

ABSTRACT

Title of Thesis: EXPLORING THE INFLUENCE OF FAMILY-OF-ORIGIN ON
 THE CAREER ASPIRATIONS OF HIGH ABILITY
 ADOLESCENT WOMEN

Vanessa Lynn Downing, Master of Arts, 2006

Thesis Directed By: Professor Ruth Fassinger
 Department of Counseling and Personnel Services

The current study sought to understand how girls' perceptions of their parents' gender role attitudes and the career aspirations parents have for their daughters influence girls' career aspirations and planfulness in regard to multiple roles. A non-experimental field survey explored how variables of interest related to each other in a sample 161 female junior and senior students attending an urban, single-sex, public high school populated primarily college-bound women. Cluster analyses revealed three groupings of girls with varying levels of career aspiration and planfulness for future multiple roles depending on their perceptions of themselves as achievers, their perceptions of their parents' career aspirations. Findings also included significant relationships between parents' and daughters' attitudes in regard to vocational and relational gender roles, and in regard to agreement between their levels of career aspiration for the daughters. Implications of the study and suggestions for future research building upon the findings are discussed.

EXPLORING THE INFLUENCE OF FAMILY-OF-ORIGIN
ON THE CAREER ASPIRATIONS OF HIGH
ABILITY ADOLESCENT WOMEN

By

Vanessa Lynn Downing

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Arts
2006

Advisory Committee:

Professor Ruth Fassinger, Chair
Professor Charles Gelso
Professor Dennis Kivlighan

© Copyright by
Vanessa Lynn Downing
2006

TABLE OF CONTENTS

List of Tables.....	iv
List of Figures.....	v
Chapter I: Introduction.....	1
Chapter II: Literature Review.....	8
High Ability Adolescent Women	8
Family-of-Origin’s Influence on Career Development.....	12
Gender Role Attitudes.....	16
Gender Role Attitude – Relational.....	18
Gender Role Attitude – Educational/Vocational.....	19
Multiple Roles.....	21
Statement of the Problem.....	28
Research Questions and Hypotheses.....	30
Chapter III:	
Method.....	33
Procedures.....	45
Measures.....	46
Chapter IV: Results.....	53
Preliminary Analyses	53
Analyses of Hypotheses and Research Questions	58
Additional Analyses	71
Chapter V: Discussion.....	73
Hypotheses and Research Questions.....	73

Limitations of the Study.....	79
Implications.....	83
Suggestions for Future Research.....	85
Conclusion.....	88
Appendix A: School District of Philadelphia IRB Guidelines.....	99
Appendix B: School District of Philadelphia Conditional Approval Letter.....	102
Appendix C: Instructions to Teachers.....	105
Appendix D: Informed Consent/Assent Statement.....	106
Appendix E: Survey Instrument.....	107
References.....	114

LIST OF TABLES

1. Demographic Characteristics of Participants (Completers).....	39
2. Demographic Characteristics of Participants (Non-Completers).....	44
3. Means, Standard Deviations, and Reliabilities of Measures.....	58
4. Bivariate Correlation of Variables of Interest.....	61
5. Most Influential Parent Rankings.....	65
6. Level of Agreement Between #1 and #2 Ranked Most Influential Parents.....	66
7. Standard Score Means, Standard Deviations and Comparisons by Cluster.....	71

LIST OF FIGURES

1. Three Cluster Solution Using Eight Variables of Interest.....	74
--	----

Chapter One

Introduction

Girls growing up in 21st Century America come of age in a culture that increasingly encourages and applauds the career achievements of its young women. However, mainstream American culture also continues to embrace the traditional idea of women as the primary caregivers to families and children. This concept—that women are more capable in, and more well-suited for, nurturing roles than are men—is communicated consistently through advertising, movies, political speeches, and other forms of mass media, and it may color women’s beliefs about what is expected of them in any number of personal and professional realms.

Many developmental researchers, however, have theorized that, while cultural factors do influence young women’s self-concepts, individual family-of-origin factors might provide more significant, substantial, and continual sources of influence across the lifespan. Vondracek, Lerner, and Shulenberg (1986) argued that determining the influence of family-of-origin factors is a critical component of understanding the proximal and contextual influences of vocational development. Vondracek et al. stated, “perhaps the most important way in which roles and role expectations link the family microsystem and children’s career development entails the roles children learn in the context of the family setting” (p. 53). Indeed, psychological family-of-origin variables such as support, attachment, and children’s perceptions about parents’ expectations have been reported to have even more impact on students’ career aspirations and expectations than other background and socialization factors such as the expectations of peers (Paa &

McWhirter, 2000; Poole et al., 1991) or structural demographic factors such as family socioeconomic status and birth order effects (Whiston & Keller, 2004).

In their 2004 review of the family-of-origin literature, Whiston and Keller noted that “from a developmental contextual perspective, interactions between the organism and context begin at birth, and therefore, career development would also begin in the early stages of a child’s development” (p. 519). The family realm is where children are first exposed to attitudes about self, employment, culture, money, status, education, boundaries, expectations, and personal responsibility; therefore, exposure to parental belief systems influences children’s belief systems to varying degrees. It follows, then, that gender role attitudes also might be transmitted from parents to daughters, and that attitudes about “appropriate” or culturally acceptable behavior, goals, and aspirations might affect young women’s expectations for future vocational and relational roles.

Because American culture sends mixed messages to girls—that they can and should succeed academically and in their careers, and that they should also become wives and mothers (Russo, 1976) who are prepared to adjust their careers to accommodate their families—the messages that girls perceive from their families-of-origin provide a vital context within which cultural messages are filtered, altered, encouraged, or ignored. Each family’s set of religious, ethnic, political, and moral values and style of engaging in interpersonal relationships creates a filter that external content must pass through. In this way, understanding the influence of family-of-origin on young women’s beliefs about themselves and the roles they “should” play is essential to understanding the decisions they eventually make regarding their careers and adult relationships.

As women's presence in the workplace has increased steadily over the past 35 years, researchers have focused on issues of women's career choice (Fassinger, 1985, 1990; O'Brien, et al., 1996; O'Brien & Fassinger, 1993; Wolfe, 1982), career adjustment (Richie, et al., 1997), and the balancing of and preparation for multiple roles (McCracken & Weitzman, 1997; National Parenting Association, 2002; Polasky, 1998; Post, 1982; Weitzman, 1994; Weitzman & Fitzgerald, 1996). In addition, researchers have sought to explore variables hypothesized to affect women's career development uniquely (Gomez, et al., 2001; O'Brien et al., 2000; Reddin, 1997), noting that the career process for women is layered with complexities that men do not tend to face. Examples of the complexities likely to affect women include underuse of their abilities, reduced opportunities for earning and advancement, and women's frequent assumption of the bulk of childrearing and homemaking responsibilities (Fassinger, 1998).

Researchers interested in women's career development variables have explored women workers across diverse fields, and at various socioeconomic, educational, and achievement levels; this research has yielded much valuable data. Within the overall population of school-aged and adult women, some researchers have chosen to pay special attention to the career development of high ability, highly achieving women. This population consists of women who have high levels of potential and aptitude in particular fields, and who go on to attain high levels of career success in (for example) the corporate, academic, and athletic worlds.

Researchers tapping this participant pool of highly achieving women have noted marked differences in career and achievement trajectories when comparing women's experiences to men's, noting varying sources of internal and external influence. Much has

been written about gender specific expectations for success (Chiu, 1998; Weigers & Frieze, 1977), vocational values, the developmental patterns that differentiate high achievers from others (Brown, et al., 2004; Rodenhiser, 1998), the workplace relational styles of women in upper management and leadership positions, and the existing barriers and facilitators to women's achievement (Fassinger, 1998). While much of this research has been based on comparing the experiences of male and female workers, a particularly rich area of research in women's career development has focused on the construct of multiple roles. This variable has been virtually ignored in research focused on men's career development, but is an omnipresent variable throughout women's career development literature.

The Ubiquitous Construct of "Multiple Roles"

When researchers who study barriers and facilitators to women's achievement explore the career patterns of particularly successful women, discussions of husbands, children, and family obligations rarely are left out of the inquiry. In striking contrast to research about men's career patterns and development (Tokar & Jome, 1998), research on solely female populations frequently focuses on the multiple roles career women assume. Specifically, this research has examined how adding the roles of "wife," "mother," or both tends to lead to a significant reprioritization of career status and long term goals, sometimes finding that women decrease their level of career achievement and lower their initial goals to accommodate family responsibilities (Fassinger, 1998; Fitzgerald & Weitzman, 1992).

Multiple role researchers have measured the level of egalitarianism in highly achieving women's marriages, and have compared women's perceptions about their

relationships to the actual distribution of marital and family workload. Much of this research finds that career women tend to take on the majority of housework and childcare, even when their work hours outside the home are comparable to the hours worked by their husbands (Rogers & Amato, 2000; Yogeve, 1981). Researchers have found that the addition of spousal and parental roles appears to apply more pressure (both self-imposed and via the expectations of others) on women than on men to reprioritize and reorder the family, relational, and career elements of their lives. Even as men have increased their willingness to help out at home, research suggests that it is just that – help; while women are expected to be the primary caregivers and housekeepers, men are praised considerably more for participating considerably less in the same household activities (Fassinger, 1998; Yogeve, 1981).

These findings help to explain how the shift from being a single working woman to a working wife and mother can lead to difficult transitions and diminishing levels of achievement for women holding particularly ambitious career goals. However, other researchers and theorists have noted that some women holding multiple roles experience quite different outcomes, and that maintaining ambitious careers along with rich personal and family lives not only can be done, but is preferable for some.

Leading Theories

Recently, Barnett and Hyde (2001) postulated that women actually can thrive psychologically while holding multiple roles that include highly achieving careers and active family lives. The authors' "expansionist theory" for women, men, work, and family is based on the principles that (1) multiple roles are beneficial for both women and men, and that (2) "psychological gender differences are not, in general, large or

immutable.” Specifically, the authors propose that adding the role of worker or professional is beneficial for women, and that adding participation in family roles is beneficial for men. They cite Barnett and Baruch’s (1985) seminal study which showed that married women holding high-prestige jobs tended to report the greatest levels of mental health.

In fact, throughout the mid-1990s, as researchers identified and examined variables that contributed to career satisfaction for women professionals, they began exploring the factor of multiple roles in the context of well-being, rather than in the context of it being a barrier to life satisfaction or a stress producer (Auster, 2001; Burke, 1995; Lawson, 2000; Lewis & Borders, 1995; Zimman, 1996). Of particular relevance to the thrust of the present study, Peake and Harris (2001) theorized that actively planning for future multiple roles and examining gender role attitudes may lead to considerably more balance in the lives of career men and women. They cite Steffy and Jones’s (1988) finding that planful strategies are positively associated with higher levels of adjustment to and satisfaction with multiple roles later in life. Particularly for women (who tend to report strong commitment to both career and family), understanding, evaluating, and reconfiguring their existing gender role attitudes prior to making significant decisions about career and family roles may lead to greater satisfaction over time.

The combined career development and multiple role research suggest that many internal and external variables contribute to women’s ultimate attainment of successful careers and personal lives. Some researchers have chosen to explore how these variables develop before women are confronted with making decisions about the employment and other role responsibilities they will assume. These researchers have examined how

family-of-origin variables influence young women's beliefs about themselves, about appropriate roles for women, and about the careers to which they aspire. In an effort to understand how women's ideas about their responsibilities to self, spouse/partner, and family develop, researchers have studied how early gender role attitudes interact with cognitive variables about success and failure, and with family-of-origin variables such as parental separation and attachment, in affecting women's career achievement *prior* to the assumption of multiple roles.

Fassinger (1985; 1990) and O'Brien and Fassinger (1993) developed causal models of career orientation and career choice that used samples of high school and college women to explore the effects of ability, agency, gender role attitudes, family orientation, and attachment style. Their work found support for an inverse relationship "...between career orientation and [gender role] traditionality," noting that "...women who hold liberal attitudes towards women's roles in society also tend to be instrumental and efficacious with regard to math and careers." This suggests that girls' gender role attitudes are related to their beliefs about what they can achieve. Further, O'Brien and Fassinger's models provide evidence of complex interactions between multiple elements of personality, ability, and gender role attitude; specifically, this research found validation for the theory that "the presence of liberal, pro-feminist attitudes is positively related to [women's] career development" (p. 468). Their findings also suggest that girls' beliefs about themselves, about gender roles, and about their career aspirations, are influenced by relationships with parents, and are in an active state of formation during their adolescent years.

Fassinger's (1985; 1990) and O'Brien and Fassinger's (1993) research, which explored how family-of-origin and self variables influence career aspirations, provides an important foundation for the present study, which sought to understand how gender role attitudes and career aspirations transmit from families to daughters, and in turn, influence girls' career aspirations and planfulness in regard to multiple roles.

Chapter Two

Review of the Literature

The purpose of this study was to explore how daughters' perceptions of the gender role attitudes and career aspirations endorsed by their families-of-origin influence the vocational and relational beliefs and aspirations those daughters have for themselves. First, to provide a theoretical foundation for the present study, a summary of theoretical and empirical contributions important to high ability women's academic and career development is presented. Next, the theory and empirical work that has explored family-of-origin's influence on career aspirations and development as it relates to adolescents and young adults is reviewed. Finally, a review of the literature on the development, measurement, and transmission of gender role attitudes and of multiple roles is summarized.

High Ability Adolescent Women

High ability adolescent women face various personal, professional, and cultural challenges in identifying and actualizing their talents and intellectual abilities. Much empirical research on gifted and high ability girls has illuminated challenges they face that their non-gifted peers do not. Frey (1998) found that once adolescent girls are identified as being academically gifted, the typical problems of adolescence—conformity, concerns about peer acceptance, and low self-esteem—often become exacerbated. In her study of 7th- and 8th-grade gifted girls, Frey found that middle school girls seem most vulnerable to two competing demands, popularity versus academic achievement, and that they frequently will minimize or mask their intellectual talents to preserve their interpersonal relationships. Similarly, Kerr (1993) found that

although gifted girls have high career aspirations, they often do not attain their educational and career goals, noting that conflicting societal expectations of girls and women may lead to a loss of confidence in their own abilities and an abandoning or lessening of their aspirations. Interestingly, the author found that career assessments given early in girlhood, and then repeated again during adolescence, in the college years, and adulthood, may be effective in nurturing a fuller development of high ability women's talents, suggesting the benefit of continual reevaluation and refinement of girls' short term and long term goals.

In presenting their model of female talent development, Noble, Subotnik, and Arnold (1999) noted that despite the "explosion of scholarship about women and girls, insufficient research has focused on the development of female talent" (p. 144), particularly in the domains of science, education, athletics, the arts, and in regard to the psychological, social, and cultural factors that both enhance and inhibit the expression of their abilities. Noble et al. defined giftedness in context, noting that unusual or remarkable attainment "depend(s) upon the degree of women's initial economic and cultural marginalization" (p. 146). Because achievement and power structures traditionally have been defined by middle- and upper-class, male, White, urban, heterosexual, and Western traditions and assumptions, talented women with high aspirations face complex challenges in adopting characteristics that enhance their access to success. Factors that can constrain the most talented young women from fulfilling their potential can be found in the forms of testing bias that divert women from accelerated educational programs, geographical limitations, restrictive religious ideology, racism,

expectations about childbearing and childrearing responsibilities, sexism, economic expectations, political systems, and homophobia.

Noble et al. note that high ability women tend to rebel against narrowly prescribed gender roles and that, in defying stereotypes, they risk being labeled as “deviant.” In an earlier report, Noble (1994) cited women’s experiences of being labeled “too verbal,” “too sensitive,” “too intense,” and “too driven,” noting that this led young women to hide their abilities from themselves and others. To this risk of self-monitoring and self-devaluing, the authors added two more challenges specific to young women: their minority status in male-dominated achievement settings, and the pressures they face regarding the balancing of family and career roles. They note that increasing young women’s participation in the upper echelons of career status is a task that begins long before adulthood, when girls shape their aspirations and self-image as achievers. The authors called upon researchers and educators to alert young women to obstacles, enhance girls’ coping strategies, and “help women consider the trade-offs they can realistically anticipate” while “support[ing] their traditional and nontraditional role choices” (p. 148).

In Wilgosh’s (2001) discussion of the multiple roots of traditional gender roles that threaten gifted young women’s ability to fulfill their potential, she illuminated connections between relevant historical and societal influences, and the enduring political, economic, personal, and social structures and climates that continue to affect women negatively. The author describes the prevailing view of nineteenth century Americans that women’s smaller brains confirmed their inferiority and the belief that intellectual effort would be injurious to women’s health and corrupt their minds, then

links this to current issues in education and equity in the workplace. Wilgosh reported on empirical studies that showed high school counselors' recommendations to students tended to be toward traditionally gender-appropriate careers (Tomini & Page, 1992) and that girls received "wrong information" about the importance of education and employment in their lives from poorly informed counselors and educators (Masson & Hornby, 1986). The author notes that high ability girls in particular are at risk of believing they must deny their knowledge to protect their relationships, and recommends that schools respond to this risk by introducing initiatives geared toward 1) helping girls recognize outstanding women in society, 2) helping young women develop the skills of leadership and self-reliance, 3) valuing and supporting the achievements and aspirations of young women, and 4) raising both teacher and student awareness of gender inequities.

In an empirical investigation of gifted American and German adolescent women, Fiebig (2003) argued that research focused on women's career development should obtain a richer understanding of female career choices and desires, and not be limited to comparing women to men. Fiebig found that gifted early adolescent women tended to exhibit career development patterns more congruent with older adolescents, and that they are less similar to their non-gifted peers. Drawing on the work of Rainey and Borders (1997), Fiebig noted that gifted women also tend to explore career paths at a younger age than their non-gifted peers, and that they are aware they have multiple talents and can specialize in multiple careers; this indicates that high ability women might be served by earlier discussions about career options and development. The author suggests that parents, educators, and counselors need better education about the unique guidance needs of gifted women, noting specifically that parents should be made aware that higher levels

of agentic characteristics are predictive of higher career aspirations. Fieberg notes that encouraging parents to provide support for daughters while acknowledging their daughters' steps toward independence can help counteract peer and societal norms that pressure gifted women to mask their talents.

Theorists and researchers who study the unique issues facing high ability adolescent women seem to agree that educating students about the societal, political, historical, and individual forces that enforce the maintenance of traditional gender roles can be an effective method of bolstering girls' against the deleterious effects of those dynamics. Identifying the barriers and facilitators to the fulfillment of high ability girls' potential illuminates the essential role parents and families might play in creating home environments that serve as a frontline of support for girls' initial explorations of their own potential. The next section of this literature review builds upon this concept of family-as-frontline by exploring previous research and theory concerning families-of-origin and their influence on career development.

Family-of-Origin and Career Development

Whiston and Keller (2004) noted that, traditionally, *family-of-origin* has referred to one's "natural" or biological family, or to the family into which one is born or adopted. However, in their comprehensive review of family-of-origin influences on career development, they chose to use a broader definition that defined this construct as "the family in which one spent his or her formative years or the family in which one was raised" (p. 495) so as to be inclusive of stepparents, grandparents, foster parents, aunts, uncles, and others who play active roles in children's development. Whiston and Keller's review grouped research into a meaningful overview of familial influence using a

developmental approach, and categorized studies based on the age of the participant pools, resulting in four groupings: children, adolescents, college students/young adults, and older adults. Within the body of work focused on the interface between family-of-origin and career development of adolescents and college students/young adults (the populations most salient to the present study), Whiston and Keller reported on sixteen different career constructs of interest: aspirations, expectations, decisions, development, career interests, maturity, exploration, identity, interests, values, orientation, decision making, preliminary occupational choice, later occupational choice, career related abilities, and occupational selection. Of these categories, the constructs most related to the goals of the current study are career aspirations, career expectations, and career orientation; this section focuses on the literature related to these constructs.

Whiston and Keller (2004) define career aspirations as “what individuals want to pursue” while career expectations are defined as “what they anticipate accomplishing” (p. 529). While a number of studies indicate that family-of-origin variables affect both aspirations and expectations, they also suggest that the relationships among the variables are complex, indirect, and that they differ along gender lines. For example, in their study of Canadian adolescents between the ages of 15 and 18 years, Wall, Covell, and MacIntyre (1999) found that for both males and females, the path from family factors to career plans went from family support, to perception of opportunities, to educational expectations, to occupational expectations. However, for male adolescents, family support was the sole predictor of perceived opportunities, while for female adolescents, peer, family, and teacher supports were jointly predictive of perceived opportunities.

Marjoribanks (1987) also found gender differences, reporting that while parental aspirations affect female adolescents' educational aspirations, they do not affect their occupational aspirations. Meanwhile, parental aspirations affected occupational aspirations (not educational aspirations) for male adolescents, and only when those males were from working-class families. In a later study by Paa and McWhirter (2000), both high school girls and boys reported that their peers had less influence on their career expectations than their parents, with same-sex parents holding the most influence.

Whiston and Keller (2004) define career orientation as "the degree to which individuals plan to pursue career-related goals and/or family-related goals" (p. 531) (this later will be linked to the construct of multiple roles). Three studies have examined the relationship between family-of-origin variables and the career orientation of adolescent female populations. Fassinger's (1990) model of female career development postulated that a complex set of relationships between the variables agency, ability, and gender role attitudes influenced women's career orientation and choice. In a study that drew its sample from a private parochial school for girls, O'Brien and Fassinger (1993) expanded on this model by adding variables that explored daughters' relationships with their mothers, finding that a healthy attachment to the mother combined with movement toward individuation contributed to adolescent girls' career orientation. In a later study, O'Brien (1996) found that psychological separation and attachment from parents accounted for 14.33% of the variance in the career constructs of orientation, realism, and self-efficacy. Further, the author found that moderate realism in choice, career confidence, and commitment to career achievement are associated with similar maternal

attitudes, reliance on the mother, conflictual feelings toward the mother, and emotional independence from the father.

Using an occupational checklist measure, Rainey and Borders (1997) found that girls' agentic characteristics predicted orientation consistently better than maternal characteristics, but noted that the differential results might have been due to the differences in their checklist measure and O'Brien's (1996) combined construct measure of orientation, realism, and self-efficacy. In their review of this work, Whiston and Keller (2004) concluded "the career orientation of adolescent females is influenced by a complex interplay of their abilities, agentic characteristics, gender role attitudes, and relationship with their mothers" (p. 532). This statement was further supported by a later study in which O'Brien, Friedman, Tipton, and Linn (2000) conducted a longitudinal inquiry with the population of high school seniors previously used in O'Brien (1996), finding that girls' attachment to mothers during high school contributed to their career aspirations five years later through the variable of self-efficacy.

It is important to note that many of the above studies examining the relationships between family-of-origin factors, gender roles attitudes, and young women's career goals and orientations lacked significant ethnic, socioeconomic, racial, and religious diversity in their populations. Some studies researching women who have achieved professional success, however, have chosen to focus on particular demographic characteristics to explore the range of family-of-origin influences within groups. Pearson and Bieschke's (2001) qualitative study of 14 professionally successful, adult African American women was driven by previous scholarly work in African American career development which noted the propensity for African Americans to have more collaborative career decision-

making styles. This collaborative process is highlighted by the significance of parental influence on children's level of optimism about their career choice, self-efficacy, and outcome expectations. Semi-structured interviews based on Fassinger and Richie's (1994) study of career development addressed job history, family background, family functioning, values, socioeconomic status, and the intersection of family and career. The authors reported that the value reported by study participants as being most salient was the amount of emphasis placed on education by their families, noting that women learned directly from their family members about the value of education, and about how to pursue, enter, and maintain careers. Additionally, women in the study reported that generally, the gender roles in their family were either androgynous or flexible; interestingly, in families where roles were more rigid, participants actively rebelled against prescribed restrictions and that their rebellions moved them toward career success. (This suggests a curvilinear relationship between the gender role attitudes of parents and daughters, which will be addressed in the next section of the literature review.)

In a longitudinal study of Australian young adults, Marjoribanks (2001) explored ethnic group differences in the relationships between family background, individual characteristics, and young adults' eventual educational attainment. Marjoribanks' analysis found that family background, individual characteristics, and proximal learning settings combine to have large associations with adolescents' educational aspirations; these aspirations, in turn, have the largest relationship with eventual educational attainment. He also found that the relationships between these variables vary significantly according to ethnicity, using groupings salient for Australian populations (e.g. Anglo

Australian, Asian, Southern European), and noting that group differences became much smaller when high academic performance was combined with strong aspirations. This bolsters Pearson and Bieschke's (2001) findings that when families-of-origin communicate educational attainment as a family value, aspirations are more likely to be attained.

Hargrove, Creagh, and Burgess (2002) have argued that the extent to which family-of-origin variables interface with the career development process has yet to be analyzed thoroughly. As noted throughout this review, many researchers' findings have shown sex differences in family-of-origin's influence on career aspiration and development. Understanding the theories and empirical research related to how gender role attitudes are transmitted from families to their children will help to further explicate the ways in which particular family-of-origin variables may affect girls' career aspirations.

Gender Role Attitudes

Much of the research on parents' gender role beliefs has focused on the assessment and measurement of parents' differential treatment of male and female children. Tenenbaum and Leaper (2002) suggest that researchers should attempt to understand how parents' treatment of children actually transmits complex gender role self-concepts, stereotypes, and attitudes to their children. The authors describe parental beliefs as "potentially useful proxies of cultural members' internalization of the larger society's values, beliefs, and practices" (p. 12). They suggest that understanding associations and correlations between parents' and children's beliefs is a necessary

foundational step in understanding patterns of influence that lead to the development of gender role attitudes.

Some researchers have noted that gender role ideology can transmit from parents to children in clusters. Lottes (1991) found significant correlations between various gender role constructs including macho personality, non-feminist attitudes, lack of acceptance of homosexuality, adversarial sexual beliefs, and traditional attitudes toward female sexuality. Meanwhile, Buhrke (1988) noted that gender role ideology is unidimensional – that regarding household tasks, childcare responsibilities, intellectual role, and employment roles, participants tend to endorse either traditional or egalitarian attitudes.

In their meta-analysis of the correlations between parents' and children's attitudes, Tenenbaum and Leaper (2002) reported that parents' gender schemas tend to be related to their children's self-concepts, gender attitudes towards others, and work-related attitudes. As children observe their parents' behavior (and the consequences of behavior) and make inferences about their parents' beliefs, they also observe the day-to-day divisions of labor within their families, and are subject to parental admonitions and endorsements of their own sex-typed traditional and nontraditional behavior; each instance—whether an observed, external event, or an interpersonal, intrafamilial event—might communicate to children defined examples of acceptable and non-acceptable behavior. As the authors state, “Parents provide children with their first lessons on what it means to be a woman or a man,” and these lessons occur in contexts that can eventually evolve into the adult domains of work and home.

Relational Gender Role Attitudes

Social cognitive theorists (Bussey & Bandura, 1999) suggest that children develop gender role attitudes by observing salient role models in their lives and postulate that parenting is among the most gendered of adult activities. Sabattini and Leaper (2004) found that children living in less traditional, more egalitarian households—with parents who hold purposefully egalitarian gender role attitudes—tend to have significantly less stereotypical ideas about appropriate roles for men and women than children in traditional homes. Deutsch, Servis, and Payne (2001), in their study of families having egalitarian marital relationships and parenting styles, found that children exposed to adults in nontraditional roles endorsed a less gendered model of adulthood; when fathers shared in typically maternal responsibilities such as leaving work to pick up sick children, arranging play dates with other children, calling babysitters, or taking children to medical appointments, children were more likely to believe that men and women should have the same home responsibilities. A particularly interesting finding in Deutsch et al.'s study was that children's endorsement of egalitarian values was not significantly affected by the equality of hours that mothers and fathers worked outside the home, but rather, the degree to which parents shared responsibilities *within* the home. This suggests that children might differentiate work roles from home roles when observing adult models and developing their own gender ideologies.

In a study of entering college freshmen, Lottes and Kuriloff (1992) found high correlations between the construct of gender role ideology (as measured by attitudes toward female sexuality, male dominance, homosexuality, and feminism) and level of religious dogmatism, political orientation, tolerance of minority groups, level of

conventionality, and attitudes toward hedonism. This suggests that attitudes about gender roles in the realm of interpersonal relationships and personal behavior are influenced significantly by the socioeconomic class, religious belief systems, and racial/ethnic cultural configurations of families; it also supports the theory that gender role attitudes tend to be transmitted from parents to children in clusters of relational and interpersonal value systems.

While the evidence suggests that relational and vocational domains fall under one primary rubric of gender role ideology, it also suggests that parent's attitudes about interpersonal relationships (their "relational attitudes") may transmit to children differently than their attitudes about work and career (their "vocational attitudes"). The next section will explore how researchers have addressed the issue of the transmission of parents' gendered attitudes about educational and vocational roles to their children.

Educational and Vocational Gender Role Attitudes

Early communication about "appropriate" roles. In a study that examined the content of very young children's rooms, Pomerleau, Bolduc, Malcuit, and Cossette (1990) reported that girls' rooms tended to contain more dolls, fictional characters, and children's versions of adult furniture, while boys' rooms tended to contain more tools and child-sized vehicles. In an investigation of household work assignments for children, Basow (1992) found that boys tend to be assigned more maintenance chores like painting and mowing the lawn, while girls tend to have domestic chores like cooking and doing laundry (Basow, 1992). Carter (1987) reported that parents frequently provide gender-typed toys and reward gender-stereotyped play, while Ruble (1988) noted that even though mothers and fathers both contribute to gender-stereotyping, fathers tend to

reinforce gender stereotypes with their boys and girls more often than mothers do. Such assignment and reinforcing of gender-stereotyped play and household tasks leads children to link certain kinds of work with gender, and shapes their beliefs about the appropriateness of particular roles for men and women (Witt, 1997).

Leaper (2002) noted that one pervasive way that parents influence their children's gender development is through role modeling in regard to educational interests and achievement, while Barak (1981) postulated that parents with more egalitarian beliefs may communicate a wider availability of possible future options to children because they are less likely to hold gender-stereotyped views about occupations. In fact, Davies and Banks (1992) suggested that preschool children with mothers working outside the home develop the belief that everyone in the family gets to become a member of the outside world, and that they, too, have the ability to make choices that are not hindered by gender.

Parents' gender role beliefs and high ability girls. Although much research suggests that the under-representation of women in high paying, high status careers is related to continued gender-stereotyping, some authors argue that among populations of gifted girls, strict adherence to gender-stereotyped professions and aspirations may be diminishing. In an investigation of the relationship between gender-role stereotyping and career aspirations, Mendez and Crawford (2002) found important differences between gifted early adolescent boys and girls indicating that girls show more gender-role flexibility and tend to perceive a wider range of options open to them than do boys. They note that the top four career choices for gifted male and female adolescents tend to be identical (i.e., doctor, scientist, lawyer, and business owner); while this suggests that

male-dominated professions, behaviors, and interests continue to be socially valued, the authors argue that gifted girls who aspire toward these professions (and the higher earning potential and prestige that accompanies them) have enhanced belief in the accessibility of a broad spectrum of career options. Mendez and Crawford's findings also suggest that gifted girls tend to score significantly higher on measures of agency and instrumentality than girls in non-gifted populations—levels similar to those reported by gifted boys—while perceiving themselves as possessing high levels of “feminine” expressiveness characteristics as well. The authors note that while girls' may be served well by educators who nurture them in the realms of assertiveness, confidence, and mastery orientation, boys might be missing out on rewarding vocational opportunities because they have ruled them out based on their sex type. This coincides with Witt's (1997) argument that gifted students do best when parents communicate support for “androgynous” gender roles, when achievement and warmth are modeled by male and female parents, and when children are encouraged to fulfill their potential without being limited to sex-typed career options.

Research examining parent-and-child gender role ideology has made linkages between beliefs about appropriate roles for men and women, and boys and girls. Findings suggest that as parents interact with, and in front of, their children, behavior is modeled and attitudes develop. As a family's values are communicated to its children, gender role attitudes appear to be a primary content area of parental influence. Relational and vocational gender role attitudes appear to be subheadings within this construct that are communicated very early in children's development. The messages girls receive from parents about the roles adult women hold as workers, mothers, partners, wives, and

friends may influence their beliefs about the roles they someday will hold. As girls enter the final stages of adolescence, their developing beliefs and attitudes about women and men, generally, may become more salient to their own specific experiences and decisions, particularly in regard to how they will manage multiple roles.

Multiple Roles

In the years following a momentary spike in American women's involvement in the workplace during World War II, middle-class "mothers of the 1950s and their atypically large families were isolated from the world of work in which their husbands spent long hours..." as "...marriage and motherhood were the only acceptable and socially sanctioned roles for adult women" and a "...marriage-and-motherhood imperative was reinforced by severe social and religious sanctions against divorce" (p. 781; Barnett & Hyde, 2001). In the years since, however, the work and family roles of men and women have changed dramatically. As Barnett and Hyde (2001) detail, women are now represented disproportionately at every level of higher education, are entering graduate school schools at rates equal to or greater than men, tend to be part of dual-earner families, and, although still underrepresented, are participating in traditionally male sex-typed careers such as politics, professional sports, the military, policing, firefighting, and in top-level corporate positions. And although the gap between the amount of time men and women spend in childcare and household tasks still exists, it has decreased dramatically in the past twenty years (Bond et al., 1998).

Even in this rapidly changing environment, striking differences in gender role attitudes (and ideas about gender-appropriate behavior that limit some options and mandate others) persist. Thus, researchers interested in documenting the variety of

multiple role manifestations have approached this evolving construct as both a source of potential stressors for career women and a source of potential benefit. In a discussion of the construct of multiple roles as a potential barrier to 21st Century women's occupational achievement, Fassinger (1998) noted that "the presence of (heterosexual) marriage and children traditionally has been the most salient factor in women's career direction and success, and the impact of parenting on one's career trajectory continues to be experienced far more strongly by women than men (Betz & Fitzgerald, 1987; Fitzgerald and Weitzman, 1992)" (p. 27). Fassinger (1998) notes that, even with shifts in women's employment patterns that reflect increased workplace participation, "their level of involvement in housework and childcare has not changed relative to that of men, and women continue to shoulder most of the family burden" (p. 27). For working women with and without children, caring for aging family and community members is frequently an additional, but less visible, role responsibility.

When the multiple role construct has been assessed as a stressor, several key variables have been found to moderate strain and risk of mental illness: the structure of an individual's support network, the person's coping style, the centrality of each role to the self, and self-esteem (McBride, 1990). Additional research has indicated that gender role attitudes in relation to work- and home-life, as well as orientation toward nontraditionally sex-typed careers, play a significant role in later satisfaction with multiple roles; when women aspire to and work in nontraditional fields, they frequently are aware that current work structures and societal expectations likely will impede their attempts to fulfill their visions of simultaneous work and family involvement; this expectation of difficulty is best utilized when individuals become consciously playful

about multiple roles (Peake & Harris, 2002) (the latter will be discussed in greater detail in the following section).

Much of the research examining the deleterious effects of role multiplicity appears to be based on Goode's (1960) concept of role scarcity, which postulates that each person has a fixed amount of energy to spend. In their examination of the benefits of multiple roles for highly achieving managerial women, Ruderman, Ohlott, Panzer, and King (2002) describe this theory using "a metaphorical pie" to illustrate that the time and energy represented by one "slice" of activity depletes the amount of "pie" left over for other roles; commitment to one role is seen as necessarily detracting from the resources available to others. Alternatively, Ruderman et al. argue that multiple roles give some people more energy than they deplete, and that rather than seeing resources as occurring in one fixed amount that is available only to be divided into finite slices, they see evidence for an "expandable entity, in which time and energy are resources that can be shared, integrated, and expanded across domains...[where] participation in certain roles might generate resources for use in other roles." They do not dispute the existence of role stress and role conflict, or the psychological pain that might result from stress caused by multiple role overload, but emphasize that strong evidence suggests multiple roles can provide life enrichment, and argue that their effect on psychological well-being largely has been overlooked. They proffer that commitment to multiple roles enhances psychological resources and allows for expanded opportunities for positive self-experiences and validation—that the increase in self-worth received from engaging in multiple roles motivates individuals to initiate and respond to interpersonal tasks in other roles. Additionally, greater participation in multiple roles provides greater opportunities

for social support and increased opportunities for learning, which may increase coping abilities.

Like Ruderman et al. (2002), Barnett and Hyde's (2001) "expansionist theory" for women, men, work, and family suggests that women can thrive psychologically while holding multiple roles that include highly achieving careers and active family lives. The authors base their theory on four guiding principles: (1) multiple roles are beneficial for both women and men as reflected in mental health, physical health, and relationship health; (2) that multiple processes contribute to the beneficial effects of multiple roles, and these include increased income, added social support, more opportunities to experience success, expanded frames of reference, increased self-complexity, and more shared experiences; (3) there are certain conditions under which multiple roles are beneficial, with upper limits beyond which overload and distress may occur; and (4) "psychological gender differences are not, in general, large or immutable" (p. 783). The authors propose that adding the worker role is beneficial for women and that adding participation in family roles is beneficial for men. They suggest that "the extent to which one holds traditional or nontraditional attitudes about the proper social roles of women and men moderates the relationship between multiple roles and a host of outcome variables," and they hypothesize that "those with liberal gender-role ideologies benefit more from combining work and family roles than do those with traditional gender-role ideologies" (p. 786).

Planning for Multiple Roles

As researchers have expanded the investigation of multiple roles from examining disadvantages to including an exploration of possible benefits, the importance of careful

planning and early consideration has been emphasized; much of this research draws on college student populations. Barnett, Gareis, James, and Steele (2003) have argued that while most literature on college students' future plans focuses on their choices about major and careers, considerations of future work conditions ultimately affect marital and family functioning. They found that college seniors whose mothers worked during their childhood years expressed less concerns about future role conflict than did seniors whose mothers did not work or worked very little, suggesting that parents' attitudes about work and gender roles influence their children's attitudes about how they ultimately will manage multiple roles.

Peake and Harris (2002) noted that "planful strategies" like carefully timing the development of young families and arranging in advance for childcare assistance are positively associated with adjustment and satisfaction, and cite Weitzman's (1994) theory that planning ahead may be an effective strategy for minimizing the negative aspects of multiple role stress and conflict. Weitzman's (1994) theoretical framework grew out of the findings that most young women desire a multiple role lifestyle, but exhibit significant confusion about how to integrate various roles; this uncertainty is related frequently to a marked increase in hesitancy to make concrete decisions about future life roles. Weitzman's theory conceptualizes its central construct as "attitudes toward multiple role planning" and defines it as one's general orientation toward planning for combining career and family roles.

In a study of heterosexual college student couples that used Weitzman's theory as a foundation, Peake and Harris (2002) found that attitudes toward multiple role planning mediated the association between marriage plans and planning activity for work-family

balance, such that a planful orientation was related to more effective planning behavior. Interestingly, the authors found differential results between couples depending on the traditionality of the female member's career plans, such that attitudes toward multiple role planning did not play a mediating role when the female partners were planning for nontraditional careers. They noted, "It seems plausible that couples contemplating a nontraditional demanding career for the female partners may recognize the need to engage in a pragmatic approach to discussing and seriously considering plans for work and family balance without necessarily feeling ideologically oriented toward the process of multiple role planning" (p. 418). This indicates that while these couples are aware of the challenges inherent in planning for women's nontraditional careers, they are not necessarily prepared to commit to the process of identifying and negotiating about intended plans; this supports Weitzman's theory that attitudes toward multiple role planning might occur in several domains (such as commitment to future role planning and independence in decision-making about future roles).

As this literature review section has detailed, prior research has shown that identifying the barriers and facilitators to the fulfillment of high ability girls' potential must include an examination of how their gender role attitudes influence their beliefs about future plans. Fassinger (1998) notes that "it is not merely the combining of multiple roles that creates stress and compromises women's well-being, but rather the lack of concrete support in both the family and the workplace that forces women to seek individual solutions for what are pervasive environmental impediments to success in managing those roles" (p. 28). As Weitzman's (1994) research suggests, an important component of understanding young women's gender role attitudes is assessing the level

of women's planfulness prior to their assumption of multiple roles; if girls are prepared for and considering future multiple roles prior to assuming them, their ability to identify their needs and those needs met in their partner relationships might increase.

Summary

This literature review has identified high ability girls' parents and families as playing an essential role in the development of their vocational and relational potential. As noted throughout this review, many researchers' findings have shown the significant influence of family-of-origin variables on girls' career aspiration and development, and on their preparedness for, and ability to manage, multiple roles.

As a family's values are communicated to its children, gender role attitudes appear to influence what girls believe about the roles adult women hold, and about the roles they someday will hold as adult women. Prior research has shown that identifying the barriers and facilitators to the fulfillment of high ability girls' potential must include an examination of how their gender role attitudes influence their beliefs about future plans. Important links have been made between the success of high ability students and egalitarian parental support for "androgynous" gender roles that encourages children to fulfill their potential without being limited to sex-typed career and relational options.

Because earlier research has suggested that family-of-origin characteristics influence girls' beliefs about the appropriateness of their choices and behavior in professional and interpersonal roles, it is vital to illuminate associations between self and family predictor variables and girls' beliefs about their futures. The present study explored the influence of family-of-origin on high ability daughters with the goal of

increasing understanding of how families affect girls' aspirations and attitudes regarding future multiple roles.

Statement of the Problem

The overall body of research on women workers is rich and voluminous, with multiple qualitative and quantitative studies that explore a wide array of professional stations and roles. Some researchers have chosen to focus on highly achieving women, exploring the variables influencing career choice and motivation, detailing the array of family and professional responsibilities that women in this population face, and identifying significant barriers and facilitators to their long term success and continued striving for excellence.

Women's career development researchers have focused extensively on the powerful influence of the assumption of multiple roles such as "wife," "partner," and "mother" which frequently occurs during and after the transition to adulthood. Much of the existing research on highly achieving women has focused on an adult population already involved in committed marital and family relationships. This research has shown that complex adult relationships add challenging new roles to the moniker "high achiever," and might increase the pressure on women to alter their initial ideas and goals about appropriate or available career paths. Alternatively, research has shown that women holding multiple roles can excel in the realms of both work and home, particularly when they carefully consider their future lives before being faced with choices that seemingly pit their career trajectories against their home lives.

While this multiple role research has provided a great deal of information about a broad range of highly achieving women's current lives and attitudes, questions remain

about how and when women's attitudes about appropriate work and home-life roles begin to take root, how these attitudes might change over time, and what their long term influence on life planning might be. Questions also remain about the nature of the career aspirations held by high ability, highly achieving young women in place *before* they begin assuming the multiple roles and responsibilities of adulthood. Additionally, few studies examining gender role attitudes have differentiated between (1) attitudes about interpersonal relationships and (2) attitudes about educational and career roles, or have explored how these attitudes might influence high ability girls who are on their way to becoming highly achieving career women.

The rationale for the present study was that young women begin to develop their attitudes and beliefs about gender roles, as well as their desires for future intimate relationships, families, and careers, well before they start building committed adult partner relationships or begin having children. It has been well established that the beliefs women hold about "appropriate" gender roles in both the workplace and in intimate relationships can be contradictory, and evidence suggests that when contradictory vocational and relational gender role attitudes exist, one attitude is likely to emerge as dominant once women are faced with making decisions about how to prioritize multiple roles.

The gender role attitudes that families transmit to their daughters might be so powerful and pervasive that they influence the early decision-making of women well before these women are faced with the actual pressures of multiple roles and decisions that pit family concerns against career priorities. The transmission of certain gender role attitudes from parents to daughters might prevent girls with high levels of intellectual

ability from aspiring to high levels of achievement; conversely, the transmission of particularly egalitarian gender role attitudes from parents to daughters might encourage some girls to achieve highly regardless of ability levels. This is to say that the relationship between young women's gender role attitudes and their level of career aspiration might be moderated by the liberality or traditionality of their parents' gender role attitudes and expectations. From early messages conveyed by families-of-origin during childhood and throughout adolescence, to formative educational and peer experiences that shape beliefs about one's potential and opportunities, to the first forays into the workplace where aspirations and plans are encouraged or discouraged, the beliefs that young women hold about what they can achieve might be received from their parents and become well-entrenched self variables by the time their professional identities begin to unfold during early adulthood.

Few studies have examined how young women's families-of-origin influence their developing attitudes about both vocational and relational gender roles, and how this then affects their longer term career aspirations and planning for future multiple roles. The present study sought to assess the influence of young women's families-of-origin on the attitudes and beliefs they hold about themselves, their roles, the roles men should play, and their own career and multiple role aspirations. It examined the relationships between family-of-origin attitudes and daughters' career aspirations, and the relationships between daughters' beliefs about appropriate gender roles and their career and relational aspirations.

Research Questions and Hypotheses

The present study examined the relationships between family-of-origin gender role attitudes and career aspirations for daughters, daughters' beliefs about gender roles in the vocational and relational realms, and explored how these manifested in their personal career and relational aspirations.

It is important to note that previous research examining the constructs the present study sought to explore—high ability adolescent girls, family-of-origin influence on career aspirations, the transmission of gender role attitudes from parents to daughters, and pre-college girls' commitment to and consideration of multiple roles—has been limited primarily to Caucasian women in middle- and upper-middle class populations. Additionally, much of the gender role attitude and multiple role empirical research has compared male and female students, has been limited to college populations, or has focused on adult women already holding multiple role commitments. The present study intended to build upon the existing literature by using a high school population that included higher numbers of participants from racial and ethnic minority backgrounds, that contained a greater variety of religious affiliations, and that consisted entirely of adolescent women who have been identified as having high intellectual ability.

Defining family-of-origin. In the relevant literature, the family-of-origin construct has been broadly defined to be inclusive of multiple family member demographics and variables. This requires researchers to explicitly define how family-of-origin variables will be operationalized in each study. The demographic questionnaire used in the present study collected information on variables relating to girls' families as whole units and on variables related to their individual members; however, the assessment of girls'

perceptions of familial sources of influence in regard to career aspirations and gender roles necessitated explicit operational definition of the construct. To address the issue and provide participants with a focal point for measures related to familial attitudes about career aspirations and gender roles, the present study operationalized family-of-origin by asking girls to name the one adult in their family of origin who has been most influential to them over the majority of their lifetimes. Participants were asked to complete measures assessing attitudes about career aspirations and gender roles as they believe this most influential adult would have answered. In the hypotheses and research questions below, when the term “parent” is used, the data refers to daughters’ reports of their perceptions of their one most influential parental figure’s beliefs and attitudes. When the term “family-of-origin” is used, the data came from both the one-parent measure and the demographic questionnaire, which included information about multiple family members and family variables.

Hypotheses and Research Questions

Hypothesis 1: Girls’ perceptions of parents’ gender role attitudes (overall, vocational, and relational) will demonstrate a positive relationship to daughters’ gender role attitudes, such that the more egalitarian the parent’s attitudes, the more egalitarian the daughter’s attitudes.

Research Question 1: Are there significant differences in the strength of the relationships between parents’ (as perceived by daughters) and daughters’ vocational gender role attitudes and their relational gender role attitudes?

Hypothesis 2: Girls' perceptions of parents' career aspirations for daughters will demonstrate a positive relationship to daughters' career aspirations for themselves, such that the higher the parents' perceived aspirations, the higher the daughters' aspirations.

Hypothesis 3: Gender role attitudes (overall, vocational, and relational) of girls and of parents (as perceived by girls) will demonstrate a positive relationship to the level of career aspirations of both girls and parents (as perceived by girls), such that more egalitarian attitudes are related to higher levels of career aspiration.

Research Question 2: How do girls fall into clusters and how do these groups differ according to family-of-origin and daughter variables?

Chapter Three

Method

Design

A non-experimental, correlational field survey using quantitative methods was used to investigate the questions of interest.

Participants

Participants consisted of 161 junior and senior students from the Philadelphia High School for Girls (GHS), the largest and second-oldest single-sex public school in the United States (NASSPE, 2004). The School District of Philadelphia requires all researchers interested in using its students as a participant pool to submit a proposal to its Office of Research and Evaluation, which is part of the Office of Accountability, Assessment, and Intervention. This proposal was submitted in February 2005, conditionally approved on May 31, 2005, and accepted in June 2005. (The proposal guidelines and requirements outlined by the School District are found in Appendix A. The conditional approval letter can be found in Appendix B.)

The rationale for selecting GHS students for this study was founded in the school's tradition of academic excellence. Students must score above 85% on a nationally standardized exam—a test taken by all Philadelphia School District students wishing to participate in the city's "magnet school" program—during their 8th grade year to gain admittance to the school. Once students have provided evidence of their high ability status by passing the comparatively rigorous entry exam, they are given the opportunity to attend one of 12 schools in the city having a special emphasis on career

development and college preparation. According to GHS statistics, over 97% of its students go on to college and 85% apply for and receive scholarships.

GHS draws students from urban and suburban areas of Philadelphia and includes a diverse population of racial, ethnic, socioeconomic, and religious groups that are representative of the city. While it was likely that the GHS sample would not be representative of “average” American high schools, it was chosen because it was likely to yield a wealth of information about the population of interest in the present study—high ability, high achieving, high-aspiring women. Additionally, its population includes considerable racial diversity and was likely to provide valuable information about traditionally understudied minority groups.

Response Rate

Of the approximately 600 surveys and informed consent forms that were distributed to homeroom classrooms and after two 35-minute periods of survey administration, 317 surveys were returned—a 52.8% response rate. However, 156 surveys were not fully completed, and after a thorough inspection of each survey, these incomplete surveys were determined to be unusable by the researcher. The rationale for determining whether surveys were usable for analysis was predicated on the research questions and hypotheses of the study; having enough data in each survey to compare each participant’s beliefs to her perceptions about her most influential parent’s beliefs was essential, so all surveys lacking answers about parental gender role attitudes (the final section of the survey) were not used. The 161 completed surveys included in the final analyses represent a 26.8% response rate. Further demographic characteristics of both survey completers and non-completers are explored in greater detail in Tables 1 and

2 in subsequent sections of this document. Table 1 contains demographic information about participants who completed the entire survey.

Table 1

Demographic Characteristics of “Completer” Participants

Characteristics	Number	Percent
Race/Ethnicity		
African American-Black	85	52.8
Asian-American / Pacific Islander	28	17.4
Asian-Indian	5	3.1
Biracial / multiracial	7	4.3
Hispanic / Latina	7	4.3
Middle Eastern / Arab	3	1.9
Native American / Native Alaskan	2	1.2
White / European American	21	13.0
Foreign National	1	0.6
Not Reported	2	1.2
High School Grade/Year		
Junior	52	32.3
Senior	109	67.7
High School GPA		
2.1-2.5	14	8.7
2.6-3.0	50	31.1
3.1-3.5	62	38.5
3.6-4.0	34	21.1
Not reported	1	0.6
P-SAT Score		
Did not take P-SAT	32	19.9
700-790	2	1.2
800-890	21	13.0
900-990	31	19.3
1000-1090	35	21.7
1100-1190	23	14.3
1200-1290	11	6.8
1300-1390	5	3.1
1400-1490	1	0.6

SAT Score		
Did not take SAT	71	44.1
700-790	0	0
800-890	8	5.0
900-990	16	9.9
1000-1090	20	12.4
1100-1190	21	13.0
1200-1290	10	6.2
1300-1390	9	5.6
1400-1490	5	3.1
Not reported	1	0.6
Number of Advanced Placement Classes Taken		
0	73	45.3
1	51	31.7
2	23	14.3
3	9	5.6
4	5	3.1
Parents' Marital Status		
Married	80	49.7
Separated	19	11.8
Divorced	27	16.8
Never Married	34	21.1
Highest Grade Completed by Mother		
8 th grade or less	12	7.5
High school	68	42.2
Some college	36	22.4
College/bachelor's degree	20	12.4
Graduate school – master's level	17	10.6
Graduate school – doctoral level	1	0.6
Not reported	7	4.3
Highest Grade Completed by Father		
8 th grade or less	13	8.1
High school	70	43.5
Some college	30	18.6
College/bachelor's degree	26	16.1
Graduate school – master's level	11	6.8
Graduate school – doctoral level	2	1.2

Not reported	9	5.6
Generation since family immigrated to US		
1 st (born outside US)	10	6.2
1.5 (born outside US; more than 10 yrs in US)	13	8.1
2 nd (born in US; parent born outside US)	34	21.1
3 rd (born in US; all grandparents born outside)	5	3.1
4 th (born in US; some grandparents born in US)	13	8.1
5 th (self, parents, grandparents born in US)	82	50.9
Not reported	4	2.5
Educational Aspirations		
High school diploma	0	0
Non-degree advanced training	0	0
2-year college/associate's degree	4	2.5
4-year college/bachelor's degree	54	33.5
Graduate school – master's degree	61	37.9
Graduate school – doctoral degree	41	25.5
Not reported	1	0.6

As can be seen in Table 1, the ages of the participants who completed the entire survey ranged from 15 to 18 years, and included 52 juniors and 109 seniors. This diverse sample consisted of 52.8% African American/Black , 17.4% Asian-American/Pacific Islander , 13.0% White/European American, 4.3% Hispanic/Latina, 4.3% Biracial/Multiracial, 3.1% Asian-Indian, 1.9% Middle Eastern/Arab, 1.2% Native American, and 0.6% Foreign National students; 1.2% did not report their race/ethnicity. This sample had generally high GPAs. On a 4-point scale (4 = A, 3 = B, 2 = C, 1 = D, and 0 = F), 8.7% had GPAs in the 2.1 to 2.5 range, 31.1% in the 2.6 to 3.0 range, 38.5% in the 3.1 to 3.5 range, and 21.1% in the 3.6 to 4.0 range. One student (0.6%) did not report her GPA.

Roughly 80% of the GHS juniors and seniors had taken the P-SAT. Of the sample, 1.2% scored in the 700-790 range, 13.0% in the 800-890 range, 19.3% in the

900-990 range, 21.7% in the 1000-1090 range, 14.3% in the 1100-1190 range, 6.8% in the 1200-1290 range, 3.1% in the 1300-1390 range, and 0.6% in the 1400-1490 range.

Likely due to the earliness of the school year, a larger portion of students (44.1%) had not yet taken the SAT. Five-percent of the total sample scored in the 800-890 range, 9.9% scored in the 900-990 range, 12.4% scored in the 1000-1090 range, 13.0% scored in the 1100-1190 range, 6.2% scored in the 1200-1290 range, 5.6% in the 1300-1390 range, 3.1% in the 1400-1490 range, and 0.6% did not answer the SAT score question.

Advanced Placement (AP) classes are offered during the junior and senior years and include a variety of subjects: Government and Politics, American History, European History, Psychology, Calculus, Physics, Chemistry, Human Geography, English, a number of Foreign Languages, and Environmental Science. More than half of this sample took at least one AP class; 31.7% reported taking one AP class, 14.3% took two, 5.6% took three, and 3.1% took four AP classes.

In this sample, 49.7% of girls' parents were married, 11.8% were separated, 16.8% were divorced, and 21.1% of girls had parents who never married. Because parents' level of education has been linked with girls' educational and career aspirations by other researchers, information was collected about mothers' and fathers' education levels. Of the participants' mothers, 7.5% completed 8th grade or less, 42.2% completed high school, 22.4% completed some college, 12.4% completed bachelor's degrees, 10.6% completed master's degrees, 0.6% completed doctoral degrees, and 4.3% of girls did not report on their mothers' level of education. Of the participants' fathers, 8.1% completed 8th grade or less, 43.5% completed high school, 18.6% completed some college, 16.1%

completed bachelor's degrees, 6.8% completed master's degrees, 1.2% completed doctoral degrees, and 5.6% of girls did not report on their fathers' level of education.

An additional family variable asked students to report on their immigration and generational status. Of the sample, 6.2% described themselves as being 1st generation (when the student and her parents were born outside of the United States), 8.1% described themselves as being 1.5 generation (where the girl and her parents were born outside the U.S., but where the girl had lived in the U.S. for at least 10 years), 21.1% described themselves as being 2nd generation (where the girl was born in the U.S. but her parents were born outside of the U.S.), 3.1% described themselves as being 3rd generation (where the girl and her parents were born in the U.S. and all her grandparents were born outside the U.S.), 8.1% described themselves as being 4th generation (where the girl, both her parents, and some of her grandparents were born inside the U.S. and some grandparents were born outside the U.S.), 50.9% described themselves as 5th generation (where girl, her parents, and all her grandparents were born in the U.S.), and 2.5% did not report their generational status.

Finally, the demographic questionnaire asked girls to report their long term educational aspirations. Of the sample, an overwhelming majority (63.4%) reported aspiring to attend graduate school. No students reported planning to stop their education upon graduating from high school, while 2.5% reported aspiring to complete a 2-year college/associate's degree, 33.5% reported aspiring to complete a 4-year college/bachelor's degree, 37.9% reported aspiring to complete a master's degree, 25.5% reported aspiring to complete a doctoral degree, and 0.6% did not report their educational aspirations.

Unused sample. To explore for differences between those participants who submitted completed surveys and those who submitted incomplete surveys, a brief analysis of the demographic section of the 156 “non-completers” was performed. Some important characteristics of this group are presented in Table 2.

Table 2

Demographic Characteristics of “Non-Completers”

Characteristics	Number	Percent
Race/Ethnicity		
African American-Black	83	55.3
Asian-American / Pacific Islander	15	10.0
Asian-Indian	4	2.7
Biracial / multiracial	10	6.7
Hispanic / Latina	5	3.3
Middle Eastern / Arab	0	0
Native American / Native Alaskan	0	0
White / European American	15	10.0
Foreign National	1	0.7
Not Reported	14	9.3
High School Grade/Year		
Junior	110	73.3
Senior	37	24.7
High School GPA		
1.6-2.0	4	2.7
2.1-2.5	13	8.7
2.6-3.0	34	22.7
3.1-3.5	56	37.3
3.6-4.0	38	25.3
Not reported	5	3.3
P-SAT Score		
Did not take P-SAT	25	16.7
700-790	3	2.0
800-890	16	10.7
900-990	22	14.7
1000-1090	15	10.0

1100-1190	14	9.3
1200-1290	12	8.0
1300-1390	13	8.7
1400-1490	6	4.0
<hr/>		
SAT Score		
Did not take SAT	97	64.7
700-790	1	0.7
800-890	1	0.7
900-990	6	4.0
1000-1090	1	0.7
1100-1190	7	4.7
1200-1290	7	4.7
1300-1390	9	6.0
1400-1490	1	0.7
Not reported	19	12.7
<hr/>		
Number of Advanced Placement Classes Taken		
No AP classes taken	104	69.3
One or more AP classes taken	46	30.7
<hr/>		
Parents' Marital Status		
Married	64	42.7
Separated	8	5.3
Divorced	22	14.7
Never Married	51	34.9
<hr/>		
Highest Grade Completed by Mother		
8 th grade or less	9	6.0
High school	54	36.0
Some college	35	23.3
College/bachelor's degree	25	16.7
Graduate school – master's level	8	5.3
Graduate school – doctoral level	1	0.7
Not reported	18	12.0
<hr/>		
Highest Grade Completed by Father		
8 th grade or less	9	6.0
High school	67	44.7
Some college	29	19.3
College/bachelor's degree	18	12.0
Graduate school – master's level	5	3.3
<hr/>		

Graduate school – doctoral level	2	1.3
Not reported	20	13.3
Generation since family immigrated to US		
1 st (born outside US)	8	5.3
1.5 (born outside US; more than 10 yrs in US)	5	3.3
2 nd (born in US; parent born outside US)	27	18.0
3 rd (born in US; all grandparents born outside)	4	2.7
4 th (born in US; some grandparents born in US)	11	7.3
5 th (self, parents, grandparents born in US)	85	56.7
Not reported	10	6.7
Educational Aspirations		
High school diploma	0	0
Non-degree advanced training	0	0
2-year college/associate's degree	4	2.7
4-year college/bachelor's degree	56	38.7
Graduate school – master's degree	41	27.3
Graduate school – doctoral degree	39	26.0
Not reported	8	5.3

As can be seen in Table 2, the non-completer group included 110 juniors and 37 seniors. This sample consisted of 55.3% African American/Black, 10.0% Asian-American/Pacific Islander, 10.0% White/European American, 3.3% Hispanic/Latina, 6.7% Biracial/Multiracial, 2.7% Asian-Indian, 0.7% Foreign National, and no Middle Eastern/Arab or Native American students; 9.3% did not report their race/ethnicity. This sample, like the completers, had generally high GPAs, although their scores fell over a larger range. On a 4-point scale (4 = A, 3 = B, 2 = C, 1 = D, and 0 = F), 2.7% had GPAs in the 1.6 to 2.0 range, 8.7% had GPAs in the 2.1 to 2.5 range, 22.7% in the 2.6 to 3.0 range, 37.3% in the 3.1 to 3.5 range, and 25.3% in the 3.6 to 4.0 range. Five students (3.3%) did not report their GPAs.

Roughly 67% of the GHS juniors and seniors in the non-completer sample had taken the P-SAT. Of the sample, 2.0% scored in the 700-790 range, 10.7% in the 800-890 range, 14.7% in the 900-990 range, 10.0% in the 1000-1090 range, 9.3% in the 1100-1190 range, 8.0% in the 1200-1290 range, 8.7% in the 1300-1390 range, and 4.0% in the 1400-1490 range. While 16.7% reported that they had not yet taken the SAT, about 16% of the non-completer sample did not answer this question. Regarding the SAT, 86.9% responded. Probably due to the propensity of juniors in this sample of non-completers, the majority of this group (64.7%) reported not having yet taken the SAT. Of the sample, 0.7% scored in the 700-790 range, 0.7% scored in the 800-890 range, 4.0% scored in the 900-990 range, 0.7% scored in the 1000-1090 range, 4.7% scored in the 1100-1190 range, 4.7% scored in the 1200-1290 range, 6.0% in the 1300-1390 range, and 0.7% in the 1400-1490 range; 12.7% did not answer the SAT score question. The majority of participants in this sample (69.3%) did not report any AP classes. While this may be attributable to the higher percentage of juniors in the non-completer group, it is also likely that this question marked the point at which some students ran out of time or began to skip questions.

Of the 145 non-completer participants who answered the question about parents' marital status, 42.7% of girls' parents were married, 5.3% were separated, 14.7% were divorced, and, in striking contrast to the completer group (where 21.1% of parents had never married), 34.9% of girls had parents who never married. Of the participants' mothers, 6.0% completed 8th grade or less, 36.0% completed high school, 23.3% completed some college, 16.7% completed bachelor's degrees, 5.3% completed master's degrees, 0.7% completed doctoral degrees, and 12.0% of girls did not report on their

mothers' level of education. Of the participants' fathers, 6.0% completed 8th grade or less, 44.7% completed high school, 19.3% completed some college, 12.0% completed bachelor's degrees, 3.3% completed master's degrees, 1.3% completed doctoral degrees, and 13.3% of girls did not report on their fathers' level of education.

Regarding immigration and generational status, of the non-completer sample, 5.3% described themselves as being 1st generation (when the student and her parents were born outside of the United States), 3.3% described themselves as being 1.5 generation (where the girl and her parents were born outside the U.S., but where the girl had lived in the U.S. for at least 10 years), 18.0% described themselves as being 2nd generation (where the girl was born in the U.S. but her parents were born outside of the U.S.), 2.7% described themselves as being 3rd generation (where the girl and her parents were born in the U.S. and all her grandparents were born outside the U.S.), 7.3% described themselves as being 4th generation (where the girl, both her parents, and some of her grandparents were born inside the U.S. and some grandparents were born outside the U.S.), 56.7% described themselves as 5th generation (where girl, her parents, and all her grandparents were born in the U.S.), and 6.7% did not report their generational status.

Regarding long term educational aspirations, the non-completer sample appeared to have slightly less ambitious goals than completers. While 63.4% of completers reported aspiring to attend graduate school, 53.3% of the non-completer group (still, a majority of the sample) anticipated attending masters or doctoral programs. As with the completers, no students in the non-completer group reported planning to stop their education upon graduating from high school, with 2.7% aspiring to complete a 2-year college/associate's degree, 38.7% aspiring to complete a 4-year college/bachelor's

degree, 27.3% aspiring to complete a master's degree, 26.0% aspiring to complete a doctoral degree, and 5.3% not reporting on their educational aspirations.

As Table 2 shows, the sample of non-completers contains more juniors and fewer seniors than the completer group and is, subsequently, slightly younger than completers. The non-completer sample has a greater range of GPA scores, fewer Asian participants and more foreign nationals, and has a slightly lower educational aspiration mean.

Paired-samples t-tests were performed to test for significant differences between the groups of completers and non-completers on all variables shown in the tables; despite differences in the ranges of scores, no significant differences existed between the groups' means, so it was determined that the completer group's scores would be adequately representative of the desired population. Thus, all analyses in the results that follow used data from participants who submitted complete surveys (n=161).

Procedures

During the fall of 2005, approximately 600 junior and senior level high school students were given the opportunity to participate in the survey during two days of survey administration in their 35-minute long first period homeroom classes. While the research questions and guiding hypotheses of the study were not discussed with participants or teachers prior to survey administration, the researcher was introduced as an alumna of GHS and given several minutes at an assembly one day prior to the first day of administration to announce the survey and to briefly describe its focus on high ability young women's ideas about their futures. At this assembly, it was also announced that in exchange for their voluntary participation, students' names would be entered into a lottery which would make them eligible for cash prizes.

Upon the start of the homeroom periods, teachers in each of 19 classrooms read a statement about participation and instructions for completing the survey (see Appendix C), then distributed informed consent/assent statements (see Appendix D) and the attached surveys (see Appendix E). It was determined by the University of Maryland's Institutional Review Board that an informed consent/assent statement, rather than a traditional informed consent form, should be used to account for both the mixture of minors and adults who would be taking the survey, and to meet the School District of Philadelphia's requirement that students not be required to sign any forms or provide their names. The informed consent/assent statement provided participants with the details of the survey—its voluntary and anonymous nature in particular—and gave the student researcher's name and contact information to which participants could refer if they had any questions or concerns following participation. Also provided was contact information for the student researcher's faculty advisor and the University of Maryland Institutional Review Board.

Once survey packets were distributed, students were given the duration of the class period to complete the forms. Most students were unable to complete the survey in one homeroom period so teachers collected the surveys and redistributed them to girls on the second day of survey administration. Upon completion, participants submitted their surveys to teachers and were given a numbered lottery ticket. After all surveys were collected, five participants entered in this lottery were awarded \$50 each in the form of money orders.

Measures

The measures administered to participants included seven sections: (1) a demographic questionnaire; (2) student's perception of herself as an achiever; (3) student's career aspirations; (4) student's gender role attitudes; (5) student's attitudes toward multiple role planning; (6) student's perceptions about parental aspirations for daughter's career; and (7) student's perception of parental gender role attitudes.

The School District of Philadelphia required that previously validated measures be shortened significantly to reduce class time used for survey administration. Although the conditional approval letter from the District did not outline specific parameters for shortening the measures, via telephone conversations the Chair of the Research Review Committee (Dr. Jeanine Molock) communicated the expectation that the survey would include no more than five items per construct from previously validated, published measures.

To comply with the School District's requirement, a focus group consisting of 8 college-bound women was assembled during the summer of 2005 to determine the items most representative of and salient to their concerns in the previously validated measures which were used to assess career aspirations, gender role attitudes, and attitudes toward multiple role planning. The focus group also worked to identify and remove any items that were deemed "outdated" or not representative of their language usage. The votes of this focus group were used to shorten the measures to retain five items per construct.

This focus group method was used to ensure that items were retained based on their ability to maintain content validity. The goal was to retain the strongest items—those that best assessed constructs for which multiple items had been used in the original,

unaltered versions. However, shortening the measures and being forced to choose fewer items to capture distinctly different domains resulted in a loss of reliability across all shortened measures. The researcher's decision to attempt to retain construct validity led to an unfortunate, but necessary, loss of internal consistency reliability, as will be detailed in the measure descriptions that follow.

Demographic Questionnaire. The demographic section included questions about age, race, generation status, religious affiliation, parents' marital status, parents' educational level, and intended educational goals after graduation from high school. The demographic section also included an assessment of academic ability and aptitude—the student's self-reported high school GPA, and scores on the PSAT and SAT tests. The demographic results and descriptive information about the sample were reported in the Participants section and in Tables 1 and 2 above.

Gender roles. The Sex Role Egalitarianism Scale (SRES; Beere, King, Beere, & King 1984) assesses gender role attitudes and beliefs about role, duty, or need differences between men and women. The 25-item short forms BB and KK contain 5 items representing each of five domains: marital roles, parental roles, employment roles, social-interpersonal-heterosexual roles, and educational roles. All of the items explicitly or implicitly compare women and men. Each item is accompanied by five response items, ranging from 1 (strongly agree) to 5 (strongly disagree). Scores range from 25 to 125 with higher scores indicating more egalitarian, or less traditional, gender role attitudes.

Beere, King, Beere, and King (1984) reported internal consistency reliability coefficients of .91 and .94 for Forms BB and KK, respectively. King and King (1986) found a curvilinear relationship between the SRES and the Attitudes Toward Women

Scale (Spence & Helmreich, 1972), and concluded that egalitarianism is a separate construct from feminist attitudes.

To comply with the School District of Philadelphia's requirements for shortening measures, the Sex Role Egalitarianism Scale's 25-item short forms BB and KK (SRES; King & King, 1986) were further shortened to include only 10 items from each form. For forms BB and KK, the focus group was asked to identify five items from the marital, parental, and social-interpersonal-heterosexual domains, which were labeled as "relational" items, and five items from the employment and educational domains, which were labeled "vocational" items. The group chose ten relational and vocational items from form BB which were used to assess girls' gender role attitudes, and ten relational and vocational items from form KK which were used to assess girls' perceptions of their most influential parental figure's attitudes. Forms BB and KK have been reported to correlate at .91.

In this study, two total scores of egalitarianism—one for girls and one for their most influential parental figure—were obtained by summing answers to the 10 items. Total scores of egalitarianism could range from 10 to 50, with higher scores indicating more egalitarian attitudes. An example of the statements girls answered is, "Women have as much ability as men to make major business decisions," while an example of the statements girls answered about their parents is, "Sons and daughters ought to have an equal chance for higher education." To test for differences in gender role attitudes between the vocational and relational constructs of interest, scores on (1) employment and educational roles (5 items) and (2) marital, parental, and social roles (5 items) were assigned as "Sex Role Attitude—Vocational" and "Sex Role Attitude—Relational"

scores; scores in these two constructs could range from 5 to 25. The reliability coefficient alpha for the modified form BB (which assigned girls a total gender role egalitarianism score) was .70, and for the modified for KK (which assigned girls' most influential parental figure a total gender role egalitarianism score based on girls' perceptions of them) was .82. For girls, the coefficient alpha for the SRES-Vocational construct was .57, and for the SRES-Relational construct, it was .61. For girls' perceptions of parents, the coefficient alpha for SRES-Vocational was .71, and for the SRES-Relational construct, it was .74.

Career Aspirations. Career aspirations were measured using a similarly shortened form of the Career Aspirations Scale (CAS; O'Brien, 1992). In its original form, the CAS consists of 10 items assessing the value or importance students place on having a career. Item responses are obtained using a 5-point Likert scale ranging from A (very true of me) to E (not at all true of me). Total scores of career aspiration are obtained by summing the answers to the 10 items. Total scores of aspiration can range from 10 to 50, with higher scores indicating higher commitment to career achievement.

O'Brien, Gray, Tourajdi, and Eigenbrode (1996) reported an internal consistency reliability coefficient of .73. The authors reported strong convergent validity between the CAS and multiple role self-efficacy, career decision-making self-efficacy, and career salience. Discriminant validity was demonstrated through the absence of relationships between the CAS and a measure of the importance of career versus family.

Similar to the procedure for the SRES, to meet survey length requirements set forth by the School District of Philadelphia, the focus group selected 5 items to retain in a shortened form of the CAS. The first CAS measure asked students to answer 5 items on

their own behalf, while the other form used the same 5 items, but was slightly modified by the researcher to reflect that the student was being asked to assess the beliefs of her most influential parent or guardian. An example of this modification was to change one item from “I would like to pursue graduate training in my occupational area of interest” to “This person would like me to pursue graduate training in my occupational area of interest.”

In this study, total CAS scores for both girls and their most influential parental figures could range from 5 to 25. The coefficient alpha for girls’ CAS was .59 and for parental figures was .57.

Multiple Role Planning. Girls’ attitudes about multiple roles were measured using a modified version of the Attitudes Toward Multiple Role Planning Scale (ATMRP; Weitzman, L., & Fitzgerald, L., 1996). The unmodified ATMRP consists of 50 items assessing five domains: (1) flexibility regarding multiple roles, (2) commitment to multiple roles, (3) knowledge and certainty about engaging in multiple roles, (4) involvement in actively thinking about future multiple roles, and (5) independence in decision-making about multiple roles.

This researcher first modified the ATMRP by removing 10 items related to the domain of flexibility because of its insufficient reliability and validity. Next, 10 items related to the domain of independence were removed because, linked to importance of family’s and friend’s opinions, they likely would have provided less salient information about the construct of interest for this study—namely, girls’ preparedness for and consideration of multiple roles—than the three other domains. Using the votes of the focus group, items from the three domains of (1) commitment (which refers to the

strength of one's desire to seek a multiple role lifestyle); (2) knowledge/certainty (which assesses confidence in one's ability to integrate work and family and to navigate the difficulties that might arise in this process); and (3) involvement in active thinking (which refers to one's perceived level of immediacy in planning for multiple roles and the level of immersion in that planning process) were retained to create an 11-item measure. An example of the items girls answered in regard to multiple role planning is, "It's very important to me to try and figure out ahead of time how I will balance my career and family responsibilities."

Item responses are obtained using a 5-point Likert scale ranging from A (strongly agree) to E (strongly disagree). Total scores of attitudes toward multiple role planning were obtained by summing the answers to the 11 items, and could range from 11 to 55, with higher scores indicating a more planful and realistic orientation toward managing multiple roles.

Weitzman and Fitzgerald (1996) reported internal consistency reliability coefficients of .79, .83, and .84 for the commitment, knowledge/certainty, and involvement scales, respectively. The overall reliability coefficient for the shortened measure in this sample was .63.

"Achiever" Status. While level of academic achievement was assessed using students' self-reported GPAs, PSAT, and SAT scores, and level of career aspiration was assessed using the CAS, students' perceptions of themselves as being low, average, or high achievers was measured using the Self-as-Achiever Scale (SAA). The SAA was developed by this author for the purposes of the present study and was piloted with a sample of undergraduates (n=100) enrolled at the University of Maryland.

While the CAS assesses the value students place on their *future* careers, the self-as-achiever construct assesses students' *current* levels of aspiration regarding the achievement of *current and future* educational and career goals. This construct is meant to provide an overall score of "achiever status" that measures students' sense of themselves as achievers. An example of an item from this measure is, "I tend to put more effort into my schoolwork than other students in my classes." The SAA consists of 10 items assessing the value or importance students place on having a career. Item responses are obtained using a 5-point Likert scale ranging from A (very true of me) to E (not at all true of me). Total scores of achiever status are obtained by summing the answers to the 10 items. Total scores of achiever status can range from 10 to 50, with higher scores indicating that the student perceives herself to be a high achiever.

The SAA pilot sample was predominantly Caucasian and female; 84 participants were women, 18 were men, and 1 participant did not indicate sex. Nearly 60% were Caucasian, 21.6% were African American, 12.7% were Asian/Pacific Islander, 4.9% were Latin/Hispanic, 2% identified themselves as biracial/multiracial, and 2.9% identified themselves as "other."

The mean score of the SAA pilot sample was 36.21 and had a standard deviation of 6.18. Total scores ranged from 23 to 50. Convergent validity was assessed by correlating the SAA with the CAS; the correlation between the two measures was .449, indicating reasonable convergent validity. Discriminant validity was assessed by correlating the SAA with a test of expectations in therapy; the relationship, at -.082, was non-significant. In the pilot study, the reliability coefficient alpha for the SAA was .73. In this sample, the SAA reliability coefficient alpha was .71.

Chapter Four

Results

Preliminary analyses

This chapter is divided into preliminary analyses and analysis of hypotheses and research questions. Quantitative data and descriptive data (e.g. demographic data) were collected for this study. Descriptive data for the sample were compiled and presented in Tables 1 and 2 in the previous chapter. Means, standard deviations, and reliabilities were computed for each of the variables of interest and are presented in Table 3. As can be seen in Table 3, all measures had at least moderate internal consistency ($\alpha > .56$).

Table 3

Means of Total Scores, Standard Deviations, and Reliabilities of Self as Achiever (girls'), Career Aspiration (girls' and parents'), Gender Role Egalitarianism (girls' and parents'; total, vocational, and relational scores), and Attitudes Toward Multiple Role Planning (girls')

Scale	Possible Range of Scores	Mean of Total Score (SD)	Reliability (Cronbach's Alpha)
Self as Achiever Scale (girls only)	(10-50)	38.5 (5.58)	.71
Career Aspiration Scale (girls)	(5-25)	19.34 (3.51)	.59
Career Aspiration Scale (parents)	(5-25)	19.77 (3.14)	.57
Sex Role Egalitarianism Scale – Total (girls)	(10-50)	40.47 (4.87)	.70
Sex Role Egalitarianism Scale – Total (parents)	(10-50)	44.04 (5.73)	.82
Sex Role Egalitarianism Scale – Vocational (girls)	(5-25)	22.77 (2.26)	.57
Sex Role Egalitarianism Scale – Vocational	(5-25)	22.96 (2.82)	.71

(parents)			
Sex Role Egalitarianism Scale – Relational (girls)	(5-25)	17.70 (3.42)	.61
Sex Role Egalitarianism Scale – Relational (parents)	(5-25)	21.00 (3.57)	.74
Attitudes Toward Multiple Role Planning (girls)	(11-55)	36.85 (5.40)	.63

Prior to conducting analyses for the hypotheses and research questions below, correlations were calculated to explore the relationships between the variables of interest as well as to examine the relationships among the demographic variables. Table 4 below presents these correlations.

Table 4: *Bivariate Correlation of Variables of Interest*

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. GPA	1.00														
2. P-SAT	-.001	1.00													
3. SAT	-.031	.215**	1.00												
4. AP classes	.426**	.217**	.344**	1.00											
5. Educ. Aspiration	.236**	.050	-.044	.151	1.00										
6. SAA (girls)	.182**	.132	.185*	.204*	.228**	1.00									
7. CAS (girls)	-.030	.125	.054	.009	.345**	.459**	1.00								
8. CAS (parents)	-.018	.182**	.087	-.027	.294**	.412**	.543**	1.00							
9. SRES Total (girls)	.017	.063	.021	.074	.128	.159*	.204**	.205**	1.00						
10. SRES Total (parents)	-.095	.068	-.030	-.019	.001	.227**	.194*	.306**	.406**	1.00					
11. SRES Vocational (girls)	-.038	.040	.047	.069	.057	.209**	.260**	.271**	.780**	.417**	1.00				
12. SRES Vocational (parents)	.029	.042	-.020	.052	.012	.210**	.092	.290**	.255**	.874**	.318**	1.00			
13. SRES Relational (girls)	.049	.063	-.001	.059	.145	.090	.120	.115	.911**	.298**	.452**	.149	1.00		
14. SRES Relational (parents)	-.149	.068	-.011	-.053	.006	.248**	.259**	.276**	.433**	.927**	.318**	.629**	.342**	1.00	
15. ATMRP (girls)	-.059	.071	.098	.009	.106	.384**	.397**	.300**	.230**	.279**	.248**	.212**	.166*	.300**	1.00

Note. Correlations significant at the $p < 0.05$ level are indicated by * and correlations significant at the $p < 0.01$ level are indicated by **

As can be seen in Table 4, significant relationships existed between certain measures of girls' academic achievement and intellectual ability and other self and family variables of interest. In the report of significant correlations that follow, "parent" refers to the most influential person each girl selected as her reference figure on the survey.

Girls' GPAs were positively related to the number of AP classes they took ($r = .426, p < .01$), their educational aspirations ($r = .236, p < .01$), and their perceptions of themselves as achievers ($r = .182, p < .01$). Their P-SAT scores were positively related to their SAT scores ($r = .215, p < .01$), the number of AP classes ($r = .217, p < .01$), and the career aspirations they perceived their parents had for them ($r = .182, p < .01$). SAT scores were positively correlated with number of AP classes ($r = .344, p < .01$) and perception of self as an achiever ($r = .185, p < .05$). Number of AP classes also correlated positively with perception of self as an achiever ($r = .204, p < .05$).

In addition to the relationship between educational aspiration and GPA, educational aspiration also correlated positively with girls' perceptions of themselves as achievers ($r = .228, p < .01$), girls' career aspirations ($r = .345, p < .01$), and their perceptions of the career aspirations their parents have for them ($r = .294, p < .01$). Girls' perceptions of themselves as achievers was positively related to many important variables in the study including: girls' career aspirations ($r = .459, p < .01$), girls' perceptions of the career aspirations their parents have for them ($r = .412, p < .01$), girls' total level of gender role egalitarianism ($r = .159, p < .05$), girls' perceptions of their parents' total level of gender role egalitarianism ($r = .227, p < .01$), girls' vocational egalitarianism ($r = .209, p < .01$), their parents' vocational egalitarianism ($r = .210, p < .01$), their parents' relational

egalitarianism ($r = .248, p < .01$), and girls' level of planfulness in regard to multiple roles ($r = .384, p < .01$).

Girls' career aspirations was positively correlated with their perceptions of the aspirations their parents hold for them ($r = .543, p < .01$), girls' total level of gender role egalitarianism ($r = .204, p < .01$), girls' perceptions of their parents' total level of gender role egalitarianism ($r = .194, p < .05$), girls' vocational egalitarianism ($r = .260, p < .01$), their parents' relational egalitarianism ($r = .259, p < .01$), and girls' level of planfulness in regard to multiple roles ($r = .397, p < .01$). In addition to the relationships with PSAT, educational aspiration, girls' perceptions of themselves as achievers, and girls' career aspirations as detailed above, girls' perceptions of the career aspirations their parents hold for them was positively related to girls' total level of gender role egalitarianism ($r = .205, p < .01$), girls' perceptions of their parents' total level of gender role egalitarianism ($r = .306, p < .01$), girls' vocational egalitarianism ($r = .271, p < .01$), their parents' vocational egalitarianism ($r = .290, p < .01$), their parents' relational egalitarianism ($r = .276, p < .01$), and girls' level of planfulness in regard to multiple roles ($r = .300, p < .01$).

In addition to the relationships noted with girls' perceptions of themselves as achievers, their career aspirations, and their parents career aspirations for them, girls' total level of egalitarianism was also positively related to parents' total levels of egalitarianism ($r = .406, p < .01$), girls' vocational egalitarianism ($r = .780, p < .01$), parents' vocational egalitarianism ($r = .255, p < .01$), girls' relational egalitarianism ($r = .911, p < .01$), parents' relational egalitarianism ($r = .433, p < .01$), and girls level of planfulness in regard to multiple roles ($r = .230, p < .01$). In addition to the relationships noted above, parents' total level of egalitarianism was also positively related to girls'

vocational egalitarianism ($r = .417, p < .01$), parents' vocational egalitarianism ($r = .874, p < .01$), girls' relational egalitarianism ($r = .298, p < .05$), parents' relational egalitarianism ($r = .927, p < .01$), and girls' planfulness in regard to multiple roles ($r = .279, p < .01$).

In addition to the relationships with perception of self as an achiever, girls' career aspirations, parental career aspirations, and girls' and parents' total egalitarianism listed above, girls' vocational egalitarianism was also positively correlated with their parents' vocational egalitarianism ($r = .318, p < .01$), girls' relational egalitarianism ($r = .452, p < .01$), parents' relational egalitarianism ($r = .318, p < .01$), and girls' planfulness in regard to multiple roles ($r = .248, p < .01$). Additionally, parents' vocational egalitarianism was related to parents' relational egalitarianism ($r = .629, p < .01$) while girls' relational egalitarianism was related to parent's relational egalitarianism ($r = .342, p < .01$), and girls' planfulness in regard to multiple roles was related to parents' vocational egalitarianism ($r = .212, p < .01$), girls' relational egalitarianism ($r = .166, p < .05$), and parents' relational egalitarianism ($r = .300, p < .01$).

In the analyses that follow, girls' selection of their most influential parent, girls' perception of agreement between their two most influential parents, and the complex relationships between girls' attitudes and their perceptions of their parents' attitudes toward career aspirations and gender roles are explored in greater detail.

Analyses of hypotheses and research questions

The following results are based on both girls' reports of their own attitudes and girls' perceptions of their most influential parental figures' attitudes. An alpha level of .05 was used as the criterion for significance in all statistical tests. Table 5 shows the frequencies and percentages of top three ranked parental figures. As can be seen in Table

5, girls overwhelmingly selected their mothers as their most influential parental figure, followed distantly by fathers and grandmothers. As in the correlations reported on above, in the results that follow, “parent” refers to the most influential person each girl selected as her reference figure on the survey.

Table 5

Most Influential Parent Rankings

Possible Influential Parental Figures	#1 Ranked Influential Parental Figure by percentage and frequency	#2 Ranked Influential Parental Figure by percentage and frequency	#3 Ranked Influential Parental Figure by percentage and frequency
Mother	66.5% 106	15.5% 25	5.6% 9
Father	11.8% 19	40.4% 65	10.6% 17
Stepmother	0% 0	0.6% 1	1.2% 2
Stepfather	0% 0	2.5% 4	3.7% 6
Grandmother	6.8% 11	14.3% 23	25.5% 41
Grandfather	3.1% 5	4.3% 7	8.7% 14
Aunt	1.2% 2	6.2% 10	16.1% 26
Uncle	1.9% 3	2.5% 4	3.7% 6
Other (siblings, pastor, neighbor, foster parent, etc.)	3.7% 6	7.5% 12	12.4% 20

No response	4.3%	5.0%	9.9%
	7	8	16

As can be seen in Table 5, in the position of top-ranked most influential parental figure, 66.5% of girls chose their mothers, 11.8% chose their fathers, 6.8% chose their grandmothers, 3.7% chose “other” (siblings, foster parents, neighbors, and pastors were cited), 3.1% chose their grandfathers, 1.9% chose their uncles, 1.2% chose their aunts, and 4.3% did not respond. For second-most influential parental figure, 40.4% chose their fathers, 15.5% chose their mothers, 14.3% chose their grandmothers, 7.5% chose “other,” 6.2% chose their aunts, 4.3% chose their grandfathers, 2.5% chose their stepfathers, 2.5% chose their uncles, 0.6% chose their stepmothers, and 5.0% did not respond. For the third-most influential parental figure, 25.5% chose their grandmothers, 16.1% chose their aunts, 12.4% chose “other,” 10.6% chose their fathers, 8.7% chose their grandfathers, 5.6% chose their mothers, 3.7% chose their stepfathers, 3.7% chose their uncles, 1.2% chose their stepmothers, and 9.9% did not respond.

Table 6 shows girls’ ratings of the probable level of agreement between their top two ranked parental figures.

Table 6

Level of Agreement Between #1 and #2 Most Influential Parental Figures

Level of Agreement Between #1 and #2 Most Influential Parental Figures	Frequency	Percentage
No response	28	17.4%
#2 would have totally agreed with #1	57	35.4%
#2 would have somewhat agreed with #1	37	23.0%
#2 would neither have agreed nor disagreed with #1	9	5.6%
#2 would have somewhat disagreed with	16	9.9%

#1

#2 would have totally disagreed with #1

13

8.1%

As can be seen in Table 6, most girls who answered this question indicated their belief that their second-most influential parental figure would have been in either “somewhat” (23.0%) or “total” (35.4%) agreement about gender role attitudes and career aspirations for the girls with the top-ranked most influential parent. Of the sample, 5.6% believed their second-most influential parental figure would neither have agreed nor disagreed, 9.9% believed that their second-most influential parental figure would have somewhat disagreed with the top-rank parent, and 8.1% believed that their second-most influential parental figure would have totally disagreed with the top-ranked parent.

Hypothesis 1: Girls’ perceptions of parents’ gender role attitudes (overall, vocational, and relational) will demonstrate a positive relationship to daughters’ gender role attitudes, such that the more egalitarian the parent’s attitudes, the more egalitarian the daughter’s attitudes.

Hypothesis 1 was supported by the data in all three gender role categories. The Pearson’s correlation between girls’ overall gender role attitudes and their perceptions of their parents’ (using total SRES scores) was .406 ($p < .00$); between girls’ vocational gender role attitudes and their perceptions of their parents’ was .318 ($p < .00$); and between girls’ relational gender role attitudes and their perceptions of their parents’ was .342 ($p < .00$).

Research Question 1: Are there significant differences in the strength of the relationships between parents’ (as perceived by daughters) and daughters’ vocational gender role attitudes and their relational gender role attitudes?

Daughters' vocational gender role attitudes and their perceptions of their parents' correlated positively and significantly at .318 ($p < .00$), as did their relational gender role attitudes at .342 ($p < .00$). The correlations were converted to z scores ($r = .318, z' = .332$; $r = .342, z' = .354$) and the difference (.022) was compared to ± 1.95 to test for significant differences between the two. The correlation between daughters' relational gender role attitudes and their perceptions of their parents' was not significantly different from the correlation between daughters' vocational gender role attitudes and their perceptions of their parents'.

Hypothesis 2: Girls' perceptions of parents' career aspirations for daughters will demonstrate a positive relationship to daughters' career aspirations for themselves, such that the higher the parents' perceived aspirations, the higher the daughters' aspirations.

Hypothesis 2 was supported by the data. The Pearson's correlation between parents' career aspirations for their daughters and daughters' career aspirations for themselves was .543 ($p < .00$).

Hypothesis 3: Gender role attitudes (overall, vocational, and relational) of girls and of parents (as perceived by girls) will demonstrate a positive relationship to the level of career aspirations of both girls and parents (as perceived by girls), such that more egalitarian attitudes are related to higher levels of career aspiration.

Hypothesis 3 was partially supported by the data. The Pearson's correlation between parents' perceived overall gender role attitudes (using total SRES scores) and parents' perceived career aspirations for their daughters was significant at .306 ($p < .00$), while the correlation between daughters' overall gender role attitudes and their career aspirations for themselves was significant at .204 ($p < .00$). The Pearson's correlation

between parents' perceived vocational gender role attitudes and their perceived career aspirations for their daughters was significant at .290 ($p < .00$), while the correlation between daughters' vocational gender role attitudes and their career aspirations was significant at .260 ($p < .00$).

However, although the Pearson's correlation between parents' perceived relational gender role attitudes and their perceived career aspirations for daughters was significant at .276 ($p < .00$), the correlation between daughters' relational gender role attitudes and their career aspirations was not significant at .120 ($p = .130$).

Research Question 2: How do girls fall into clusters and how do these groups differ according to family-of-origin and daughter variables?

Cluster analysis. To explore this research question, Ward's (1963) clustering procedure was used to identify natural groupings in the data; this method identified 148 participants who responded to all questions necessary for inclusion in the cluster analysis.

The Ward method, one of the most widely used in the behavioral sciences, is a hierarchical clustering technique. Clusters are constructed into a tree-like system (pictorially represented by a dendrogram) from $n-1$ clusters to one final cluster. In essence, the analysis begins by pairing together the two most similar participants, then adding new pairings, combining pairings into clusters, and combining clusters into increasingly larger clusters until there is only one cluster. Thus, the clusters are created in such a way that within-cluster variability is minimized and between-cluster variability is maximized at each stage of grouping (Borgen & Barnett 1987).

Borgen and Barnett (1987) recommend leaving one or more variables of interest out of the cluster analysis in order to test for differences between clusters after they have

been formed. Given that the goal of this study is to explore the influence of family variables on girls' long term aspirations and plans, it was decided to withhold the career aspiration variable from the cluster analysis so that clusters which vary on this variable could be identified. First, a number of daughter and parent variables were chosen that might contribute to career aspiration. These included: girls' perceptions of self as an achiever, girls' vocational and relational gender role attitudes, girls' levels of multiple role planfulness, parents' vocational and relational gender role attitudes, and parents' career aspirations for their daughters. To prepare the data for cluster analysis, all scores on the variables of interest were standardized to z-scores. This was a necessary first step to ensure that variables with larger values did not contribute disproportionately to the clustering solution.

An initial solution was examined, followed by successively lower and higher cluster solutions. At each level, a judgment was made about whether the merger/split seemed substantive and reasonable. Judgments of the suitability of different solutions were based on the preservation of detail and yield of substantive interpretable clusters in the solution. This method for selecting a final number of clusters was based on a technique used by Trochim (1993). Between 3 and 6 solutions were explored in search of a solution that contained an adequate number of clusters to capture differences in the data without creating clusters of only a few cases each. An examination of several dendograms suggested that participants fell into 3 distinct clusters.

MANOVA on cluster factors by cluster. To determine if the clusters were significantly different from one another, a MANOVA was conducted. In this analysis, cluster membership served as the dependent variable. The MANOVA suggested that the

overall cluster model was significant, $F(7, 147) = 27.22, p < .00011$. Examining the variables analyzed by the MANOVA, of the girl variables, Self As Achiever: $F(7, 147) = 32.86, p < .00011$; Girls' Sex Role Egalitarianism – Vocational: $F(7, 147) = 20.86, p < .0001$; and Girls' Attitudes Toward Multiple Role Planning: $F(7, 147) = 141.11, p < .0001$ were significant. Girls' Sex Role Egalitarianism – Relational: $F(7, 147) = 0.87, p < .354$ was not significantly different among the three clusters. Of the parent variables, Parents' Career Aspirations: $F(7, 147) = 19.12, p < .0001$ and Parents' Sex Role Egalitarianism – Relational: $F(7, 147) = 9.46, p < .003$ were both significantly different among the clusters, while Parents' Sex Role Egalitarianism – Vocational: $F(7, 147) = 0.15, p < .697$ was not. The statistical significance between group differences on the majority of variables selected is not surprising since they were the differences used to construct the clusters and thus, are a natural result of cluster analysis.

Cluster comparisons. Tukey HSD post-hoc comparisons were used to control for the number of tests and to examine the significant differences between clusters using standardized scores. The results of those comparisons are shown in Table 7.

Table 7

Standard Score Means, Standard Deviations and Comparisons by Cluster

Name	N in cluster	Variable*	Mean (Z)	SD (Z)	Tukey comparisons
Cluster 1	74	SAA (G)	.10	.86	1>2
		CAS (G)**	.18	.86	1>2
		CAS (P)	.38	.68	1>2
		SRES-VOC (G)	-.16	1.02	1<3
		SRES-VOC (P)	-.03	1.15	n/s
		SRES-REL (G)	-.04	.99	n/s
		SRES-REL (P)	-.15	1.06	n/s
		ATMRP (G)	.46	.87	1>3
Cluster 2	22	SAA (G)	-1.06	.94	2<1, 2<3
		CAS (G)**	-.60	1.17	2<1, 2<3
		CAS (P)	-1.13	1.12	2<1, 2<3
		SRES-VOC (G)	.30	.74	n/s
		SRES-VOC (P)	.40	.45	n/s
		SRES-REL (G)	.38	.92	n/s

		SRES-REL (P)	.35	.47	n/s
		ATMRP (G)	.20	.81	2>3
Cluster 3	52	SAA (G)	.36	.83	3>2
		CAS (G)**	.04	.98	3>2
		CAS (P)	.05	.90	3>2
		SRES-VOC (G)	.29	.87	3>1
		SRES-VOC (P)	.05	.83	n/s
		SRES-REL (G)	.05	1.01	n/s
		SRES-REL (P)	.10	1.06	n/s
		ATMRP (G)	-.73	.81	3<1, 3<2

* G = girl variable; P = parent variable

**denotes variable not used initially to define cluster

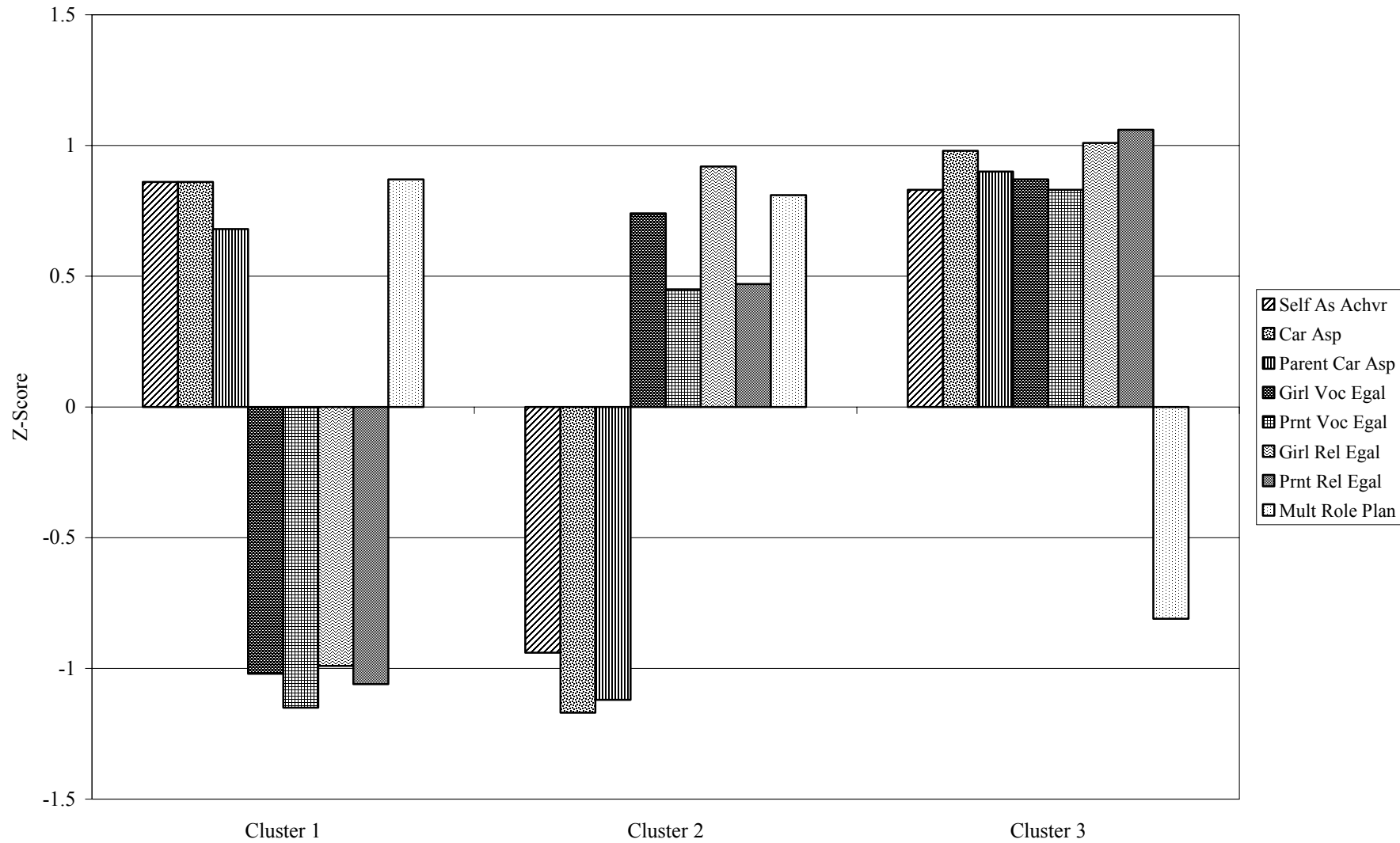
As can be seen in Table 7, the Girls' Career Aspiration variable was added into the post-hoc Tukey analyses to assess how the clusters differed significantly according to this variable of interest. The results of this table will be presented in conjunction with Figure 1 below.

Several of the variables presented in Table 1 were not deemed significantly different via the Tukey comparisons. When differences between variables did not meet the criteria to be considered significantly different, it is likely that range restrictions (particularly in regard to egalitarianism, which was considerably high across the sample with a girls' mean SRES – Total score of 40.47 out of a possible 50) created a ceiling effect. However, differences in the mean scores across clusters were consistent and suggested trends that might elucidate how the clusters could be differentiated and named.

Cluster descriptions. The aim of this section is to facilitate better understanding of the clusters and analyses that were conducted. Figure 1 shows how the three clusters differ on each of the seven variables used in the cluster analysis with the differentiating career aspiration variable added in. In order to characterize each cluster, the $\pm .5$ Z-score (a half standard deviation) was set as the criteria for being above or below average on a particular variable.

It is important to note that across all three clusters, the participants in this sample scored above average on measures of egalitarianism, achievement, and aspiration. Therefore, when descriptors like “low,” “medium/moderate,” and “high” are used in the cluster descriptions and comparisons that follow, it is essential to remember that the overwhelmingly egalitarian and high achieving participants in this sample are being compared to other above-average achievers. For example, the lowest achievers in this sample are likely significantly higher achievers than students in the general population. Additionally, both they and their parents are likely to be considerably more egalitarian than their counterparts in the general population. In the reporting of clusters that follows, differentiation will be made between significant data and non-significant data that are suggestive of trends.

Figure 1: Three Cluster Solution Using Eight Variables of Interest



As can be seen in Figure 1, data are presented in three sections per cluster. The first section shows achiever and aspiration variables, and includes girls' perceptions of themselves as achievers, girls' level of career aspiration, and parents' level of career aspirations for their daughters. The second section shows variables related to gender role attitudes and includes girls' and parents' levels of egalitarianism in regard to vocation, and girls' and parents' levels of egalitarianism in regard to relationships. The third section contains one variable: girls' level of planfulness in regard to future multiple roles.

Cluster 1, the largest of the three ($n = 74$), was characterized by participants who ranked themselves as moderately high achievers, and as having the highest career aspirations compared to Clusters 2 and 3. Although Cluster 1's participants had slightly lower perceptions of themselves as achievers than Cluster 3, they had slightly higher career aspirations than participants in this cluster; meanwhile, their perceptions of themselves as achievers, their career aspirations, and their perceptions of their parents' career aspirations for them were all significantly higher than the participants in Cluster 2. Overall, this group had the highest level of perceived parental career aspirations.

Despite girls in this cluster having the highest career aspirations and perceiving their parents as having the highest career aspirations for them of all three clusters, participants in Cluster 1 had the lowest levels of egalitarianism across clusters. As can be seen in both girls' scores and their perceptions of their parents, and in regard to both vocational and relational domains, Cluster 1 stands out as the group having the most traditional ideas about male and female roles. The girls in Cluster 1 had a significantly lower level of egalitarianism in regard to vocation than Cluster 2. Across clusters, Cluster

1's parent and daughter scores related to egalitarianism fell well below the standardized mean.

In regard to level of planfulness for future multiple roles, the girls in Cluster 1 scored significantly higher than those in Cluster 3. Across clusters, the data seemed to suggest that the girls in this group have invested the greatest amount of thought in how they might have to organize their lives to accommodate future roles as career women, partners, wives, or mothers.

To summarize, the girls in Cluster 1 appear to be defined by their moderately high levels of current achievement, their high future career aspirations, the high aspirations that they perceive their parents having for them, the relatively traditional attitudes toward gender roles in both vocational and relational realms that they share with their parents, and their high level of consideration and planning for future multiple roles. Because Cluster 1's participants perceived their parents as having the highest career aspirations for them, yet as having the most traditional ideas about gender roles, and because the daughters appear to share some level of that traditionality, as well as their parents' perceived aspirations for them, this cluster has been named *Traditional But Hard-Working Planners*.

In contrast to *Traditional But Hard-Working Planners*, Cluster 2 (n=22) was characterized by girls who appear to have the lowest perceptions of themselves as achievers, the lowest career aspirations, and parents with the lowest career aspirations for them. For each of the three variables related to current achievement and future aspiration, Cluster 2 was significantly lower than Clusters 1 and 3.

However, the trend data on gender roles suggests that Cluster 2 girls were the most egalitarian of the sample, as were their parents. In both vocational and relational realms, the girls in Cluster 2 seemed to have the most egalitarian attitudes in regard to the sharing of duties between men and women at work and at home. Although these beliefs appear to be shared with their parents, the trend data also suggests that the girls in this cluster are slightly more egalitarian than their parents and that they represented the most egalitarian faction of the entire sample, especially in regard to relationships.

In regard to planning for future multiple roles, the girls in Cluster 2 appear to be moderately planful. Across clusters, trend data suggested that the girls in this group have invested slightly less thought than those in Cluster 1 and significantly more thought than the girls in Cluster 3 about how they might have to organize their lives to accommodate future roles as career women, partners, wives, or mothers. Because this group has the lowest levels of achievement, the lowest career aspirations, and parents with the lowest career aspirations, yet the highest levels of egalitarianism and parents with the most egalitarian attitudes, they have been named *Planful Egalitarians With Low Aspirations*.

Cluster 3 (n=52) is characterized by girls with the highest perceptions of themselves as achievers and with moderately high levels of future career aspirations. They perceive their parents as having moderately high aspirations for them. In regard to the achiever and aspiration variables (including perception of parents' aspirations), the participants in Cluster 3 had significantly higher scores than those in the *Planful Egalitarians With Low Aspirations* group, and trend data suggested that they scored slightly above the achievement scores and slightly below the aspiration scores of the *Traditional But Hardworking Planners* group.

Cluster 3's level of egalitarianism fell in the upper middle of the three clusters in both domains of vocation and relationships, as did their perceptions of their parents'. Their generally moderate-to-high egalitarianism scores were significantly higher in regard to vocation than the girls in the *Traditional But Hardworking Planners* group and were only slightly lower than those in the *Planful Egalitarians With Low Aspirations* group. Interestingly, girls in Cluster 3 tended to be more egalitarian than their parents in regard to vocation, but were slightly less egalitarian than their parents in regard to relationships.

Of the three clusters, the participants in Cluster 3 reported doing the least amount of thought in regard to future multiple roles. In fact, their level of planfulness regarding how they might have to organize their lives to accommodate future roles as career women, partners, wives, or mothers was significantly lower than either of the other two clusters. Because the girls in Cluster 3 had the highest perceptions of themselves as achievers, moderately high career aspirations, and perceived their parents as having moderate aspirations for them, and because they had moderate-to-high levels of egalitarianism, but had the lowest levels of planning for future multiple roles, this group was named *Self-Driven, No Distractions*.

Additional analyses. After the initial cluster analysis, clusters were compared on daughter and parent demographic variables to explore for additional significant differences between groups. Chi-square tests of categorical variables indicated that demographic variables were not significant across clusters. Those demographic variables included: race/ethnicity, $\chi^2(9, N = 147) = 16.27, p = .434$; parents' marital status, $\chi^2(4, N = 148) = 7.10, p = .311$; mother's education level, $\chi^2(6, N = 143) = 10.26, p = .418$; father's

education level, $\chi^2(6, N = 140) = 6.64, p = .759$; generation status, $\chi^2(6, N = 146) = 4.81, p = .903$; and educational aspiration level, $\chi^2(4, N = 148) = 8.48, p = .205$.

Seven one-way ANOVAs were then conducted on continuous variables to further examine the differences between the clusters. When these continuous demographic data were analyzed, no significant differences emerged. Those variables included GPA: $F(2, 147) = 1.26, p = .286$; PSAT: $F(2, 147) = 1.54, p = .218$; SAT: $F(2, 146) = 1.23, p = .295$; number of AP classes taken: $F(2, 147) = 1.23, p = .296$; mother's educational level: $F(2, 142) = 1.05, p = .353$; father's educational level: $F(2, 139) = .252, p = .777$; and educational aspirations: $F(2, 147) = 1.18, p = .311$.

The non-significant results in this continuous demographic section (which focused on achievement variables like test scores and GPAs), and for the categorical demographic variables above (which focused on family and self variables like race/ethnicity, parents' levels of education achieved, and immigration status), highlight an important point about the variation of girls within the three clusters. They suggest that the significant and trend results reported in the cluster analyses section present overall attitudinal profiles that are populated with a wide variety of girls in each cluster; despite girls' differences in many ways—from the educational and racial details of their families, to their achievement on standardized tests, to their enrollment in AP classes, shared beliefs were what ultimately delineated cluster membership. Girls' shared beliefs about the roles men and women should play at work and at home, about their parents' beliefs, and about how much planning for the future should occur, were the variables that seemed to matter most in regard to their long term career aspirations and their perceptions of themselves as achievers.

Chapter Five

Discussion

This chapter presents an overview and discussion of the results of the hypotheses and research questions from the present study. Limitations of the current study are addressed, followed by the implications of the findings, with particular attention to the implications for future research and practice.

Hypotheses and Research Questions

Hypothesis 1: Girls' perceptions of parents' gender role attitudes (overall, vocational, and relational) will demonstrate a positive relationship to daughters' gender role attitudes, such that the more egalitarian the parent's attitudes, the more egalitarian the daughter's attitudes.

Research Question 1: Are there significant differences in the strength of the relationships between parents' (as perceived by daughters) and daughters' vocational gender role attitudes and their relational gender role attitudes?

The thrust of Hypothesis 1 and Research Question 1 was to establish that gender role attitudes frequently were shared by parents and daughters, and to determine whether the strength of shared gender role attitudes differed depending on whether they were related to the domains of work or relationships. Hypothesis 1 was supported by the data in all three gender role categories with the strongest relationship occurring between parents' and daughters' overall gender role attitudes ($r=.406$, $p<.00$), and other significant relationships occurring between parents' and daughters' vocational gender role attitudes ($r=.318$, $p<.00$), and parents' and daughters' relational gender role attitudes ($r=.342$, $p<.00$). These results suggested that significant relationships exist between parents' and

daughters' attitudes, and that the most robust relationship is between daughters' perceptions of their parents overall gender role attitudes and their own attitudes.

Although there are slight differences between the strength of those relationships whether the focus is on attitudes about work or attitudes about interpersonal relationships and responsibilities at home, those differences were not significant in this study.

Hypothesis 2: Girls' perceptions of parents' career aspirations for daughters will demonstrate a positive relationship to daughters' career aspirations for themselves, such that the higher the parents' perceived aspirations, the higher the daughters' aspirations.

Hypothesis 2 (as with the hypothesis above) was meant to test one critical component of the theoretical underpinning of this current study—that beliefs of family-of-origin about career would have a significant influence on the career aspirations of daughters. This was supported by the data which demonstrated a strong relationship between girls' career aspirations and girls' perceptions of the aspirations their parents held for them ($r=.543$, $p<.00$). While it is possible that some girls form strong career aspirations as a reaction to their parents' low aspirations for them, the results suggest that it is more likely that daughters' aspirations are bolstered by what they believe their parents would like to see them achieve.

Hypothesis 3: Gender role attitudes (overall, vocational, and relational) of girls and of parents (as perceived by girls) will demonstrate a positive relationship to the level of career aspirations of both girls and parents (as perceived by girls), such that more egalitarian attitudes are related to higher levels of career aspiration.

Hypothesis 3 was meant to establish a linkage between gender role attitudes and career aspirations, and to explore how vocational and relational attitudes might be related

differently to career aspirations. The relationships between 1) parents' overall gender role attitudes and their career aspirations for their daughters ($r=.306, p<.00$); 2) daughters' overall gender role attitudes and their career aspirations for themselves ($r=.204, p<.00$); 3) parents' vocational gender role attitudes and their career aspirations for their daughters ($r=.290, p<.00$); and 4) daughters' vocational gender role attitudes and career aspirations ($r=.260, p<.00$) were all significant.

However, while the relationship between parents' relational gender role attitudes and their career aspirations for daughters was significant ($r=.276, p<.00$), the relationship between daughters' relational gender role attitudes and their own career aspirations was not ($r=.120, p=.130$). This suggests that, for this sample, there was no obvious relationship between being a high aspirer and having egalitarian ideals in regard to personal relationships and responsibilities in the home.

Research Question 2: How do girls fall into natural groupings and how do these groups differ according to family-of-origin and daughter variables?

Cluster analysis is well suited for the exploration of patterns in data that might not otherwise be revealed by other forms of statistical analysis (Borgen & Barnett, 1987). While hierarchical regression or other causal methods of analysis would certainly have contributed to an understanding of which variables contributed to girls' career aspirations, cluster analysis seemed most appropriate because its exploratory nature would create profiles of girls within clusters and develop standards for cluster membership that would lead to a more holistic understanding of which family and daughter variables tended to occur together. Three distinct clusters were formed using the variables of perception of self as an achiever, parental career aspirations, parent and

daughter vocational gender role attitudes, parent and daughter relational gender role attitudes, and level of planfulness in regard to future multiple roles.

To summarize, the three clusters, *Traditional But Hard-Working Planners*, *Planful Egalitarians With Low Aspirations*, and *Self-Driven, No Distractions* fell into groupings across three broad categories consisting of data related to 1) perception of self as an achiever and level of aspiration (of both girls and parents), 2) vocational and relational gender role attitudes (of both girls and parents), and 3) girls' level of multiple role planning.

Girls in the largest cluster, *Traditional But Hard-Working Planners*, appeared to have parents with the highest level of career aspirations for their daughters, yet the most traditional ideas about gender roles. While the daughters in this group seemed to share that sense of gender role traditionality with their parents, they also had moderate levels of perceiving themselves as achievers, and high aspirations for their own future career goals. A defining characteristic of *Traditional But Hard-Working Planners* was their position as the most planful girls in regard to future multiple roles. These girls appear to spend significantly more time than those in *Self-Drive, No Distractions* thinking about how they will someday juggle the tasks associated with being a career woman, a partner, and a parent, and may do so because their comparatively traditional gender role ideals lead them to expect less sharing of parenting and household duties with a male partner.

Exploring the variables related to aspiration and gender role attitudes that determined placement in the *Traditional But Hard-Working Planners*, it appears that being traditionally-minded regarding gender roles and having low career aspirations do not necessarily go hand in hand. *Traditional But Hard-Working Planners* may anticipate

that their comparatively traditional ideas about gender roles at work and at home may necessitate planful behavior on their parts if they are to also pursue careers. This group may not expect men to share equally in work or at home, may anticipate restricted access in workplace settings, and may see both sets of non-egalitarian possibilities as appropriate.

In contrast, the girls in the *Planful Egalitarians With Low Aspirations* group were the most egalitarian of the sample—as were their parents—in regard to the sharing of duties between men and women at work and at home. The girls in this group were moderately planful in regard to how they might organize their lives to accommodate future roles as career women, partners, wives, or mothers. However, despite being high on egalitarianism and moderate planners, the *Planful Egalitarians With Low Aspirations* group was also marked by having the lowest levels of achievement, the lowest career aspirations, and parents with the lowest career aspirations.

It is possible that the girls in the *Planful Egalitarians With Low Aspirations* cluster may have experienced the least pressure from parents to succeed academically and professionally, and so are now, of the three groups, placing the lowest levels of pressure on themselves. They appear to have the highest levels of egalitarian ideals for the home and the workplace, and this may be linked to their belief that the world is—or should be—fair. Since the girls in this group are more likely to believe in a division of labor that is blind to traditional gender roles, they may believe it is important to do their fair share of thinking about future roles as partners or as mothers, and may expect that whoever they partner with will have done the same.

The girls in the third cluster, *Self-Driven, No Distractions*, had the highest perceptions of themselves as achievers, had the second highest career aspirations, and perceived their parents as having moderate aspirations for them. They had moderate-to-high levels of egalitarianism, but reported the lowest levels of planning for future multiple roles, which indicates that of the three groups, they likely were doing the least amount of thinking about how to arrange their lives to accommodate roles as partners, wives, and mothers.

The girls in *Self-Driven, No Distractions* may have been the most goal-oriented of the three clusters, and were perhaps more defined by their sense of themselves as achievers than the other two clusters. Though this group had parents who were moderately egalitarian and who they perceived as having moderate aspirations for them, they had the highest perceptions of themselves as achievers. It is likely that the girls in this group are the ones least interested in becoming parents, or they may be so solely focused on achieving their goals that thinking about future multiple roles may feel like an unnecessary distraction. The girls in *Self-Driven, No Distractions* might want to achieve in the career realm before thinking about partnering and having children, which they may view as necessitating compromises that threaten their careers. These girls may postpone childbearing and marriage, or they may have no interest at all in becoming mothers.

Previous research suggests that adults who planned for future multiple roles before taking them on had higher levels of life satisfaction later on (Peake & Harris, 2001; Steffy & Jones, 1988), so it is somewhat worrisome that the highest of high achievers have not begun to think in earnest about future multiple roles. While there may be inherently less impetus to plan for future multiple roles for those girls who already

know they do not desire to partner or have children, those who do eventually want to add those roles to their professional careers—or, those who change their minds—may be hindered by their lack of planning and forethought.

Girls' career aspiration, as the primary variable of interest in the current study, was kept out of the initial cluster formation so that it could be added later to search for significant differences between clusters. However, many of the variables included in the initial cluster formation also were confirmed as critically important because they varied in significant ways across the three clusters. Even when differences in variables were not significant, the trends were so consistent as to suggest linkages to other variables. Ultimately, the ways variables fluctuated across clusters helped build a profile of the individual girls within them while also raising important questions about interpretation. These unanswered questions will be explored further in a discussion of implications and future research below. First, however, limitations of the current study will be addressed.

Limitations

Gaining access to a single-sex, public, magnet high school was both a boon, and a situation fraught with its own set of unique challenges. While collecting data within a large, urban high school afforded access to diverse populations of minors without the sample-diminishing requirement of obtaining parental consent—and in this case, provided a pool of particularly highly achieving girls—it also brought with it all the bureaucracy associated with working within any complex governmental system. Each step closer to accessing the school's population seemed marked by an aspect of loss of control. For example, the School District's mandate that all previously validated measures contain no more than five items per construct caused unavoidable damage to

the reliability ratings, as already short-form measures were further shortened to meet the requirements. However, their permission to conduct the study negated the need for parental consent and allowed access to a previously unstudied population consisting primarily of highly achieving racial/ethnic minority girls.

At each level of administration—from the School District of Philadelphia’s Research Review Committee, to the school’s principal and vice principal, to their personal secretaries, to the dean of students, to the individual classroom teachers and teaching assistants—a minimum level of “buy-in” was necessary for the survey to retain meaningful measures of its variables of interest, and for the data to be collected in a systematic and rigorous way. Over the eight month process (February to September, 2005) of proposing, revising, and ultimately, conducting the research, this “buy-in” remained difficult to ascertain and seemed to fluctuate from person to person.

Shortly after the proposal’s approval, an important limitation was imposed by the school’s principal—the requirement that girls be given the survey during their homeroom periods, and that instructions be given by their own teachers rather than administered by the researcher during an assembly. Although the School District of Philadelphia’s approval of the proposal granted permission for the research to occur, this permission could be revoked at any time if the principal decided it was disrupting school business in any way. So although it would have been more methodologically sound to have administered the survey in one administration, in a controlled environment, and to have participants receive instructions directly from the researcher, this simply was not permitted.

At the teacher and teaching assistant level, varying levels of commitment to doing the tasks necessary to complete this project became apparent during individual conversations with each teacher on the day prior to survey administration. As teachers expressed views ranging from avid interest in the research and guiding questions, to avid interest in the researcher (as an alumna of the school), to irritation at having to participate in “another” activity mandated by the School District, to utter indifference, teachers’ motivation to administer the surveys to their classes seemed to become an additional variable that might affect the results. Indeed, teaching style and teachers’ relationships with their students may have been additional factors that encouraged or discouraged participation. Because the survey administration occurred in 19 classrooms simultaneously and over two days of testing, it was impossible to track how these, and other, teacher variables may have influenced participants.

An additional limitation built into the survey itself was related to having girls answer for their parents in the career aspiration and gender role attitudes sections. Having one person report on the beliefs of another seems to add to the problems associated with self-report data as it is “other-report,” and by its nature, subject to many variables (particularly in the realm of complex parent-child relationships) that are impossible to control for. It could be argued that when girls report for their parents, they may be projecting the aspirations they wish their parents had for them onto the results. Conversely, it could be argued that asking parents to report on their aspirations for their daughters may yield data that are particularly subject to issues of social desirability, because these parents have consented to their daughters attending a school where education and future careers as professionals are continually highlighted. It is unlikely

that many of these parents would admit to having low aspirations for their daughters, even if that is the case. Alternatively, although it may be argued that what girls perceive their parents' career aspirations and gender role attitudes to be is as relevant to their influence on them as parents' actual aspirations and attitudes (the argument used in support of the current study's survey structure), having parents answer for themselves might have yielded an additional and rich layer of data. However, because the School District did not permit the collection of any identifying information about the girls who chose to participate, it would have been impossible to match parent and daughter data for analysis. In regard to other information the survey could not address, the School District prohibited the collection of data about students' sexual orientations, so the current study could not explore how results may have differed across heterosexual, lesbian, or bisexual categories.

Although this sample provided more minority representation than other similar studies based in single-sex, high school settings, its distribution was heavily African-American and had significantly lower representation of other racial/ethnic minorities. No significant differences were found across racial/ethnic groups, but other researchers have suggested that generation status and immigration issues may contribute to level of career aspiration, so it would have been preferable to have higher representation of recent immigrants and first generation minorities in the sample to explore this further.

Finally, the very characteristics that prompted an initial interest in this population—that they were a concentrated group of high aspiring, highly achieving young women—may have created limitations in the robustness of the findings. The girls in this study were not only high achievers by virtue of being enrolled at Girls' High; of

the entire junior and senior classes (consisting of approximately 600 students), these were the girls who not only chose to participate, but who were able to complete the survey in the allotted time. Roughly half the enrolled students opted to participate, and only half that group submitted completed surveys. At least in regard to competing for the five \$50 lottery prizes, these girls were clearly the highest achievers. This highlights the issue of range restriction and suggests that in regard to the perception of self as an achiever and the career aspirations variables, these students may be the highest of their classes. Alternatively, it is likely that some of the highest achievers in the class were not motivated by any of the benefits associated with participating in the survey and so, decided to opt out.

Additionally, because Girls' High is a school where 98% of students are reported by the School District to attend college after graduation, and because all but eight participants (these eight aspired to two-year associate's degrees) reported to aspiring to a four-year bachelor's degree or higher, it is likely that this group tends to be significantly more egalitarian than the general population when it comes to issues of women's education, entry into the workplace, and equal treatment in professional roles. Cluster analysis seemed appropriate for use with this population because the variables of interest have been frequently theorized about, but rarely studied in the combinations the current study sought to explore. The cluster solutions did suggest certain trends relating particular variables to levels of career aspiration in ways that were consistent and significant. But it is possible that the exploratory and non-predictive nature of cluster analysis may have been better suited for a population with more diverse beliefs about gender roles, and with a wider range of career aspirations and varying levels of achievers.

Even stronger relationships between the variables of interest may have been found if tested in a population more representative of an average American high school, although the demographics related to what constitutes an average high school would have been difficult to quantify.

Implications

The current study offers findings that are likely to be of interest to career counseling practitioners, therapists, educators, school administrators, policy makers, and women's career development researchers. The data set collected for this study, as well as the results gleaned from the cluster analysis and correlation hypotheses, suggest that young women are influenced by parent's beliefs about gender roles in regard to work and home, and their perceptions of what their parents hope they aspire to. Although this sample included girls who were above average in ability, in their perceptions of themselves as being high achievers, and in their long term educational and career aspirations, it is likely that some of the results of the current study may be generalized to girls in a wider variety of settings. Career counselors and therapists working with young women making educational and career decisions are encouraged to explore issues related to family beliefs about gender roles in school, at work, and at home. They are further encouraged to explore how mixed messages from parents—particularly those telling girls that they must succeed academically and professionally, and must also be prepared to take on the bulk of household and childrearing roles—may instill in young women the belief that they need to compromise or even abandon their career aspirations at a greater rate than their male partners. Additionally, girls who express an interest in someday having both professional careers and families of their own, or becoming married or

otherwise partnered at some point in their futures, should be encouraged to think about and plan for how these roles can be accommodated without having to sacrifice their educational and career goals. Planning for multiple roles including parent, partner, and professional prior to taking on these roles may, as Weitzman (1994) and others have suggested, be the key to assuring that duties are shared between partners and that multiple roles are beneficial to both men and women.

Educators, school administrators, and policy makers should consider the findings of the current study in their curriculum development, and in the programs they decide to provide financial and administrative support for. In particular, they are encouraged to consider adding women's studies classes to the high school curriculum so girls have the opportunity to discuss the many workplace and relational issues they are likely to face in college, in graduate school, and ultimately, in their careers. Single-sex schools like Girls' High provide unparalleled benefits to the girls attending them, including multiple opportunities to hold leadership roles in academic, artistic, musical, political, and athletic settings; the opportunity to see other girls in those leadership positions; and the opportunity to be the best—and only—scientists and mathematicians in their classes, without exposing them to the negative experiences girls have been shown to face in many mixed-gender science and math classrooms. However, single-sex schools may also give girls an idealistic, and even unrealistic, view of the current state of gender issues they will encounter after leaving their considerably protective and unusually encouraging halls. Informal discussions with fellow Girls' High alumnae in anticipation of this study suggested that graduates were surprised by the sexism they encountered in school and work settings after leaving high school. They noted that although their Girls' High

experiences raised their expectations about what the “real world” would be like, and bolstered their beliefs about what they could become, it also failed to prepare them for dealing with the unfair gender practices they faced. School administrators and policy makers are encouraged to consider the findings of this study and the anecdotal reports of alumnae in building future opportunities for girls to learn about gender issues prior to leaving for college.

In regard to women’s career development research, the current study’s findings suggest that even within a relatively range-restricted pool of high achievers, considerable variation exists in regard to gender role attitudes and the extent to which parents’ beliefs appear to influence daughters’ beliefs. The significant relationships found between parents’ and daughters’ beliefs and career aspiration outcomes support previous research suggesting that families-of-origin are powerful influences in girls’ career decision-making processes. The results also suggest that egalitarianism—a variable frequently studied as a unidimensional construct—may have viable sub-domains related to relationships and vocations within it, and that these two domains may be transmitted differently from parents’ to daughters’. Vocational and relational domains of egalitarianism may exert different kinds of influence on girls’ career aspirations and how they plan to accommodate future multiple roles depending on the other variables occurring in girls’ lives. The exploration of different domains within egalitarianism, and other issues worthy of further research, will be discussed in the section that follows.

Suggestions for Future Research

In light of the current study’s findings, several directions for new career development research are offered.

Researchers may consider exploring how gender role attitudes are currently addressed in public high schools. For example, the high school included in this study engaged in many activities meant to indirectly challenge traditional, exclusionary, non-egalitarian ideals in the realm of work, from sponsoring career days to forming academic teams that compete on city, state, and national levels. However, it may refrain from discussing gender role issues directly—particularly those related to home life and personal relationships—because these topics are frequently seen as the domain of parents. Additionally, these topics may be placed under the rubric of family values, morality, and religion, and as such, be considered untouchable by government-funded institutions.

Another area of possible future research builds upon the results of Hypothesis 1 and Research Question 1, which suggested that family beliefs about relationships are more strongly adhered to by daughters than family beliefs about work. Since the girls in this study still live at home with their parents, it is likely that adhering to a certain amount of family-espoused ideals in regard to gender roles is a mandatory part of their day-in, day-out existence. It is also possible that daughters use their time living at home with their families as a training ground for having relationships with other people, and that many of these early ideals are not challenged until they move away from home and have relationships with roommates, partners, and others who have been exposed to wildly different familial influences.

Future research should explore the other variables that influence girls to deviate from their parents' beliefs about relational and vocational gender roles while they are living at home and once they move away. Related to this issue is how fluctuations in beliefs about gender roles occur over time, with a particular focus on the years directly

after high school, when the majority of college-bound women live away from home for the first time. Future research also could build upon the findings related to parents' influence on daughters' career aspirations by exploring how girls' long term career aspirations are influenced by the romantic relationships they engage in once they move away from home. In particular, this research could explore whether girls' willingness to compromise their long term goals is influenced by being in romantic relationships, or according to the types of relationships they are in, with a focus on girls' sexual orientation and their perceptions about the egalitarianism levels of their partners.

As found in the contrast between *Traditional But Hard-Working Planners* and the other two clusters, some girls may have adapted to having parents who expect them to be traditional wives and mothers while also succeeding academically and professionally by preparing to assume a high level of responsibility for planning for future family roles. This group of girls may be of particular interest to women's career development researchers because their moderately high career aspirations, and their belief in more traditional roles for women in home and relational settings, may lead to an adulthood marked by inordinate amounts of home-related work in comparison to their husbands. In other words, this group may be more willing to compromise their career goals in the name of being a supportive wife and mother. Alternatively, the amount of advance planning and thinking about multiple roles these girls have done may benefit them if it leads to them positioning themselves in careers that accommodate the multiplicity of roles they desire to have in their lives.

For example, as noted in the literature review, Barnett and Hyde (2001) theorized that women actually can thrive psychologically while holding multiple roles that include

highly achieving careers and active family lives, and that multiple roles are beneficial for both men and women. Underlying this theory, however, is an assumption that multiple roles are beneficial when the labor within vocational and relational settings (e.g. housework, parenting tasks, etc.) is shared equally between the two partners. This suggests that an equal division of labor is an essential component of multiple roles being good for everyone and begs the question, how much is the “right” amount of multiple role planning for high school aged girls? Is more necessarily better? Is there a relationship between over- or under-planning and over- or under-compromising when the time comes to share multiple roles with a partner? What does over- and under-compromising look like in the context of different kinds of adult relationships, including heterosexual, lesbian, and bisexual partner relationships?

A final research suggestion is predicated on the earlier suggestion that range restriction may have dampened some of the effects found in the current study. It is recommended that future researchers explore how the variables explored in this study relate to each other in samples derived from mixed-gender high schools that include students having a wide range of educational and career aspirations. It is possible that cluster analysis may reveal strikingly different results in a more academically diverse population, or may reveal even stronger relationships between aspirations, gender role attitudes, and parental influence.

Conclusion

The current study was intended to provide a “snapshot” of the current state of highly achieving young women, and to build upon the tradition of women’s career development researchers in seeking to determine what influences long term aspirations

and career success. Even as the findings from this study offer evidence suggesting that gender role attitudes and parental beliefs may hold powerful sway over girls' decisions, many questions remain. This research experience has provided the researcher with persuasive encouragement to continue exploring this rich and intriguing topic.

Appendix A
School District of Philadelphia IRB Guidelines



RESEARCH REVIEW COMMITTEE

2120 Winter Street
Philadelphia, PA 19103-1099

Tel.: (215)299-7770

FAX:(215)299-3468

PROCEDURE FOR APPLYING TO THE SCHOOL DISTRICT OF PHILADELPHIA FOR APPROVAL TO CONDUCT A RESEARCH STUDY

The School District of Philadelphia frequently receives requests from outside individuals and agencies to conduct research studies. While it is District policy to cooperate with researchers whose projects might benefit education, it is incumbent on the District to ensure that that such activities do not interfere with instruction, or require excessive pupil or staff time. For this reason, all requests to conduct research studies in schools, utilizing questionnaires, surveys, interviews, focus groups, and/or requests for student data, are screened by the Office of Research and Evaluation's Research Review Committee. Ultimate responsibility for authorization rests with the Director of the Office of Research and Evaluation and the Chief Accountability Officer.

Any agency or individual wishing to conduct research studies within the District must adhere to the following general conditions:

- i. No action may be taken in any school without the approval of the principal.
- ii. Parental approval will be required in studies which are deemed sensitive or, in the judgment of the District, potentially objectionable to parents.
- iii. No individual or school may be identified in published or reported findings without the approval of the District and the participants involved. Strict confidentiality must be maintained to protect all participants involved.
- iv. An electronic copy of all data analyzed for study must be furnished to the Office of Research and Evaluation at the conclusion of study.
- v. The principal investigator must notify the District, in writing, about the intent to submit reports or articles for publication or conference presentations.
- vi. Any reports or articles written based on this research must include the following acknowledgment: ***This research was made possible, in part, by the support of the School District of Philadelphia. Opinions contained in this report reflect those of the author and do not necessarily reflect those of the School District of Philadelphia.***
- vii. One copy of the final report must be furnished for the files of the Office of Research and Evaluation.
- viii. All state and federal laws and District regulations must be observed.

After reviewing the request, the Chair of the Research Review Committee or the Director of Research and Evaluation or his/her designee will notify the applicant in writing of the Committee's decision to approve or reject the proposal. If a project is approved, the Director or his designee will furnish the applicant with a letter or introduction to the schools or offices of the District. This letter will constitute full authorization for the candidate to conduct the study, but does not obligate a school, division or office to participate. No action can be taken in any school without the approval of the principal. Please be advised that the Chair of the Research Review Committee and the Director of Research and Evaluation or his designee reserve the right to rescind approval if it is determined that the research no longer complies with the District's mission. Should this occur, you will be notified, in writing, of the Committee's decision to rescind approval. The Research Review Committee may also require that the researcher obtain parental consent in those studies that are deemed sensitive or which use personal student information. Strict adherence to procedures guaranteeing the confidentiality of all subjects participating in any study is required.

When requested, the Director of Research and Evaluation will provide a letter for the candidate's Institutional Review Board (IRB), acknowledging that the candidate has the District's approval to conduct the study.

A. Procedure for Applying

Any agency or individual wishing to obtain District approval should submit the following materials to

Jeanine W. Molock, Ph.D., Chair
 Research Review Committee
 Office of Research and Evaluation
 Room 414, Administration Building
 2120 Winter Street
 Philadelphia, PA 19103-1099
 jmolock@phila.k12.pa.us

- Cover Page
- Five (5) copies of the research proposal
- Copies of all tests and other instruments (with the exception of well-known standardized tests)
- Copies of any planned instrument development procedures

** Please be advised that incomplete applications will not be reviewed.*

Only in exceptional circumstances will research below the doctoral level be authorized. A doctoral candidate must submit evidence that his or her committee has approved the proposal; a copy of the proposal, signed by the full committee, will suffice.

Once the proposal has been approved, no changes in procedure or instrumentation may be made without further approval.

B. Selection criteria and conditions

In addition to insisting that all state and federal laws as well as District regulations be observed, the Research Review Committee has specific scholarly and practical guidelines for evaluating proposals:

- 1) The project should have a general significance for education, educational research or improved educational practice;
- 2) The project should have utility to the District and some relation to its current priorities;
- 3) The project should have a sound research design whereby the procedures, instruments, statistical treatments, and plans for analysis answer the questions the research purports to examine;
- 4) The study may not interfere with ongoing school or office operation, nor may it place an undue burden on staff or students;
- 5) If the research demands central office, Office of Research and Evaluation or other offices' participation beyond a minimal level, the District may require compensation;
- 6) The background of the applicants will be considered in determining whether they have sufficient knowledge and skills to complete the project.

Appendix B
School District of Philadelphia Conditional Approval Letter



RESEARCH REVIEW COMMITTEE

2120 Winter Street
Philadelphia, PA 19103-1099

Tel.: (215)299-7770

FAX: (215) 299-3468

May 31, 2005

Vanessa Downing
6328 Golf Course Square
Alexandria, VA 22307

Dear Ms. Downing:

After reviewing your proposal, entitled “*Exploring the Influence of Family-of-Origin on the Career and Multiple Role Aspirations of High Ability Adolescent Women*,” we are writing to inform you that the Research Review Committee has granted your study conditional approval. Before granting final approval, the Committee asks that you meet the following conditions:

- Select a time to administer the survey that will not consume instructional time
- Include a statement in your instruments that participation is voluntary
- Address the following concerns of the Survey Committee:
 - Demographics
 - In order to ask about parental marital status and religious affiliation, the instructions (or consent) must clearly state that the student can skip any item without consequence.
 - Regarding the question asking about parental marital status, the student may respond based on her birth parents or other legal guardian.
 - Regarding the questions about highest education attained by parents, need to add response guidelines.
 - For the same question, note that “currently in school” will always be concurrent with other response options – i.e., high school is highest earned degree, and the parent is currently in school.
 - Regarding Religious affiliation – the question needs to be more specific – i.e., What is your family’s religious affiliation? Also, you will need to specify if you want to capture different denominations within Christianity and other or else you will get a combination of different levels of specificity.
 - Regarding Generation since immigration – instructions need to be more clear here.
 - “Country of origin” needs to be described more clearly.

- Regarding How far ...in school? Need to allow for a high school diploma only.
 - Final question about career plans – for this item it is unclear whether you are trying to capture the students’ career aspirations or most likely circumstances. A better item would ask students to select from a series of disciplines and then select from a series of roles (i.e., managerial or secretarial).
- Self-as-Achiever Scale
 - For this scale and all others, the response options should be reversed to read from the negative to the affirmative. In the manuscript text, you often describe the responses options as such, but the actual scales differ.
- Sex Role Egalitarian Scale Form BB – Self-Report
 - Strongly suggest adding an opportunity to explain responses at the end (like prior scales) given the controversial nature of some items.
- Attitudes Toward Multiple Role Planning Scale – Modified
 - Given the repetition in the items, it is unlikely that ten items are necessary to measure each construct. The lower alphas on the subscales are likely due to the awkward and lengthy wording of several items rather than the number of items. We suggest reducing the number of items per construct paying particular attention to eliminating confusing items such as 4 and 13. Given concerns about the length of the overall packet of surveys, we would strongly suggest greatly shortening this scale.
 - Again, the response options need to be reversed as they are described on page 19 in the text.
- Naming the Most Influential Family Member
 - In step two, the respondent is asked to describe the role of the person listed in step 1. The two steps seem redundant unless the student is being asked to provide a specific name in step 1. If the author is asking for the latter, confidentiality may be compromised. We suggest specifying that the rank order include roles, not names.
- Career Aspirations Scale – Perceptions of Parental Aspirations Form
 - The title and instructions need to be modified to allow for non-parent or guardian sources of influence.
- Sex Role Egalitarian Scale Form KK – Perception of Parental Beliefs
 - The title and instructions need to be modified to allow for non-parent or guardian sources of influence.
 - The author needs to explain why these items do not parallel the student version of the scale particularly given that these new items include more controversial topics (i.e., going to bars, dating practices, “dropping in” at a man’s house).

Once the Committee has determined that the above conditions have been met, you will receive a letter of final approval along with a letter of Permission to Conduct Research. These letters will demonstrate that you have the Research Review Committee’s approval to conduct the aforementioned research project.

If you have any further questions, please do not hesitate to contact the Chair of the Committee. She may be reached at jmolock@phila.k12.pa.us. We wish you the best for a successful study.

Regards,

Jeanine W. Molock, Ph.D.
Chair, Research Review Committee

Catherine Balsley, Ed.D.
Acting Chief Accountability Officer

Thomas J. Clark, Ed.D.
Director, Research and Evaluation

Appendix C

Instructions to Teachers and Students

Dear Class Instructor:

Thank you for assisting me with administering this survey during your advisory period. As a former student of Girls' High, I am very excited to learn about current junior and senior students' career aspirations, and hope this survey will yield some interesting results. It should take students about 15 minutes to complete the surveys, so please begin this process at the beginning of advisory period, after you have taken care of your essential class business.

In this envelope, you will find enough survey questionnaires, Scantron forms, pencils, and raffle tickets for all of your students to participate. Please begin by reading the instructional statement below to your students. Then, pass around copies of the questionnaires and Scantron forms so that students who would like to participate can do so. Once students have completed the surveys, please collect their Scantron forms and questionnaires. Please give students who participate one half of a raffle ticket and place the other half back in the manila envelope so I can correctly enter their numbers into the lottery (which is meant to thank them for their participation).

I so appreciate your help with this project, and look forward to sharing my findings with you at a later date.

Best regards,
Vanessa Downing
Class of '92

Instructional Statement:

"You are being asked to participate in a survey by a former Girls' High student who is now earning her doctoral degree in psychology at the University of Maryland. It should take you about 15 minutes to complete the survey. All juniors and seniors are being given the opportunity to participate. Every girl who does participate will be entered into a lottery and will be eligible to win one of five drawings for \$50.

If you would like to participate, please take one of the survey packets and one Scantron form out of the envelope as it comes around. Also, take a #2 pencil. To be sure your survey has been completed correctly, and to make you fully eligible for entry into the lottery, please ensure you do the following three things:

- *Please check the box on the first page of the informed consent form to indicate that you have chosen to participate.*
- *Please enter your birth date on both the Scantron form and where indicated on the questionnaire.*
- *You will see a three digit number on the top right hand corner of the survey questionnaire. Please bubble in this three digit number in the "identification #" box on the top left hand side of the Scantron form.*

Once you have completed the survey, please bring your completed questionnaire and Scantron form to your teacher. He or she will give you a lottery ticket and you will be registered in the drawings for \$50. The winning numbers will be announced before the end of the day."

Appendix D
Informed Consent/Assent Statement

Project Title	<i>Exploring the Influence of Family-of-Origin on the Career and Multiple Role Aspirations of High Ability Adolescent Women</i>
Why is this research being done?	This is a research project being conducted by Ruth Fassinger, PhD and Vanessa L. Downing at the University of Maryland, College Park. We are inviting you to participate in this research project because you are a high ability female high school student. The purpose of this research project is to understand more about the career aspirations of high ability young women.
What will I be asked to do?	The procedures involve you filling out a survey during the “advisory” class period at school. It should take you about 15 minutes to complete the survey. This survey will ask you questions about your plans for the future and will ask you how much you agree with certain statements. Examples of the kinds of statements you will be asked how much you agree with include: “ I persist in the face of obstacles until I achieve my goals.” “ It’s very important to me to try and figure out ahead of time how I will balance my career and family responsibilities.”
What about confidentiality?	The surveys are anonymous and will not contain information that may personally identify you. To protect your confidentiality, you will not be asked to give your name at any time during the survey, and you do not need to sign this form. Once the surveys have been completed, they will be stored in a locked filing cabinet in the office of one of the investigators at the University of Maryland. If we write a report or article about this research project, your identity will be protected.
What are the risks of this research?	Although this survey study utilizes no manipulation or deception, you may feel uncomfortable responding to some questions about your beliefs regarding career aspirations and future goals.
What are the benefits of this research?	Benefits to you include that exposure to this survey 1) may provoke important thinking in regard to your academic and professional future, and 2) may help you clarify your emerging belief systems.
Do I have to be in this research? May I stop participating at any time?	Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized in any way.
What if I have questions?	This research is being conducted by Ruth Fassinger, PhD and Vanessa L. Downing at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Ruth Fassinger at: 3214 Benjamin Building, College Park, MD 20742, or at 301-314-2873 or rfassing@umd.edu . If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu; (telephone) 301-405-0678. This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.

Appendix E Survey Instrument

Please use the Scantron form provided to answer all questions where indicated by filling in the letter from “A” through “J” that corresponds with your answer. **Please be sure to fill in your birth date on this questionnaire and on the Scantron form. Also be sure to write the three digit identification number in the top right hand corner of this booklet in the “identification #” box on the Scantron form.** Please write directly on this questionnaire when you are asked to provide additional information. Remember that all answers are voluntary and anonymous; you may skip items or stop the survey at any time without consequence.

Date of Birth: month _____ date ____ year 19 _____

Please answer questions 1-11 by filling in the appropriate answer bubbles on the Scantron form.

1. What year of high school are you in?
 - A) Junior
 - B) Senior

2. What is your high school GPA, on a 4 point scale (ex. straight A’s = 4.0)?
 - A) below 1.0
 - B) 1.1-1.5
 - C) 1.6-2.0
 - D) 2.1-2.5
 - E) 2.6-3.0
 - F) 3.1-3.5
 - G) 3.6-4.0

3. If you have taken the P-SAT, what range did your combined (verbal and quantitative) score fall in?
 - A) Did not take P-SAT
 - B) 700-790
 - C) 800-890
 - D) 900-990
 - E) 1000-1090
 - F) 1100-1190
 - G) 1200-1290
 - H) 1300-1390
 - I) 1400-1490
 - J) 1500-1600

4. If you have taken the SAT, what range did your combined (verbal and quantitative) score fall in?
 - A) Did not take SAT
 - B) 700-790
 - C) 800-890
 - D) 900-990
 - E) 1000-1090
 - F) 1100-1190
 - G) 1200-1290
 - H) 1300-1390
 - I) 1400-1490
 - J) 1500-1600

5. If you have taken any AP classes, indicate which ones you are currently taking or have taken in the past:
- A) AP Government and Politics
 - B) AP American or European History
 - C) AP Psychology
 - D) AP Calculus AB
 - E) AP Physics or AP Chemistry
 - F) AP Human Geography
 - G) AP English
 - H) AP Foreign Language
 - I) AP Environmental Science
 - J) AP Chemistry
6. How do you identify racially/ethnically? Indicate all that apply.
- A) African American
 - B) Middle Eastern/Arab
 - C) Caucasian/European American
 - D) Asian Indian
 - E) Latina/Hispanic
 - F) Native American/American Indian
 - G) Asian American/Pacific Islander
 - H) Foreign National
 - I) Mixed (indicate): _____
 - J) Other (indicate): _____
7. Are your birth parents or legal guardians:
- A) Married
 - B) Separated
 - C) Divorced
 - D) Never married
8. Select the highest grade completed by your mother:
- A) 8th grade or less
 - B) high school
 - C) some college
 - D) college/bachelor's degree
 - E) graduate school – master's level
 - F) graduate school – doctoral level
 - G) currently in school (please indicate which level of school by also selecting one of the choices above)
9. Select the highest grade completed by your father:
- A) 8th grade or less
 - B) high school
 - C) some college
 - D) college/bachelor's degree
 - E) graduate school – master's level
 - F) graduate school – doctoral level
 - G) currently in school (please indicate which level of school by also selecting one of the choices above)

10. Which “generation” are *you* since your family immigrated to the U.S.? (check one):
- A) 1st (you were born outside of the U.S.)
 - B) 1.5 (you were born outside of the U.S.; but spent more than 10 years of your life in U.S.)
 - C) 2nd (you were born in the U.S.; either parent was born in another country)
 - D) 3rd (you and both parents born in the U.S.; all grandparents born in another country)
 - E) 4th (you and both parents born in the U.S.; not all grandparents born in U.S.)
 - F) 5th (you, both parents, and all grandparents born in the U.S.)
11. How far do you plan to go in school?
- A) High school diploma
 - B) Non-degree advanced training
 - C) 2-year college/associate’s degree
 - D) 4-year college/bachelor’s degree
 - E) graduate school – master’s degree
 - F) graduate school – doctoral degree

Please answer the following questions by writing directly on this questionnaire.

Who do you live with? Please list everyone you live with (mother, father, sister, brother, etc.), even if you sometimes go back and forth between different parents’ or relatives’ homes.

If you have siblings, please tell us your brother(s) and/or sister(s) ages.

If your mother works outside the home, what does she do?

If your father works outside the home, what does he do?

What is your family’s religious affiliation? Please indicate denomination or “none.”

If your parents are immigrants, what country did they come from?

If you speak a language other than English at home, which language?

If you were not born in the United States, how long have you resided in the U.S.? _____ years

What career do you dream of pursuing once you have completed your desired level of education? Please be as specific as possible.

Please answer questions 12-21 by filling in the appropriate bubbles on the Scantron form. So far, you should have filled in questions 1-11. Please double-check that you are starting with the correct question – number 12 – on the Scantron form.

Please fill in the letter from “A” (very true of me) to “E” (not at all true of me) that *most describes you*. If the statement does not apply, fill in “E.” Please be completely honest about how these statements describe you.

Very True of Me	Quite a Bit True of Me	Moderately True of Me	Slightly True of Me	Not at All True of Me
A	B	C	D	E

12. I like the feeling of mastering difficult class material and teaching it to other students.
13. I seek out opportunities to continually challenge myself.
14. I tend to put more effort into my schoolwork than other students in my classes.
15. I don’t understand people who put a lot more time and effort into their work than is actually required.
16. My family and friends call me an “overachiever.”
17. I persist in the face of obstacles until I achieve my goals.
18. Putting effort into winning recognition for high grades seems like a waste of time to me.
19. When teachers assign group projects, I tend to take on most of the responsibility for getting things done.
20. Once I fail at something, I don’t usually try again.
21. I want to learn as much as I can about the things I am truly interested in.

On the Scantron form, so far, you should have filled in questions 1-21. The questions in this section are questions 22-26.

Please fill in the letter from “A” (very true of me) to “E” (not at all true of me) that *most describes you*. If the statement does not apply, fill in “E.” Please be completely honest about how these statements describe you.

Very True of Me	Quite a Bit True of Me	Moderately True of Me	Slightly True of Me	Not at All True of Me
A	B	C	D	E

22. I hope to become a leader in my career field.
23. When I am established in my career, I would like to manage other employees.
24. I would be satisfied just doing my job in a career I am interested in.
25. Once I finish the basic level of education needed for a particular job, I see no need to continue in school.
26. I plan on developing as an expert in my career field.

On the Scantron form, so far, you should have filled in questions 1-26. The questions in this section are questions 27-36.

Read each statement below and decide how much you agree or disagree with it. On the Scantron form, please fill in the letter from “A” (I strongly agree) to “E” (I strongly disagree) that most describes your personal opinion.

A	B	C	D	E
Strongly Agree	Agree	Neutral/Undecided	Disagree	Strongly Disagree

27. Women have as much ability as men to make major business decisions.
28. High school counselors should encourage qualified women to enter technical fields like engineering.
29. The family home will run better if the father, rather than the mother, sets the rules for the children.
30. It is worse for a woman to get drunk than for a man.
31. When it comes to planning a party, women are better judges of which people to invite.
32. Expensive job training should be given mostly to men.
33. It is wrong for a man to enter a traditionally female career.
34. Important career-related decisions should be left to the husband.
35. Women are more likely than men to gossip about people they know.
36. It is more appropriate for a mother, rather than a father, to change their baby's diapers.

On the Scantron form, so far, you should have filled in questions 1-36. The next questions in this section are questions 37-47. Please double-check that you are filling in the correct question numbers on the Scantron form.

Many people today are considering being involved in their career at the same time that they have children. The statements below ask you about your beliefs and feelings about how to best combine a career and a family. On the Scantron form, please fill in the letter that represents how much you agree or disagree with each statement.

A	B	C	D	E
Strongly Agree		Unsure		Strongly Disagree

37. Figuring out how to balance my career and my family confuses me because I don't feel I know enough about myself or about the stresses involved in balancing these roles.
38. It's very important to me to try and figure out ahead of time how I will balance my career and family responsibilities.
39. I really want to accomplish something in my life, to have a satisfying career and to be a good parent.
40. I seldom think about the ways that I might actually combine my career and my family obligations.
41. I'm very clear on how to plan for combining my career and family responsibilities.
42. When it comes to work and family, there's no reason why people can't "have it all" (e.g., time for both work and family) if they just try hard enough.
43. I seem to spend a lot of time these days thinking about how I will combine my family and my work responsibilities.
44. I have little or no idea of what being both a career person and a parent will be like.
45. I'm not going to give up anything. I really want to have both a career and a family.
46. I'm not going to worry about how to combine my career with my family until I'm actually involved in both of these roles.
47. I know a lot of strategies for combining a family with a career in a way that minimizes the stress involved.

Please fill out this section by writing directly on this questionnaire.

Most families are made up of several people—parents and children—who live together some or all of the time. When you think about the people in your family and what it was like to grow up in your home, you can probably think of several important adults who influenced you. For some girls, the most influential person in her life is her mother or her father. For some girls, the most influential person is a grandparent or other relative. For some girls, the most influential person in her life might not be related to her by blood.

Please think about the adults who raised you – the people who have had the most influence on you over the majority of your lifetime – the people who have influenced your most important life decisions.

Please look at the following list of roles that people in families play and think about the people who play these roles in your life. Then **rank order up to three of these most influential adults in your life, ranking the most influential person first, and marking the space next to the role that describes them with a “1,” the next influential with a “2,” and so on:**

___ mother	___ grandmother	___ foster mother
___ father	___ grandfather	___ foster father
___ stepmother	___ aunt	___ other (indicate): _____
___ stepfather	___ uncle	

In the following questions, you will be asked to answer on behalf of this person who you have ranked *most influential* – the person in the role you ranked “1.” When you read the statements, answer the questions the way you believe this person would answer if he or she were sitting here answering for himself or herself.

On the Scantron form, so far, you should have filled in questions 1-47. The next questions on this page are questions 48-52.

Now, think about your parent, legal guardian, or other person you just ranked in the *number one most influential role* – the person who has had the most influence in your life. On the Scantron form, please fill in the letter from “A” (very true of this person) to “E” (not at all true of this person) that most accurately describes *how you think that person would answer*. If the statement does not apply to that person’s beliefs, fill in “E”. Please be completely honest about how you believe that person would answer.

Very	Quite a Bit	Moderately	Slightly	Not at All
True of Me	True of Me	True of Me	True of Me	True of Me
A	B	C	D	E

48. This person hopes I will become a leader in my career field.
49. When I am established in my career, this person would like to see me manage other employees.
50. This person would be satisfied if I just do my job in a career I am interested in.
51. Once I finish the basic level of education needed for a particular job, this person doesn’t see a need for me to continue in school.
52. This person wants me to develop as an expert in my career field.

On the Scantron form, so far, you should have filled in questions 1-52. The next questions in this section are questions 53-62.

Think about the person you ranked in the number one role – think about what that person believes about men and women and how he or she would feel about the following statements. On the Scantron form, please fill in the letter from “A” (this person would strongly agree) to “E” (this person would strongly disagree) that most describes *that person’s personal opinion*, whether you agree with it or not.

A	B	C	D	E
Strongly	Agree	Neutral/Undecided	Disagree	Strongly
Agree				Disagree

53. Women should have as much right as men to go to a bar alone.
54. A woman should have as much right to ask a man for a date as a man has to ask a woman for a date.

55. Choice of college is not as important for women as for men.
56. Sons and daughters ought to have an equal chance for higher education.
57. Women ought to have the same chances as men to be leaders at work.
58. A woman should not be President of the United States.
59. Women can handle job pressures as well as men can.
60. Things work out best in a marriage if the husband stays away from housekeeping tasks.
61. Both the husband's and the wife's earnings should be controlled by the husband.
62. Fathers are not as able to care for their sick children as mothers are.

Last question – fill in Scantron form number 63:

It may have been difficult to answer some of these questions if you have several adults in your life that you consider very influential. If you had been given the opportunity to answer the questionnaire on behalf of the person you ranked as “2” (or, second-most influential), how much do you think your second-ranked person would have agreed with the top-ranked person's answers? Please fill in the Scantron letter for number 63 that most closely represents how much you think #2 would agree with #1's answers.

A	B	C	D	E
#2 person	#2 person	#2 person	#2 person	#2 person
would have	would have	would have	would have	would have
<i>totally disagreed</i>	<i>somewhat disagreed</i>	<i>neither agreed</i>	<i>somewhat agreed</i>	<i>totally agreed</i>
with #1 person	with #1 person	<i>nor disagreed</i>	with #1 person	with #1 person
		with #1 person		

Before you hand in your questionnaire to your teacher and get your lottery ticket, please ensure that you have:

- **filled in your birth date on this questionnaire.**
- **filled in your birth date on the Scantron form.**
- **filled in the number on the top right hand corner on the first page of this questionnaire in the “identification #” box on the Scantron form.**

Please take your completed questionnaire and Scantron form up to your teacher when you are finished and he or she will give you a lottery ticket. Lottery winner numbers will be announced at the end of the day.

THANK YOU!

References

- Auster, E. R. (2001). Professional women's mid-career satisfaction: Toward an explanatory framework. *Sex Roles, 6*.
- Barak, A. (1981). Vocational interests: A cognitive view. *Journal of Vocational Behavior, 19*, 1-14.
- Barnett, R., & Baruch, G. (1985). Women's involvement in multiple roles and psychological distress. *Journal of Personality and Social Psychology, 49*, 135-145.
- Barnett, R., Gareis, K., James, J. & Steele, J. (2003). Planning ahead: College seniors' concerns about career-marriage conflict. *Journal of Vocational Behavior, 62*(2), 305-319.
- Barnett, R. & Hyde, J. (2001). Women, men, work, and family: An expansionist theory. *American Psychologist, 56*(10).
- Basow, S. (1992). *Gender stereotypes and roles*, 3rd ed. Pacific Grove, CA: Brooks/Cole.
- Beere, C., King, D., Beere, D., & King, L. (1984). The sex-role egalitarianism scale: A measure of attitudes toward the equality between the sexes. *Sex Roles, 10*(7/8), 563-576.
- Betz, N. & Fitzgerald, L. (1987). *The career psychology of women*. New York: Academic Press.
- Bond, J., Galinsky, E. & Swanberg, J. (1998). *The 1997 study of the changing workforce*. New York: Families and Work Institute.
- Borgen, F.H., & Barnett, D.C. (1987). Applying cluster analysis in counseling psychology research. *Journal of Counseling Psychology, 34*, 456-468.

- Brown, M. T., Eisenberg, A. I., & Sawilowsky, S. S. (2004). Traditionality and the discriminating effect of expectations of occupational success and occupational values for women within math-oriented fields. *Journal of Vocational Behavior*, 50(3), 418-431.
- Burke, P. C. (1995). Identity development in mid-life: A qualitative study of professional women in the 1990s (Doctoral dissertation, University of Connecticut). *Dissertation Abstracts International*, Section A, March 1995.
- Buhrke, R. (1988). Factor dimensions across different measures of sex role ideology. *Sex Roles*, 18, 309-321.
- Carter, D. (1987). Current conceptions of sex roles and sex typing: Theory and research. New York: Praeger.
- Chiu, C. (1998). Do professional women have lower job satisfaction than professional men? Lawyers as a case study. *Sex Roles*, 4.
- Davies, B. & Banks, C. (1992). The gender trap: A feminist poststructuralist analysis of primary school children's talk about gender. *Journal of Curriculum Studies*, 24, 1-25.
- Deutsch, F., Servis, L., & Payne, J. (2001). Paternal participation in child care and its effects on children's self-esteem and attitudes toward gendered roles. *Journal of Family Issues*, 22(8), 1000-1024.
- Fassinger, R. E. (1985). A causal model of college women's career choice. *Journal of Vocational Behavior*, 27, 123-153.
- Fassinger, R. (1998). Hitting the ceiling: Gendered barriers to occupational entry, advancement, and achievement. In L. Diamant & J.A. Lee (Eds.), *The psychology*

- of sex, gender, and jobs: Issues and solutions* (pp. 21-45). Westport, CT: Praeger.
- Fassinger, R. E. (1990). Causal models of career choice in two samples of college women. *Journal of Vocational Behavior, 36*, 225-248.
- Fiebig, J. (2003). Gifted American and German early adolescent girls: Influences on career orientation and aspirations. *High Ability Studies, 14*(2), 165-183.
- Fitzgerald, L. & Weitzman, L. (1992). Women's career development: Theory and practice from a feminist perspective. In Z. Leibowitz & D. Lea (Eds.), *Adult career development* (2nd ed., pp. 124-160). Alexandria, VA: National Career Development Association.
- Frey, C. (1998). Struggling with identity: Working with seventh- and eighth-grade gifted girls to air issues of concern. *Journal for the Education of the Gifted, 21*(4), 437-451.
- Gomez, M. J., Fassinger, R. E., Prosser, J., Cooke, K., Mejia, B., & Luna, J. (2001). Voces abriendo caminos (voices forging paths): A qualitative study of the career development of notable Latinas. *Journal of Counseling Psychology, 48*(3), 286-300.
- Goode, W. (1960). A theory of role strain. *American Sociological Review, 25*, 483-496.
- Hargrove, B. K., Creagh, M. G. & Burgess, B. L. (2002). Family interaction patterns as predictors of vocational identity and career decision-making self-efficacy. *Journal of Vocational Behavior, 61*, 185-201.
- Kerr, B. (1993). Career assessment for gifted girls and women. *Journal of Career Assessment, 1*(3), 258-266.
- King, D. & King, L. (1986). Validity of the sex-role egalitarianism scale: Discriminating

- egalitarianism from feminism. *Sex Roles*, 15(3/4), 207-214.
- Leaper, C. (2002). Parenting boys and girls. In M.H. Barnstein (Ed.), *Handbook of parenting: Vol. 1. Children and parenting* (2nd ed., pp. 189-225). Mahwah, NJ: Erlbaum.
- Lawson, S. O. (2000). Psychosocial factors that influence the psychological well-being of professional black women in mid-life (Doctoral dissertation, Walden University). *Dissertation Abstracts International*, Section A, June 2000.
- Lewis, V. G., & Borders, L. D. (1995). Life satisfaction of single middle-aged professional women. *Journal of Counseling and Development*, 74(1), 94-100.
- Lottes, I. (1991). Belief systems: Sexuality and rape. *Journal of Psychology and Human Sexuality*, 4, 37-59.
- Lottes, I. & Kuriloff, P. (1992). The effects of gender, race, religion, and political orientation on the sex role attitudes of college freshman. *Adolescence*, 27(107).
- Marjoribanks, K. (1987). Gender, social class, family environments and adolescents' aspirations. *Australian Journal of Education*, 31, 43-54.
- Marjoribanks, K. (2003). Family background, individual and environmental influences, aspirations and young adults' educational attainment: A follow-up study. *Educational Studies*, 29(2/3), 233-242.
- Masson, A & Hornby, E. (1986). Counseling women: Different ways now. *Guidance and Counseling*, 1, 54-58.
- McBride, A. B. (1990). Mental health effects of women's multiple roles. *American Psychologist*, 45(3).
- McCracken, R. S., & Weitzman, L. M. (1997). Relationship of personal agency, problem-

solving appraisal, and traditionality of career choice to women's attitudes toward multiple role planning. *Journal of Counseling Psychology*, 44(2), 149-159.

Mendez, L.M. & Crawford, K. (2002). Gender-role stereotyping and career aspirations: A comparison of gifted early adolescent boys and girls. *Journal of Secondary Gifted Education*, 13(3), 96-107.

National Association for Single Sex Public Association. (2004).

<http://www.singlesexschools.org/schools-schools.htm>

National Parenting Association. (2002). *High-Achieving Women, 2001*. New York City, NY. Noble, K. (1994). *The sound of a silver horn: Reclaiming the heroism in contemporary women's lives*. New York: Fawcett Columbine.

Noble, K., Subotnik, R., & Arnold, K (1999). To thine own self be true, a new model of female talent development. *Gifted Child Quarterly*, 43(4), Summer.

O'Brien, K. M., & Fassinger, R. E. (1993). A causal model of the career orientation and career choice of adolescent women. *Journal of Counseling Psychology*, 40(4), 456-469.

O'Brien, K. M., Gray, M. P., Tourajdi, P. P., & Eigenbrode, S. P. (1996, August). *The operationalization of women's career choices: The career aspiration scale*. Paper presented at the 1996 annual meeting of the American Psychological Association.

O'Brien, K. M., Miller Friedman, S., Tipton, L. C., & Geschmay Linn, S. (2000). Attachment, separation, and women's vocational development: A longitudinal analysis. *Journal of Counseling Psychology*, 47, 301.

Paa, H. K. & McWhirter, E. H. (2000). Perceived influences on high school students' current career expectations. *The Career Development Quarterly*, 49, 29-44.

- Peake, A. & Harris, K. (2002). Young adults' attitudes toward multiple role planning: The influence of gender, career traditionality, and marriage plans. *Journal of Vocational Behavior, 60*, 405-421.
- Pearson, S. & Bieschke, K. (2001). Succeeding against the odds: An examination of familial influences on the career development of professional African American women. *Journal of Counseling Psychology, 48*(3).
- Polasky, L. J. (1998). Maternal self-discrepancies, interrole conflict, and negative affect among married professional women with children. *Journal of Family Psychology, 12*, 388.
- Pomerleau, A., Bolduc, D., Malcuit, G. and Cossette, L. (1990). Pink or blue: Environmental gender stereotypes in the first two years of life. *Sex Roles, 22*, 359-367.
- Poole, M. E., Lanagan-Fox, J., Ciavarella, M. & Omodei, M. (1991). A contextual model of professional attainment: Results of the longitudinal study of career paths of men and women. *The Counseling Psychologist, 19*, 603-624.
- Post, R. D. (1982). Dependency conflicts in high-achieving women: Toward an intergration. *Psychotherapy: Theory, Research & Practice, 19*(1), 82-87.
- Rainey, L. & Borders, L. (1997). Influential factors in career origination and career aspiration of early adolescent girls. *Journal of Counseling Psychology, 44*(2), 160-172.
- Reddin, J. (1997). *High-achieving women: Career development patterns*. Thousand Oaks, CA: Sage Publications.
- Richie, B. S., Fassinger, R. E., Geschmay Linn, S., Johnson, J., Prosser, J., & Robinson,

- S. (1997). Persistence, connection, and passion: A qualitative study of the career development of highly achieving African American-Black and White women. *Journal of Counseling Psychology, 44*(2), 133-148.
- Rodenhiser, J. M. (1998). Factors affecting adolescent female career development: The role of parental attitudes and behaviors in relation to the traditionality of female adolescent occupational preference (Doctoral dissertation, State University New York at Albany). *Dissertation Abstracts International, Section B*, July 1998.
- Rogers, S. J., & Amato, P. R. (2000). Have changes in gender relations affected marital quality? *Social Forces, 79*(2), 731-753.
- Ruble, D. (1988). Sex role development. In M.H. Barnstein, & M.E. Lamb (Eds.), *Developmental psychology: An advanced textbook, 2nd ed.* Hillsdale, NJ: Erlbaum.
- Ruderman, M., Ohlott, P., Panzer, K. & King, S. (2002). Benefits of multiple roles for managerial women. *Academy of Management Journal, 45*(2).
- Russo, N. (1976). The motherhood mandate. *Journal of Social Issues, 32*(3), 143-153.
- Sabattini, L., & Leaper, C. (2004). The relation between mothers' and fathers' parenting styles and their division of labor in the home: Young adults retrospective reports. *Sex Roles, 50*(3/4), 217-225.
- Steffy, B. D., & Jones, J. W. (1988). The impact of family and career planning variables on the organizational, career, and community commitment of professional women. *Journal of Vocational Behavior, 32*, 196-212.
- Tenenbaum, H. & Leaper, C. (2002). Are parents' gender schemas related to their

- children's gender-related cognitions? A meta-analysis. *Developmental Psychology*, 38(4).
- Tokar, D. M., & Jome, L. M. (1998). Masculinity, vocational interests, and career choice traditionality: Evidence for a fully mediated model. *Journal of Counseling Psychology*, 45(4), 424-435.
- Tomini, B. & Page, S. (1992). Vocational bias and gender: Evaluations of high school counselors by Canadian university undergraduates. *Canadian Journal of Counseling*, 26, 100-106.
- Vondracek, F., Lerner, R., & Schulenberg, J. (1986). *Career development: A lifespan approach*. Hillsdale, NJ: Lawrence Erlbaum.
- Weitzman, L. (1994). Multiple-role realism: A theoretical framework for the process of planning to combine career and family roles. *Applied & Preventive Psychology*, 3, 15-25.
- Weitzman, L. & Fitzgerald, L. (1996). The development and initial validation of scales to assess attitudes toward multiple role planning. *Journal of Career Assessment*, 4, 269-284.
- Whiston, S., & Keller, B. (2004). The influences of the family of origin on career development: A review and analysis. *The Counseling Psychologist*, 32(4), 493-568.
- Wieggers, R. M., & Frieze, I. H. (1977). Gender, female traditionality, achievement level, and cognitions of success and failure. *Psychology of Women Quarterly*, 2(2), 125.
- Wilgosh, L. (2001). Enhancing gifts and talents of women and girls. *High Ability Studies*, 12(1), 45-59.

- Witt, S. (1997). Parental influence on children's socialization to gender roles. *Adolescence, 32*(126).
- Wolfe, L. K. (1982). Traditionality of choice, sex-role orientation, performance self-esteem and career centeredness as moderators of the congruence of occupational choice in college women (Doctoral dissertation, Ohio State University). *Dissertation Abstracts International*, November, 1982.
- Yogev, S. (1981). Do professional women have egalitarian marital relationships? *Journal of Marriage and Family Therapy, 11*, 865-871.
- Zimman, M. J. (1996). High-achieving women and sense of self (Doctoral dissertation, Massachusetts Professional School of Psychology). *Dissertation Abstracts International*, Section B, 57(5-B), 3446.