Not at all true of me
_____Slightly true of me
_____Moderately true of me
_____Quite a bit true of me
_____Very true of me

I plan to seek a leadership position in my APA division (e.g., Division 17 or Division 12).
_____Not at all true of me
_____Slightly true of me
_____Moderately true of me
_____Quite a bit true of me
_____Very true of me

My work will include leadership roles in the APA.
_____Not at all true of me
_____Slightly true of me
_____Moderately true of me
_____Quite a bit true of me
_____Very true of me

Being active in the work of the APA is important to me.
_____Not at all true of me
_____Slightly true of me
_____Moderately true of me
_____Quite a bit true of me
_____Very true of me

Figure 1: Leadership Aspirations (Career Aspirations Subscale)

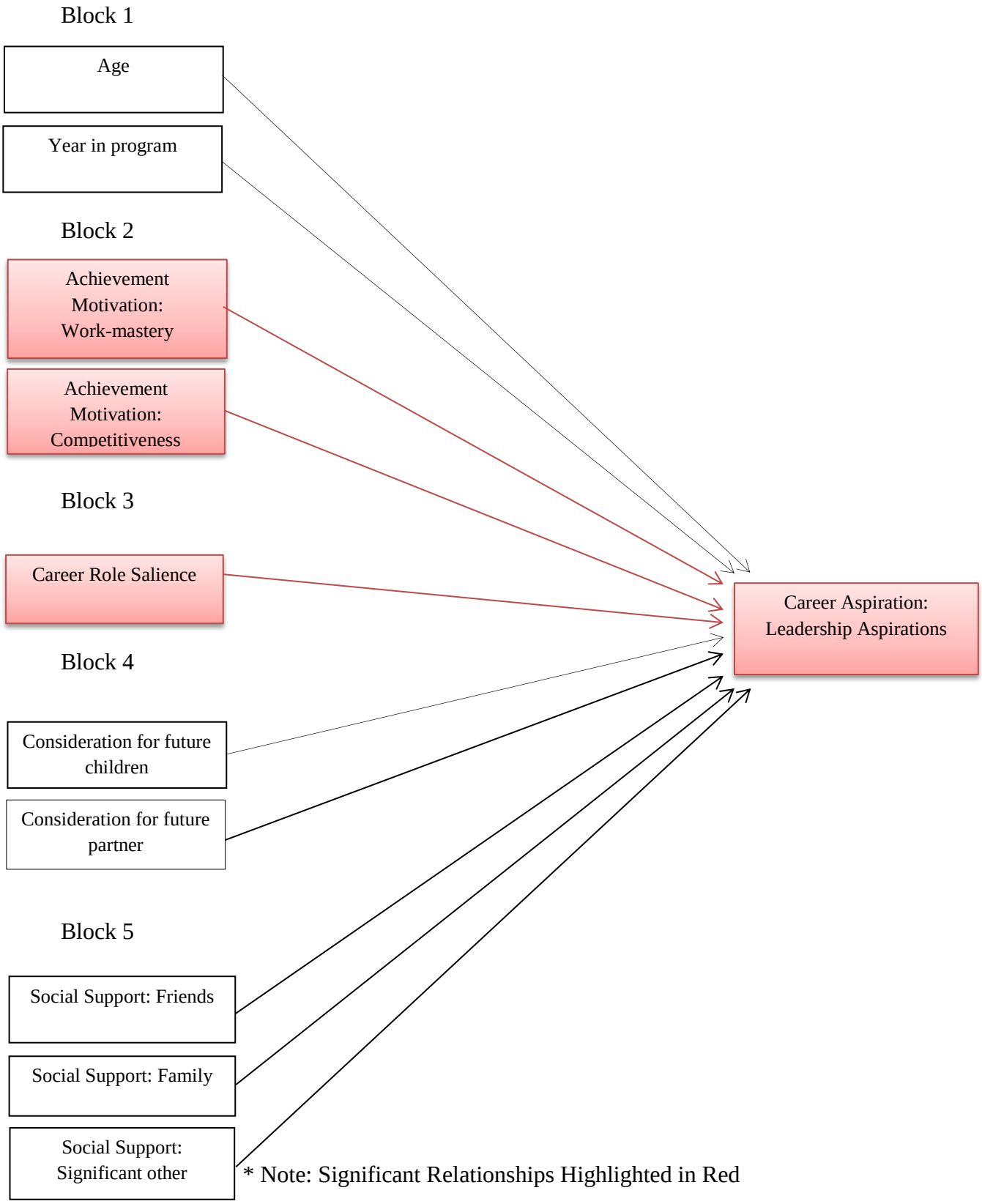


Figure 2: Educational Aspirations (Career Aspirations Subscale)

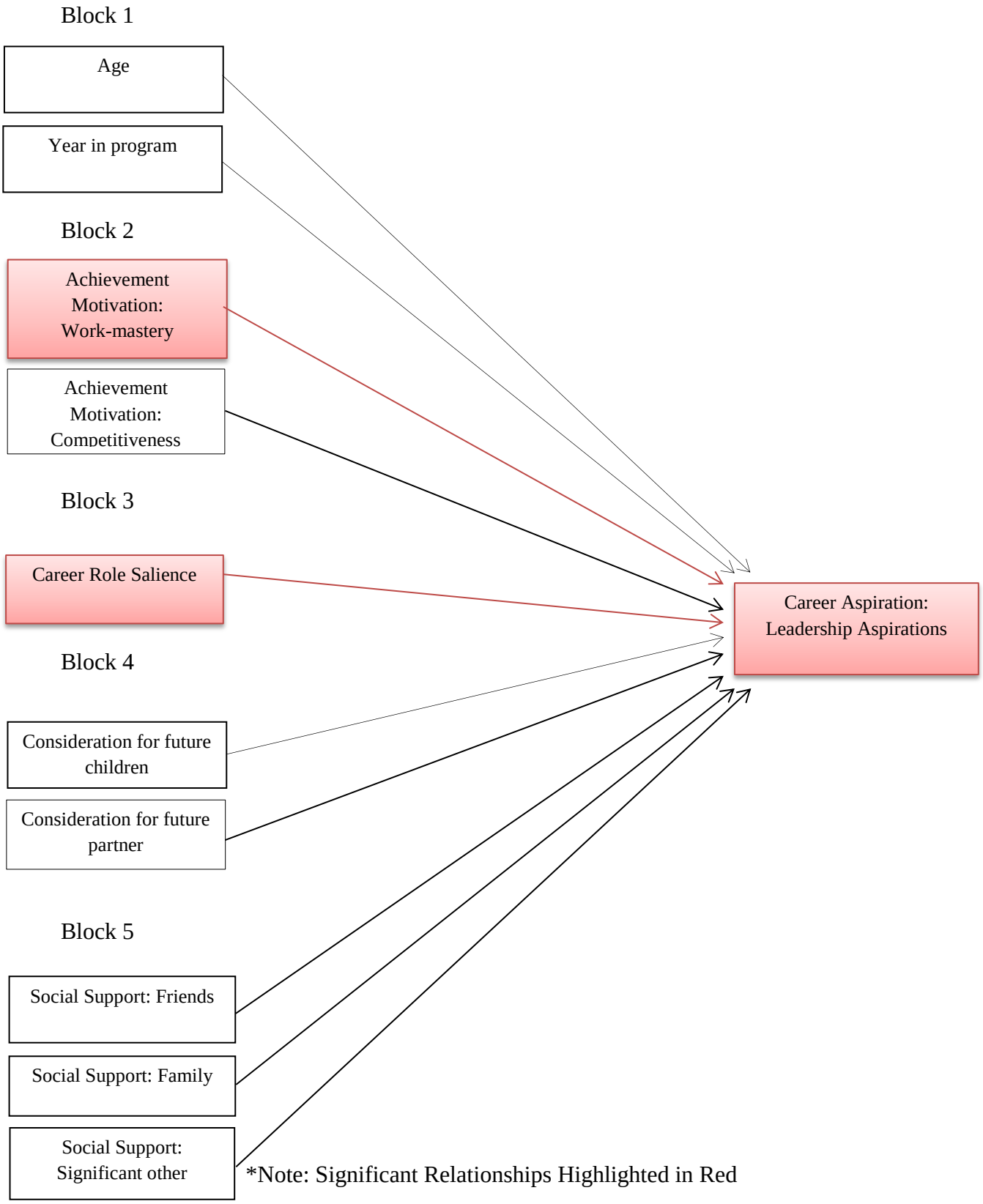


Figure 3: Recognition Aspirations (Career Aspirations Subscale)

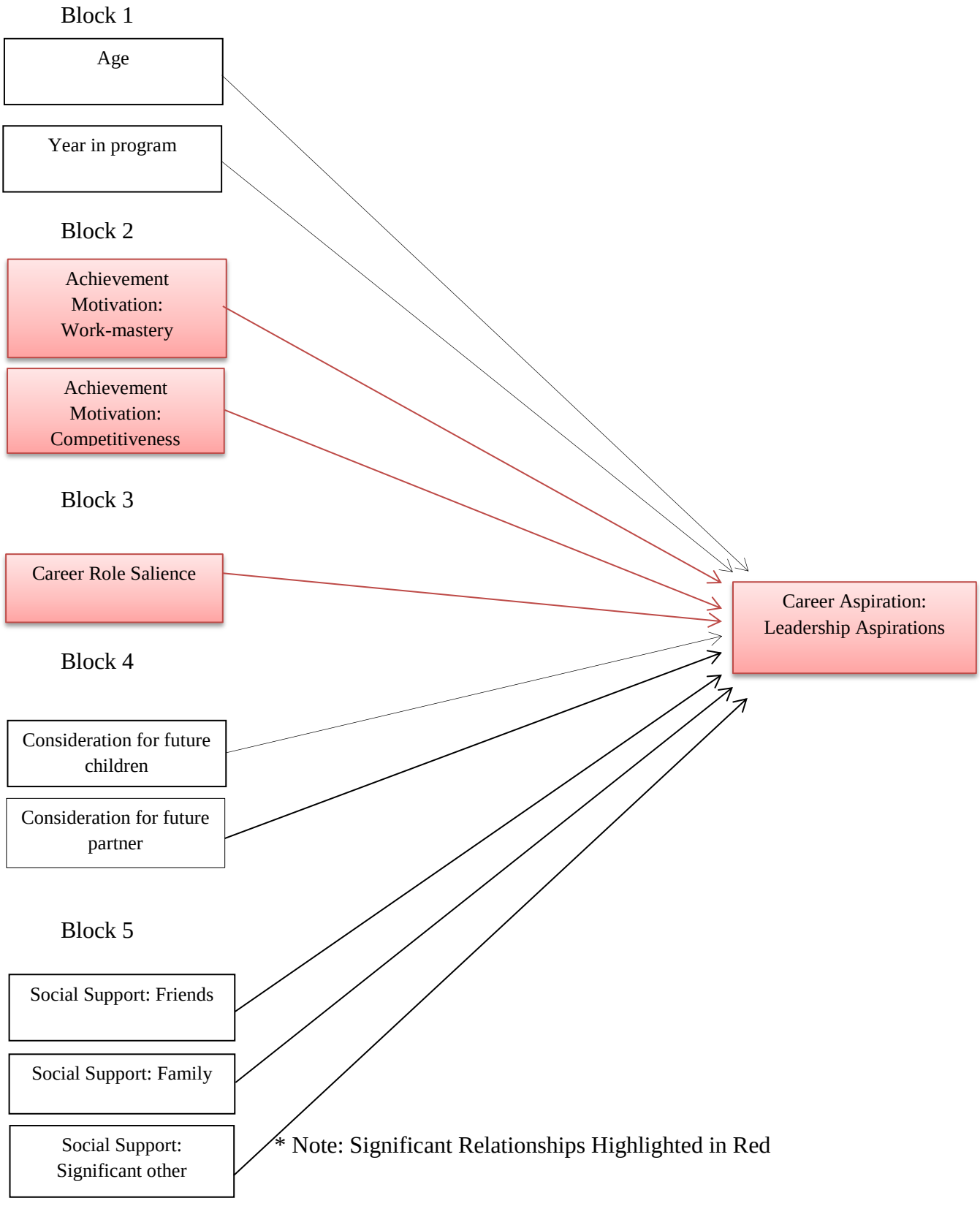
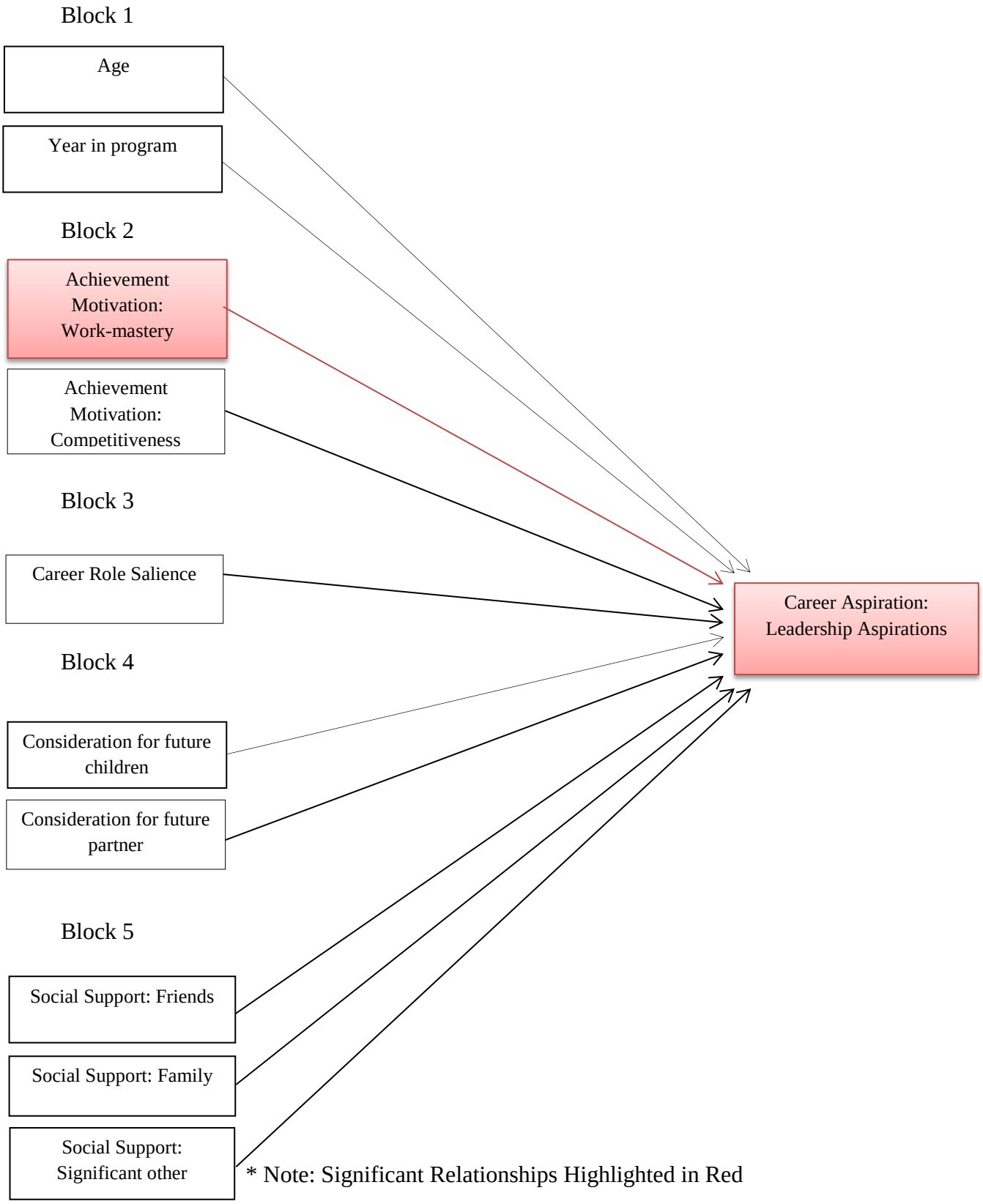


Figure 4: Predicting Motivation to Lead



* Note: Significant Relationships Highlighted in Red

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