INFLUENTIAL FACTORS IN CAREER ORIENTATION AND CAREER ASPIRATION OF EARLY ADOLESCENT FEMALES

by

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A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1995

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March 29, 1995
Date of Acceptance by Committee

March 29, 1995
Date of Final Oral Examination

RAINEY, LESLIE MARTIN, Ph.D., Influential Factors in Career Orientation and Career Aspiration of Early Adolescent Females. (1995)
Directed by Dr. L. DiAnne Borders, 129 pp.

The extent to which a variety of theoretically-based factors influence career development of females in early adolescence was investigated. In particular, this study expanded upon models proposed by Fassinger (1990) and O'Brien and Fassinger (1993) by examining to what extent school performance, agentic characteristics, gender role attitudes, mother-daughter relationship, and maternal characteristics influence the career orientation and career aspiration of adolescent females.

Participants were 276 seventh and eighth grade females and their mothers from six middle schools in rural North Carolina. Demographic information and measures of the study variables were obtained from adolescent and maternal participants. Separate structural equation modeling procedures were used to test two models of career development, with career orientation and career aspiration as the final outcome variables.

Results indicated that, for this population of early adolescent females in a rural setting, adolescent agentic characteristics and maternal characteristics were predictive of adolescent gender role attitudes, with almost half of the variance ($R^2 = .47$) in this endogenous variable being accounted for. Minimal variance ($R^2 = .05$) in the final outcome variable career orientation was accounted for. The model did not fit for this outcome variable. Career aspiration, however, was predicted by adolescent agentic characteristics, maternal characteristics, and mother-daughter relationship, with almost one-fourth ($R^2 = .25$) of the variance in this outcome variable being accounted for.

ACKNOWLEDGEMENTS

At graduation ceremonies degrees are awarded to individuals. However, no degree is earned in isolation. Without direction, guidance, and support from faculty, family, and friends, I would not be celebrating the completion of my doctoral studies.

It is with heartfelt gratitude that I thank the chair of my doctoral committee, Dr. Leslie DiAnne Borders, for her abiding belief in my ability, her incisive writing and editing skills, and her uncanny sense of timing. She always knew when to challenge, to reassure, to teach, to support, to comfort, and to laugh. The members of my committee, Dr. James M. Benshoff, Dr. J. Christian Busch, and Dr. Sarah M. Shoffner, were constant in their support and generous in their encouragement throughout my doctoral program, particularly during the research phase. This committee is affectionately known as "The Do-Whoppers."

My family, Steve, Salem Martin, Joseph Steven, and Teddie, have been my rock and my haven. This degree belongs as much to them as it ever will to me. Pam: my motivator, my cheerleader, my self-appointed "ex-officio committee member," and always my friend.

Appreciation also is expressed to all "my cohorts in crime," those doctoral students who have provided a sense of comraderie and an atmosphere of collegiality, as well as ears to listen; to Mrs. Venus Pinnix for her enduring patience, practical assistance, and clerical expertise.

Finally, a debt of gratitude is owed to the administrators and middle school counselors of Randolph County Schools and to the seventh and eighth grade female students and their mothers who chose to participate in this study. Without their time and responses, this study would not have been possible.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

INTRODUCTION

There has never been a time in the United States when women did not work. Even though, in the early 1900s, women in the paid labor force were the exception rather than the rule, women were employed, primarily in domestic service, factory work, and teaching (Betz & Fitzgerald, 1987). Generally, these employed women worked only until they married and had children; those who continued working throughout adulthood usually did so due to their life circumstances (i.e., never married or early widowhood) (Betz & Fitzgerald) rather than because they desired to combine family and career roles.

Since the 1940s and the World War II years, however, women have entered the workforce in steadily increasing numbers, both before and after marriage, with and without children (Betz & Fitzgerald, 1987). Even more striking changes have been noted since the early days of the women's movement. For example, the number of women in the paid labor force in the United States nearly doubled between 1960 and 1980; this represented an increase from 23 million to almost 45 million women, more than half the adult female population in 1980 (Sanford & Donovan, 1984). In 1990, approximately 57 million adult women (16 years and older) were in the paid labor force in the United States, and it is projected that women will comprise 47% of the labor force by 2005 (U. S. Department of Labor, Women's Bureau, 1992). For today's female, then, working outside the home is almost inevitable. As Hyde (1985) discovered, the working woman today is not a deviation from the norm. Rather, she is the norm.

Thus, it appears there is no longer much question if women will participate in the labor force. More relevant questions today are what types of careers women consider and what factors influence their choices, particularly in light of evidence that most women continue to be employed in low paying, traditionally female careers and jobs, such as social work, teaching, nursing, sales, technical work, and administrative support positions (Post-Kammer & Smith, 1985; U. S. Department of Labor, Women's Bureau, 1983). Perhaps even more important questions are those aimed at adolescent females who are at the beginning of their career development. Information about what careers they consider, how they make choices regarding possible career options, and what factors influence their choices could be useful to researchers and practitioners who want to assist these young women in expanding their options.

One particularly promising model of career development for women has identified several variables that influence career choices for college-aged women (Fassinger, 1990). In contrast to other models that emphasize either individual or societal factors, Fassinger's multidimensional model includes a combination of individual and societal variables that influence career development. Using a multivariate causal model, Fassinger found that ability, agentic characteristics, feminist orientation, and family orientation were predictive of career orientation and career choice in college women.

Building on Fassinger's (1990) model, O'Brien and Fassinger (1993) included an additional relational variable, the mother-daughter relationship, and tested the model with high school (senior) females. The specific variables used to define the mother-daughter relationship were perceived attachment to the mother and psychological separation from the mother. Their findings supported Fassinger's previous work, but also indicated that the here-to-fore untested variables associated with the mother-daughter relationship were critical to

understanding the daughter's career decisions. Specifically, they found that late adolescent females who demonstrated moderate degrees of independence from and attachment to their mothers tended to value career pursuits (O'Brien & Fassinger, 1993). Clearly, further investigation into the mother-daughter relationship is needed to identify specific variables that can be targeted in prevention and intervention programs designed to assist females' career development.

Also, despite the new information provided, there are several limitations in the work based on Fassinger's model to date. First, O'Brien and Fassinger (1993) did not fully examine the mother's role in the daughter's career development. Even though O'Brien and Fassinger noted the importance of exploring the role of the mother in career choices of young women, the model tested did not address any maternal variables (e.g., employment status, educational status, gender role attitudes) that previous research (e.g., Betz & Fitzgerald, 1987; Etaugh, 1974; Smith & Self, 1980) has identified as significant in the career development of women and adolescents. Second, the model has not been explored with females in early adolescence, the period when identity development, including career identity, is just beginning. Young females are particularly vulnerable to limiting career options during the beginning stages of adolescence and, in fact, already may have eliminated many possibilities (Gottfredson, 1981). Consequently, little is known about what factors and attitudes influence the career aspirations and career orientation of females during the critical period of early adolescence.

Early adolescence also has been identified as a critical turning point in the relationship between mothers and daughters (Brown & Gilligan, 1992). It is during this early phase of adolescent development that daughters begin to transition from childhood dependence on mother to the developmental tasks of psychological separation (i.e., identifying their own

values, goals, and attitudes) while maintaining a healthy, moderate attachment to mother. The goal is helping daughters establish a balance of independence from (psychological separation) and connection with (attachment to) their mothers, a balance that promotes progress toward identity achievement for the adolescent.

Thus, the importance of the early adolescent period in influencing young females' career orientation and career aspiration is clear. Application of the expanded Fassinger model (O'Brien & Fassinger, 1993) could provide our first insights into the efficacy of this model for young women.

Purpose of the Study

The intent of this study was to expand the models proposed by Fassinger (1990) and O'Brien and Fassinger (1993) in two ways: (a) by including selected maternal variables which seem to influence career aspiration and career orientation of early adolescent females, and (b) by focusing on female early adolescents. Two proposed models are illustrated in Figure 1 (Model 1) and Figure 2 (Model 2). Since it has been determined that most current adolescent females will be active in the paid work force during their adult years, the question of interest was whether specific factors pertinent to older female adolescents' career development (i.e., ability, agentic characteristics, gender role attitudes, attachment and psychological separation in the mother-daughter relationship, and maternal characteristics) also are influential at the beginning of the career development process. This study was unique in that it pulled together all variables identified to date and applied that existing knowledge to a new and very significant population.

Need for the Study

One of the tasks of public education is to provide its consumers with information and skills that will prepare them for a variety of life roles (Renzetti & Curran, 1989). This is a

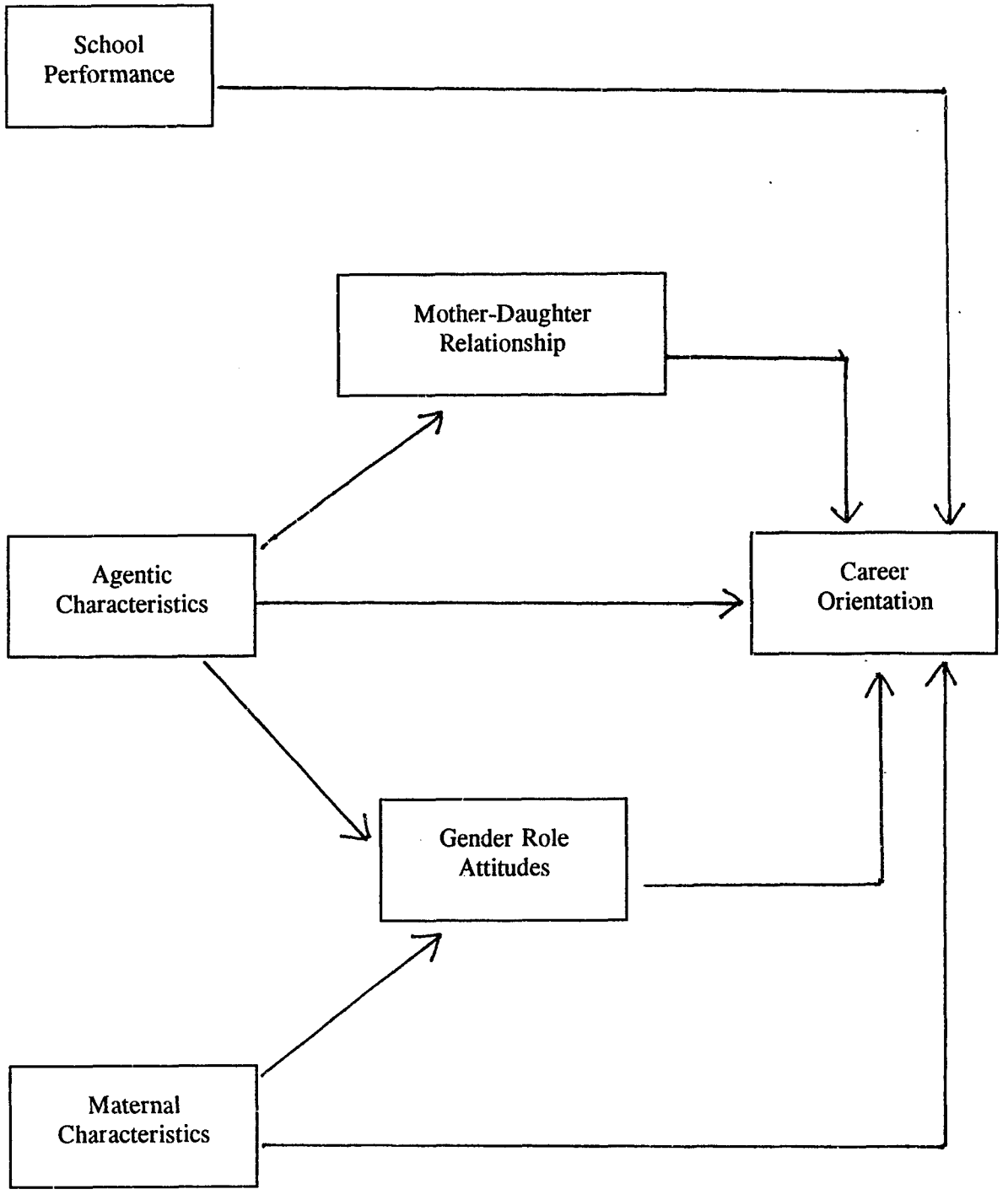

Figure 1. Hypothesized Path Model of Influential Factors in Career Orientation of Early Adolescent Females

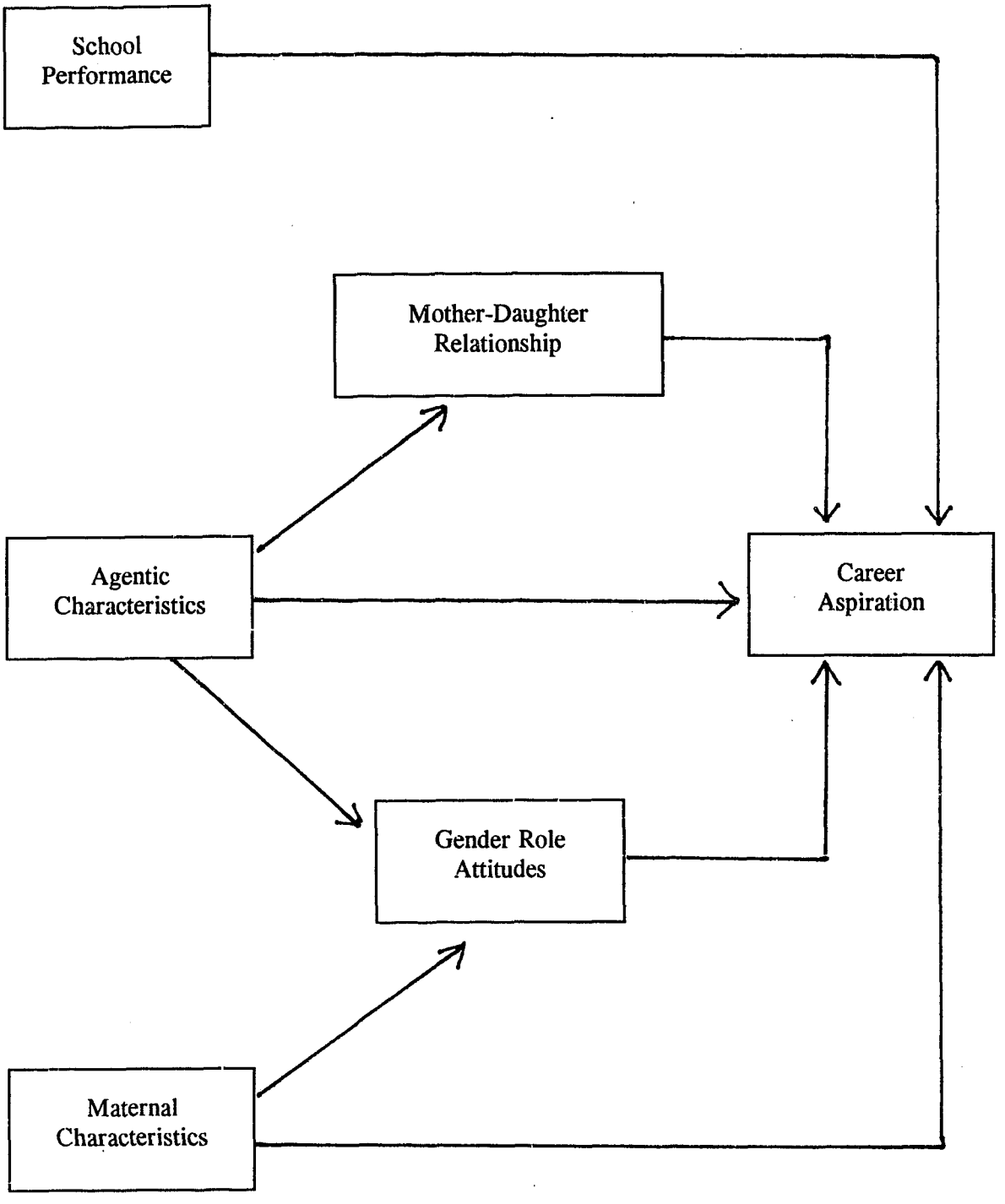

Figure 2. Hypothesized Path Model of Influential Factors in Career Aspiration of Early Adolescent Females

monumental task when considering the diverse needs, talents, and skills of the consumers--students of all ages, races, ethnic backgrounds, male and female, who attend public schools. However, it becomes an impossible task if educators have limited knowledge or understanding of the factors that may promote successful mastery of the developmental tasks of the age-group and gender with whom they work. Since one of the main tasks of adolescence is the exploration of life roles, such as work and family involvement, it is important for middle grade educators and counselors to have an awareness of and access to information about factors which influence middle grade students' exploration. Since this exploration is particularly difficult for - but vital to - adolescent females, this study investigated some specific factors which may influence the career aspiration and orientation of female adolescents as they move through the tasks of identity development. It is important to investigate these factors if we are to design programs and interventions to support adolescent females in making choices that will encourage and sustain optimal use of their abilities and exploration of their interests.

Statement of the Problem

The proposed study examined the following research questions:

1. How well does the proposed model of relationships among school performance, agentic characteristics, gender role attitudes, mother-daughter relationship, maternal characteristics and career orientation of early adolescent females depicted in Figure 1 fit?
2. How well does the proposed model of relationships among school performance, agentic characteristics, gender role attitudes, mother-daughter relationship, maternal characteristics and career aspirations of early adolescent females depicted in Figure 2 fit?

Definition of Terms

The following terms are defined as they apply in this study:

School performance - academic grade point average of the student. For the purposes of this study, school performance was measured by the final grade point average of the previous academic year.

Agentic characteristics - willingness to describe oneself in traditional male, instrumental terms (e.g., independence, assertiveness, leadership). For the purposes of this study, agentic characteristics were measured using the instrumental descriptors (the masculine scale) on the Short Bem Sex-Role Inventory (Bem, 1981).

Gender role attitudes - attitudes toward women demonstrated by the identification of specific behaviors as appropriate for females and/or males. Gender role attitudes were measured by the Attitudes Toward Women Scale for Adolescents (Galambos, Petersen, Richards, & Gitelson, 1985).

Mother-daughter relationship - the perceived attachment (quality of close relationship) the daughter feels toward her mother, as well as the level or degree of psychological separation (independence from the mother) perceived by the daughter. For the purposes of this study, the mother-daughter relationship was be measured by the Inventory of Parent and Peer Attachment mother subscale (Armsden & Greenberg, 1987; 1992) and items appropriate for early adolescents from the Psychological Separation Inventory (Hoffman, 1984). Maternal items from each of the four subscales (i.e., attitudinal independence, conflictual independence, emotional independence, and functional independence) of the PSI were included.

Mother - the female adult caregiver in the home. For the purposes of this study, the mothering relationship was measured by self-report of the adult female.

Maternal characteristics - employment status, educational status, and gender role attitudes and agentic characteristics of the mother. For the purposes of this study, employment status and educational status were measured by self-report of the mother. Gender role attitudes were measured by the Attitudes Toward Women Scale for Adolescents (Galambos et al., 1985); agentic characteristics were measured by the masculine items on the Short Bem Sex-Role Inventory (Bem, 1981).

Career orientation - selection, based on interest, of possible career choices considered traditional (more than 70% of employees are female), non-traditional (fewer than 30% of employees are female), and neutral (30%-70% employees are women) for females. For the purposes of this study, the Occupational Check List (Brooks, Holahan, & Galligan, 1985) was used to measure career orientation.

Career aspiration - the value and importance attributed to having a career and the desire to advance to leadership positions within a career. The Career Aspiration Scale (O'Brien, 1993a) was used to measure career aspiration for the purposes of this study.

Organization of the Study

This study is presented in five chapters. Chapter I is an introduction to the involvement of women in the workforce and factors which influence career aspiration and career orientation of females in early adolescence. Specifically, the study expands a conceptual model of career development for women in two ways. Included in Chapter I are the purpose of the study, need for the study, statement of the problem, and definition of the terms.

Chapter II is the Review of Related Literature. This chapter reviews research on career development theories of women and variables that are specific to career development of

women and adolescents including ability and school performance, agentic characteristics, gender role attitudes, mother-daughter relationships, and maternal characteristics.

Chapter III describes the design and methodology used in the study, including instruments, participants, procedures, and data analysis.

Chapter IV presents the results of the study. Discussion of the data analysis and results corresponds with the hypotheses.

Chapter V includes a summary of the study, conclusions, and implications for the field of counseling. In view of the results and limitations of this study, recommendations for future research also are suggested.

CHAPTER II

REVIEW OF RELATED LITERATURE

The field of vocational or career development originated at the turn of the century with the work of Parsons and his approach of matching "men with jobs" (Betz & Fitzgerald, 1987, p. 3). It has only been in the past 30-35 years that the trend of increasing numbers of women in the paid labor force has begun to merit attention from media and government (Sanford & Donovan, 1984), as well as the field of psychology and counseling (Betz & Fitzgerald, 1987). Thus, the vocational literature has only approximately 30 years of study and research to support knowledge regarding women's career development.

Historical Overview: Research on Women's Career Development

In a review of this vocational literature, Betz and Fitzgerald (1987) described three approaches to research in women's career development. The earliest attempts to investigate career development of women utilized a dichotomous approach, attempting to distinguish homemaking from career orientation in women (Hoyt & Kennedy, 1958). The assumption was that women would be inclined toward one role or the other, not both.

The usefulness of this dichotomous approach proved limited when increasing numbers of women began seeking ways of combining home and career (Rand & Miller, 1972; Watley & Kaplan, 1971). Thus, the trend in research shifted to exploration of the nature and degree of career choices for women in terms of traditional versus nontraditional occupations. Women engaging in nontraditional careers were identified as "pioneers" (Rossi, 1965) or "innovators" (Almquist, 1974; Tangri, 1972). Research focused on identifying characteristics of women who participated in traditional versus nontraditional careers. However, this

approach also proved restrictive by dichotomizing women's occupational choices as either traditional or nontraditional. Variables describing the importance of work and commitment to work in women's lives were not considered. For example, a woman in a traditional career (e.g., elementary school teacher) may exhibit as much or more commitment to her career as a woman in a nontraditional career (e.g., engineering). Conversely, home and family roles may be as salient to the female chief executive officer as they are to her executive secretary.

Consequently, a third approach to women's career development evolved in which patterns of career involvement for women were investigated. Super (1957) initially utilized the concept of patterns to describe the career development of men; he also was among the first to propose this same approach be used to investigate career development of women. Specifically, Super (1957) described seven career patterns for women (e.g., the stable homemaking pattern, the conventional career pattern, the double-track career pattern). Since Super's efforts, a number of researchers (e.g., Betz, 1984; Harmon, 1967; Zytowski, 1969) have proposed various other patterns, such as reentering the workforce when children are older or maintaining continuous employment in a nontraditional occupation, to describe the career development of women.

Thus, the investigation of career development of women has expanded to include variables that account for various combinations of home, family, and work roles, as well as exploration of degree of commitment to and participation in those roles. This approach is unique to women's career development because of the societal expectation that homemaking and childrearing roles are traditionally within a woman's domain, while men typically focus on the breadwinner role. Because women's life choices tend to be more complex than men's (i.e., how to combine home and career roles), there are variables hypothesized to be significant in the career development of women that generally are not relevant to men's career

development (i.e., sex role attitudes, restricted earning power, home-career conflict) (O'Brien & Fassinger, 1993). Accordingly, researchers have expressed interest in developing and testing theories and models of career development specific to women (e.g., Astin, 1984; Fassinger, 1985; 1990; Gottfredson, 1981; Hackett & Betz, 1981; O'Brien & Fassinger, 1993).

Theories and Models of Women's Career Development

Self-efficacy: Hackett and Betz

In an effort to examine the uniqueness of career development for women, Hackett and Betz (1981) proposed the application of self-efficacy theory (Bandura, 1977) to the career domain. Bandura defined self-efficacy as the beliefs one has regarding one's ability to successfully perform tasks or exhibit certain behaviors. Using this definition, Hackett and Betz postulated that women, more so than men, have limited access to information that would support development of self-efficacy expectations in career choices, particularly nontraditional choices. Self-efficacy expectations are developed based on information received from performance accomplishments, vicarious experiences (observation of others), verbal encouragement or persuasion from others, and physiological or emotional arousal (anxieties) (Bandura, 1986). In the vocational domain, Hackett and Betz (1981) noted gender-role socialization has limited the information women receive from each of these sources. For example, they observed that girls are less likely than boys to have opportunities to develop abilities in areas particularly related to nontraditional careers (i.e., math, mechanical abilities). Hackett and Betz also noted that girls receive less encouragement for pursuing any career, but especially those careers in nontraditional fields.

While the general hypothesized relationship between self-efficacy expectations and vocational behavior has been documented (Betz & Hackett, 1981; Post-Kammer & Smith,

1985; Rotberg, Brown, & Ware, 1987), studies examining the role of gender differences in this relationship have provided less consistent results (Brown & Brooks, 1990). For example, Betz and Hackett (1981) found that college-aged females' self-efficacy for five of ten nontraditional occupations was lower and weaker than the self-efficacy for college-aged men for the same occupations. Post-Kammer and Smith (1985) found similar results with eighth and ninth grade students, but for fewer occupations (i.e., two of ten). However, other researchers (e.g., Ayres, 1980; Lent, Brown, & Larkin, 1984; 1986) documented no gender differences in career-related self-efficacy expectations and vocational behavior. Lent and Hackett (1987) suggested these inconsistencies may be due in part to measurement and sampling techniques used in these studies. Specifically, varying levels of specificity in the self-efficacy measures (Ayres, 1980) and homogeneity in the samples (all participants were science and technical majors) used by Lent et al. (1984; 1986) may account for the absence of gender differences in these studies.

In addition, several researchers have explored self-efficacy beliefs' explanatory power regarding perceived career options. Results indicate inconsistency in the predictive contribution of self-efficacy beliefs regarding range of perceived career options. Using a regression analysis, Betz and Hackett (1981) found self-efficacy beliefs to be significant predictors of the range of perceived career options while ability was not as effective in predicting the same dependent variable. But the contribution of the predictive value of self-efficacy beliefs was less consistent when examined with expressed vocational interests. Post-Kammer and Smith (1986) concluded that both interests and self-efficacy were predictive of math- and non-math related occupations for women, but only interests were predictive for men. In a related study, Rotberg et al. (1987) noted that self-efficacy was predictive of a range of perceived career options after interests, socioeconomic status, race, gender, and sex-

role orientation were partialed out for male-dominated but not for female-dominated careers. Consequently, support for the predictive contributions of self-efficacy is tentative (Brown & Brooks, 1990).

Circumscription and Compromise: Gottfredson

Gottfredson (1981) introduced a developmental model of career aspiration designed to address the differences in aspiration according to group (e.g., social class, gender, race). Thus, this theory is applicable to both women and men. Gottfredson suggested that occupational aspirations are determined by a process of circumscription and compromise--elimination and accessibility. The circumscription process defines the zone of suitable career possibilities based on the self-concept of the individual; elements of the self-concept specific to vocational aspirations include gender, social class, intelligence, interests, values, and abilities. Occupations compatible with the self-concept will be retained within the range of desirable choices; those that are incompatible with the self-concept will be circumscribed (eliminated).

This circumscription process is developmental and begins around age three when a child develops the "concept of being an adult" (Gottfredson, 1981, p. 548). Gender self-concept evolves in the next stage and occurs around ages six to eight. The third stage (ages 9-13) addresses the concepts of social class and intelligence while the fourth stage, age 14 and up, refines the concepts of personal values, interests, and attitudes. The range or zone of acceptable occupations is progressively narrowed (circumscribed) as the individual rejects occupations as being incompatible with gender, social class, ability, personal interest, and then values.

The zone of acceptable vocational alternatives is then viewed in terms of accessibility as defined by social and environmental factors (e.g., geographical location, perceived

discrimination, prestige). Thus, occupations that are considered suitable but inaccessible are compromised. Aspirations are typically sacrificed according to interest, prestige, and sex type. For example, if an occupation (e.g., mechanical engineering) is of interest to a woman but is inconsistent with her gender self-concept, interest will be sacrificed. Similarly, a woman may choose a sex-typed appropriate occupation (e.g., nursing) even though it is of minimal interest to her. Gottfredson (1981) concluded that women continue to cluster in lower-status, lower-paying occupations because these areas are compatible with their vocational self-concepts and are considered accessible.

A series of studies have supported Gottfredson's (1981) basic theory of circumscription and compromise, but also have indicated that the process is more complex than she suggested. Specifically, Holt (1989) investigated the compromise patterns of social work (Social type) (Holland, 1985) and engineering (Realistic type) majors based on interest and prestige, omitting gender. Findings indicated social work majors (Social type) were more concerned with interest than prestige while Realistic types (engineering majors) were more concerned with prestige than interest. Thus, Holt concluded compromise may be more a function of Holland type rather than gender. Additionally, while Henderson, Hesketh, and Tuffin (1988) found support for the developmental nature of circumscription, they suggested gender-typing occurs at an earlier age (before age six) than indicated by Gottfredson, and that girls exhibit more flexibility in gender-typing of occupations than do boys, a finding supported by others (e.g., Frost & Diamond, 1979; Taylor & Pryor, 1985).

In evaluating the contributions of Gottfredson's theory to the field of career development, Pryor (1985) noted several strengths of this particular model. He identified the integration of a developmental framework with the decision-making aspects of career behavior as well as the inclusion of nonpsychological factors as specific strengths. However, the

utilization of the self-concept construct is viewed as inadequate because it identifies "things in relation to which they stand to other things rather than in terms of their inherent properties" (Pryor, 1985, p. 155). While Pryor (1985) noted this weakness is not unique to Gottfredson's theory, it does undermine the explanatory power of the self-concept regarding career decisions.

Other critics have suggested that the dimensions of the compromise process, specifically prestige and sex-type, are not as independent as proposed by Gottfredson (Taylor & Pryor, 1985). These researchers have questioned the likelihood of changing career interests without also compromising prestige and/or gender-type of the occupational choice. The generalizability of the hierarchy of the compromise dimensions also is arguable (i.e., gender-typing may not be as significant as interest for some individuals) (Taylor & Pryor, 1985). The circumscription and compromise approach also does not account for possible effects of social change on the self-concept. There is no provision for reconsideration of previously eliminated careers or for consideration of newly emerging occupations (Astin, 1984). Thus, Gottfredson's model does not allow for changes in career aspirations beyond early adolescence except in undefined, unusual circumstances.

Need-Based Sociopsychological Model: Astin

In an effort to develop a theory describing not only career choices of women, but also explaining changes in women's career aspirations, Astin (1984) proposed a need-based sociopsychological model applicable to men and women. Astin's (1984) model of career development includes both psychological factors (work motivation, expectations) and sociological factors (gender-role socialization, structure of opportunity). These factors are not considered mutually exclusive; rather, the interaction of psychological and sociological influences is central to Astin's model.

Astin (1984) proposed work motivation (behavior intended to satisfy survival, pleasure, and contribution needs) is the same for women and men but results in different choices because early socialization experiences and structural opportunities support different expectations of how to satisfy the basic needs. Expectations are a function of the interaction of an individual's gender-role socialization and the perceived structure of opportunity. Socialization occurs in family, play, work, and school settings when an individual is reinforced for exhibiting gender-differentiated behavior. Structure of opportunity, a dynamic construct, is influenced not only by gender-role socialization, but also by historical events (i.e., Women's Movement), the economy, job distribution, reproductive technology, family structure, and other social changes. These historical and social events, in turn, influence gender-role socialization. According to Astin, it is this cycle of interaction between gender-role socialization and structure of opportunity that accounts for changes in career expectations for women and men.

An advantage of Astin's (1984) model is the inclusion of sociological constructs such as the dynamic quality of the structure of opportunity, thus allowing for changes in career expectations of men and women over the lifespan. However, the model has been criticized for its vague definitions of terms, particularly regarding paid and unpaid work (Betz & Fitzgerald, 1987), and failure to formulate specific hypotheses, which make it difficult to test empirically (Harmon, 1984).

Multidimensional Models: Fassinger, O'Brien and Fassinger

In response to Betz and Fitzgerald's (1987) review of current research on women's career development, Fassinger (1990) proposed a covariate causal model of career choice. She incorporated a multidimensional set of variables, including ability, agentic characteristics, feminist orientation, and family orientation as the exogenous variables. Fassinger (1990)

suggested these independent latent variables are predictors of the dependent variables career orientation and mathematics orientation which, in turn, influence career choice among college-aged women.

Fassinger's model is supported by previous research which identified variables predictive of women's career orientation and career choices. For example, the literature consistently has supported the positive influence of academic success and ability on women's career orientation and openness to nontraditional occupational choices (e.g., Fassinger, 1985; Greenfield, Greiner, & Wood, 1980; Hyde, 1985; Vetter, 1980). High levels of instrumentality and self-esteem also have been found to be predictors of career orientation and career choice in women (Betz & Hackett, 1987; Cook, 1985; Gilbert, 1985; Fassinger, 1985; Jones & Lamke, 1985; Lemkau, 1983; Metzler-Brennan, Lewis, & Gerard, 1985; Spence & Helmreich, 1980, 1981). Finally, a number of researchers (e.g., Czajka & Mason, 1976; Fassinger, 1985; Stringer & Duncan, 1985; Vetter, 1980; Yount, 1986) found that gender role attitudes and stereotypes were related to family and career decisions among women. Specifically, traditional attitudes indicated a tendency toward more traditional choices regarding family and career roles. Fassinger's model was an attempt to explore the interaction and relative importance of these previously identified individual predictor variables.

In 1993, O'Brien and Fassinger expanded Fassinger's (1990) model to include factors in the mother-daughter relationship. Their work incorporated research exploring the role of familial influence, particularly the mother's influence, on the career development process of women. These influences included the mother as role model (Betz & Fitzgerald, 1987; Fassinger, 1985) and, more recently, psychological developmental issues (e.g., psychological separation from and attachment to parents; Blustein, Walbridge, Friedlander, & Palladino,

1991; Josselson, 1987; Lopez & Andrews, 1987). For example, Josselson (1987) noted the importance of parental attachment regarding career development, particularly for adolescent females. Specifically, she suggested that adolescent females who demonstrate moderate levels of attachment move more easily toward occupational decision-making, a component of identity achievement in adolescents.

Accordingly, in O'Brien and Fassinger's (1993) expanded model, the mother-daughter relationship is defined in terms of psychological separation and attachment. Thus, this recent model of career choice and career orientation explores the influence of the mother-daughter relationship as well as the daughter's ability, agentic characteristics, and gender role attitudes on career choices and career orientation.

O'Brien and Fassinger (1993) tested their model with high-school senior females, rather than college-aged women, in response to Fassinger's (1990) call for future research testing the model with diverse age groups. Results indicated career choice and career orientation of high-school senior females were predicted by their ability, agentic characteristics, and gender role attitudes, as well as the daughter's relationship with her mother. Results also indicated complex interrelationships among the variables. Specifically, it appeared that career pursuits are valued among young women who have liberal gender-role attitudes, are instrumental regarding careers (specifically math careers), and who demonstrate moderate levels of attachment and psychological separation from their mothers. Additionally, young women with high ability and strong agentic characteristics indicated greater interest in nontraditional and higher prestige careers. Liberal gender role attitudes were associated with instrumentality.

The here-to-fore untested variable, relationship with mother, was found to contribute to career choice and career orientation in the high school women. Specifically, a moderate

attachment to mother combined with a healthy psychological separation from mother supported movement toward mature career development (i.e., career orientation and choice) among the seniors.

Although O'Brien and Fassinger's (1993) work represents a significant contribution to women's career development literature, several significant limitations are easily identified. First, O'Brien and Fassinger's population was made up of predominantly white, middle to upper class females attending a private, college preparatory, all-girls high school.

Additionally, other maternal factors which have been associated with the daughter's career development (e.g., Almquist & Angrist, 1970; 1971; Douvan, 1976; Etaugh, 1974; Harmon, 1978; Smith & Self, 1980; Weeks, Wise, & Duncan, 1984) were not included in O'Brien and Fassinger's (1993) model. For example, several researchers (e.g., Almquist & Angrist, 1970, 1971; Altman & Grossman, 1977; Bielby, 1978; Douvan, 1976; Huth, 1978) have noted that daughters of working mothers tend to be more career oriented than daughters of homemakers. Maternal level of education also has been associated with the daughter's career development (Freun, Rothman, & Steiner, 1974; Harmon, 1978; Russo & O'Connell, 1980). In addition, Weeks et al. (1984) found that a daughter's career orientation is influenced not only by her own gender role attitudes, but also by the mother's attitudes. An expansion of O'Brien and Fassinger's (1993) model to include these characteristics of the mother could provide a more comprehensive understanding of the career development process of young females. Study of young adolescents would be particularly helpful, so that researchers and practitioners could know whether the same influences are at work during earlier, more amenable periods of a young female's career development.

In summary, the current trend in women's career development research is the investigation of models of career choice that include personal, societal, and psychological

variables believed to influence the complex life choices women have available. The young female of today can anticipate choosing among numerous options regarding combinations of work and family in traditional and nontraditional fields (Baber & Monaghan, 1988; O'Connell, Betz, & Kurth, 1989). Therefore, in order for young women to make informed choices, it is necessary to investigate what factors influence those choices. This study, then, will focus on applying an expanded version of O'Brien and Fassinger's (1993) model with young adolescents, a population which has received almost no attention in the empirical literature on women and career development (Gelso & Fassinger, 1992). In the following section, existing literature for each of the variables to be included in the expanded model is reviewed.

Variables Specific to Women

School Performance

Intellectual ability or academic success consistently has been identified as an influential predictor of women's career orientation, particularly regarding nontraditional areas such as math and science (Betz & Fitzgerald, 1987; Chipman & Thomas, 1985; Fassinger, 1985, 1990; Greenfield et al., 1980; Hay & Bakken, 1991; Hyde, 1985; O'Brien & Fassinger, 1993; Vetter, 1980; Wise, 1985). For example, ability and academic success in college courses were found to be predictors of choice of careers in mathematics and science for women (Greenfield et al., 1980; Vetter, 1980). Both Fassinger (1990) and O'Brien and Fassinger (1993) found that ability was a predictor of career orientation which in turn was associated with career choice, although both noted an overlap of ability and gender role attitudes, making it difficult to determine the unique contribution of ability. In fact, Fassinger (1990) suggested that when ability levels are similar, gender role attitudes may be more influential in career choice. However, when ability levels vary, ability may become a

primary predictor of career choice. Specifically, Fassinger (1990) suggested that high ability combined with liberal gender role attitudes regarding work and family and agentic (instrumental) personality characteristics were associated with a high level of career orientation which, in turn, was indicative of career choices which tended to be science-related, high prestige, and nontraditional for women.

In a rare study of young females (i.e., sixth grade females), Hay and Bakken (1991) found ability to be associated with career orientation. Specifically, they determined that high ability sixth grade females indicated preference for more nontraditional occupations while their average ability peers favored traditional jobs.

One of the concerns raised by Betz and Fitzgerald (1987) is the tendency of females to underutilize abilities in career development. While there seems to be no basis to suggest that females are inherently intellectually inferior (Betz & Fitzgerald, 1987; Hyde, 1985), there is indication that women's career aspirations and choices are often lower than those of males with comparable intellectual ability (Fitzgerald & Crites, 1980), particularly regarding careers in mathematics and science (Betz & Hackett, 1983; Chipman & Thomas, 1985; Singer & Stake, 1986; Wise, 1985).

In a sample of college students, Hesse-Biber (1985) found that male students tended to select a wider range of possible career options than did their female peers even though ability levels were similar. High school female adolescents also tended to identify fewer occupations as suitable than did their male counterparts (Poole & Clooney, 1985). Specifically, high school females tended to identify occupations clustering in the clerical-service (e.g., computer programmer, primary teacher, librarian) category while high school males selected a wider range and higher status occupations (e.g., doctor, large business owner or manager, psychologist) as suitable (Poole & Clooney, 1985).

In summary, while school performance seems to be a factor in career development of women, particularly adolescents, there apparently are other factors that also are influential in this process. Most of the empirical literature regarding the relationship of ability with career development addresses women in late adolescence (high school or college age) or adulthood. There is a lack of empirical information on the influence of academic performance on the career process for younger adolescents, a critical period when they may begin to discount their abilities when considering careers (Brown & Gilligan, 1992; Gottfredson, 1981).

Agentic Characteristics

The career development of women also appears to be influenced by certain personality characteristics, including instrumental or agentic characteristics. Characteristics typically descriptive of an instrumental personality (e.g., willingness to take risks, assertive, leadership ability) have been identified as facilitative in helping women make independent career choices. Researchers (e.g., Betz & Hackett, 1987; Cook, 1985; Gilbert, 1985; Jones & Lamke, 1985; Lemkau, 1983; Metzler-Brennan et al., 1985; Spence & Helmreich, 1980, 1981) consistently have suggested that women who choose nontraditional careers demonstrate higher levels of instrumentality or agentic characteristics.

In college-aged women, strong agentic personality characteristics were found to be predictive of high levels of career orientation and a tendency to make science-related, high prestige, nontraditional career choices (Fassinger, 1990). Similarly, O'Brien and Fassinger (1993) found that agentic personality characteristics were predictive of high levels of career orientation in their sample of high school senior females. Both Fassinger (1990) and O'Brien and Fassinger (1993) noted that when combined with high ability and liberal gender role attitudes, agentic personality characteristics facilitated choice of science-related, nontraditional, high prestige occupations for these young women.

Thus, instrumental personality characteristics seem to be an important variable in career orientation and career choice for high school and college aged women. Whether these characteristics already are at work in career development of young adolescents is unknown.

Gender Role Attitudes

Closely related to agentic personality characteristics is an attitudinal variable, gender role attitudes, also believed to influence women's career development (Betz & Fitzgerald, 1987). Gender role attitudes refer to one's attitudes toward the rights and roles of women in society, particularly regarding vocational and educational roles. Even though in general women's gender role attitudes seem to be slowly moving in a more liberal direction, the concept of attitudes toward women's roles and rights has consistently been a significant predictor of women's career choice (Betz & Fitzgerald, 1987). Several researchers (e.g., Czajka & Mason, 1976; Fassinger, 1985, 1990; Hay & Bakken, 1991; O'Brien & Fassinger, 1993; Stringer & Duncan, 1985; Vetter, 1980; Yount, 1976; Zuckerman, 1981) have identified parallels between gender role attitudes and career orientation and career choices for women. For example, Stringer and Duncan (1985) found that women employed in nontraditional occupations (e.g., skilled crafts, labor, technical fields) were more likely to demonstrate nontraditional gender role attitudes.

In a study of male and female undergraduate students, Zuckerman (1981) found that female participants with more liberal gender role attitudes tended toward more nontraditional career choices and had a higher expectation for full-time employment than did females with more traditional gender role attitudes. Similarly, Fassinger (1985) found that liberal gender role attitudes were among the strongest predictors of career orientation, career aspiration, and nontraditionality of career choices among college aged women. More recently, Fassinger (1990) suggested that career orientation and career choices of college women are generally

determined by a combination of factors, including gender role attitudes. In particular, she found that liberal gender role attitudes, combined with high ability and instrumental personality characteristics, are predictive of high levels of career orientation and a tendency toward high prestige, nontraditional career choices for women. O'Brien and Fassinger (1993) noted similar results in their work with high school females. They found that a combination of ability, agentic characteristics, gender role attitudes, and relationship with mother were predictive of career orientation and career choice among high school senior females. Specifically, they suggested that high school senior females who demonstrate liberal gender role attitudes, maintain moderate degrees of separation and attachment to mother, and who are instrumental toward careers are more likely to value career pursuits.

In a study of sixth grade females, Hay and Bakken (1991) found that girls who indicated more liberal gender role attitudes also expressed greater interest in nontraditional occupations. Additionally, they found a relationship between ability and gender role attitudes among the 12-year old females; high ability was associated with more liberal attitudes toward women in society while average ability females indicated more traditional attitudes toward women.

In summary, although several researchers have explored the influence of gender role attitudes on the career orientation and choices of young women, the focus has remained on females in late adolescence, particularly college age, or on specific populations (e.g., gifted females). Even though Katz (1979) suggested that adolescence offers one of the best times in the lifespan to study attitudes toward gender roles and attitudes toward women's participation in the work force, current empirical literature is limited regarding the influence of gender role attitudes on the career development process of females in early adolescence.

Mother-Daughter Relationship

The relationship between mothers and daughters has been examined from a variety of perspectives (e.g., Apter, 1990; Bell-Scott, Guy-Sheftall, Royster, Sims-Wood, DeCosta-Willis, & Fultz, 1991; Caplan, 1989; Debold, Wilson, & Malave, 1993; Friday, 1977; Glickman, 1993; Surrey & Surrey, 1991; Walters, 1992), including feminist orientation, ethnic influence, and the development of the relationship across the lifespan. Mothers have been found to influence various aspects of daughters' development, including the daughter's gender role attitudes (e.g., Ahrens & O'Brien, 1994), personality and ego (e.g., Richards, Gitelson, Petersen, & Hurtig, 1991), interpersonal skills (e.g., Tolman, Diekmann, & McCartney, 1989), and psychological well-being (e.g., Raja, McGee, & Stanton, 1992). However, little has been known about specific aspects of the mother-daughter relationship that may contribute to career development.

As researchers have begun to explore the relationship between the identity formation process and the career development process (e.g., Blustein, Devenis, & Kidney, 1989; Lopez & Andrews, 1987; Lopez, Watkins, Manus, & Hunton-Shoup, 1992), the possible direct and/or indirect influence of the mother has been highlighted (Fassinger, 1985; O'Brien, 1993a, 1993b; O'Brien & Fassinger, 1993). In particular, psychological separation and attachment to mother have been associated with career development in late adolescents (e.g., Blustein et al., 1991; Josselson, 1987; Lopez & Andrews, 1987; O'Brien, 1993a, 1993b). Since it has been hypothesized that identity development for young women may include a struggle between the characteristic adolescent need for separation and a relational desire for connection with others (i.e., attachment) (Apter, 1990; Miller, 1986; Stern, 1990), the interrelatedness of the mother-daughter relationship and career development is believed to be especially significant.

The concept of attachment, proposed by Bowlby (1969/1982) and Ainsworth, Blehar, Waters, and Wall (1978), initially referred to the physical and psychological relationship that develops between an infant and primary caregiver (usually mother) during the first year of life. Through this attachment relationship, the infant forms a secure base that supports and promotes healthy movement through other developmental processes, such as separation from the mother and family as the infant explores her external environment. Although originally viewed as an infant-mother event only, the concept of attachment has been utilized in exploring relationships throughout the lifespan (Ainsworth, 1989; Antonucci, 1976; Collins & Read, 1990; Kenny, 1994; Troll & Smith, 1986; Weiss, 1986). In particular, a healthy attachment relationship between parents and early adolescents has been found to promote self-confidence and to facilitate adolescent transition into middle school (Papini & Roggman, 1992; Papini, Roggman, & Anderson, 1991).

Adolescence represents a period of redefining the attachment relationship as the adolescent moves through the process of developing individual goals, values, and desires separate from the primary caregiver (Ainsworth, 1989). The need for additional research on the nature of attachment during adolescence in order to understand the normal changes that occur in the parent-child relationship has been noted (Ainsworth, 1989).

Closely related to attachment is the process of psychological separation. According to developmental theory (e.g., Blos, 1979; Erikson, 1968; Josselson, 1987; Marcia, 1980), adolescence is typically a time of developing an individual sense of self that is separate from others, particularly parents. The primary task of psychological separation is the formation of individual goals, desires, and values which facilitate movement toward independence and autonomy for the adolescent. Noting the simultaneous occurrence of identity formation and career development, Lopez and Andrews (1987) suggested that career decisions of adolescents

would be influenced by identity development, including the processes of psychological separation and attachment.

Several researchers have investigated this premise. Blustein et al. (1991) found that both attachment to and psychological separation from parents facilitated progress in committing to career choices in a sample of college undergraduates (male and female, ages 20-25). Additionally, O'Brien (1993a, 1993b) reported degrees of attachment and psychological separation were influential in the career development of high school senior females. Those females who demonstrated moderate levels of attachment to their mothers as well as moderate degrees of psychological separation from their fathers tended to exhibit very strong career self-efficacy beliefs, moderate levels of career orientation, and partially congruent career choices.

These mother-daughter relationship variables also were included in O'Brien and Fassinger's (1993) model of career choice. They found that the mother-daughter relationship may have a significant influence on the career future of adolescent females. Specifically, O'Brien and Fassinger (1993) reported that moderate levels of attachment to and psychological separation from their mothers were associated with daughters' career orientation, which in turn influenced career choice, in a sample of high school senior females.

In summary, while particular aspects of the mother-daughter relationship have been identified as influential in the psychological well-being of young adolescents (e.g., Papini & Roggman, 1992; Papini et al., 1991) and in the career development of high school and college age females, the interrelatedness of these processes has not been examined with females in early adolescence. Therefore, it is not clear whether specific factors (i.e., attachment and psychological separation) in the mother-daughter relationship that influence career development in late adolescence also are operative during the early stages of adolescent

development, a particularly crucial period in the mother-daughter relationship (Brown & Gilligan, 1992; Debold et al., 1993; Stern, 1990).

Maternal Characteristics

In an extensive review of vocational literature regarding women's career development, Betz and Fitzgerald (1987) identified numerous maternal characteristics which are believed to influence the career development of women. Specifically, Betz and Fitzgerald (1987) found mother's educational background, employment history, and gender role attitudes to be factors which may influence the career processes of young women. These characteristics are discussed individually in the following section.

Maternal education. Educational level of both mothers and fathers consistently has been related to career orientation and career choice, particularly nontraditional choices, in women. For example, female medical school applicants were found to have parents (mother and father) with higher educational levels than male applicants (Freun et al., 1974). Similarly, Harmon (1978) noted that women who receive doctoral degrees in humanities as well as scientific fields have more highly educated parents than do men who receive doctoral degrees. For example, mothers of women who received doctoral degrees in psychology ranked higher in years of education than mothers of men who received doctoral degrees in psychology (Russo & O'Connell, 1980).

Additionally, maternal level of education has been associated with the daughter's gender role attitudes which, in turn, are associated with career orientation and career aspiration in women (Meier, 1972). For example, Smith and Self (1980) found that college educated mothers demonstrated gender role attitudes that were more similar to their college aged daughters than did mothers without a college education. These researchers suggested that mothers with higher educational levels tend to communicate more effectively with their

daughters and interact in ways that strongly impress the maternal gender role attitudes (traditional and nontraditional) upon the daughter.

Other researchers (e.g., Hertsgaard & Light, 1984; Tallichet & Willits, 1986; Zuckerman, 1981) also have indicated that maternal level of education influences gender role attitudes of daughters. In particular, junior high age girls whose mothers were college educated indicated more liberal gender role attitudes than did those girls whose mothers did not have a college education (Hertsgaard & Light, 1984). Similar results were found with high school females (Tallichet & Willits, 1986) and with college-aged females (Zuckerman, 1981).

In summary, the educational level of the mother appears to have both direct and indirect influences on the career development of young females. What is not clear is the influence maternal education has on career orientation directly and indirectly through gender role attitudes of young adolescent females.

Maternal employment. Maternal employment is perhaps the most extensively examined variable of maternal influences on daughters' career development. In a comprehensive review, Etaugh (1974) noted that "studies of career aspirations among females have yielded one of the few consistent findings in the maternal employment literature; namely, that working women's daughters have higher aspirations than do daughters of nonworking women" (Etaugh, 1974, p. 85). Douvan (1976) postulated that working mothers provide a role model of female career involvement that facilitates the career development process for daughters. When asked what person they would most like to be like, daughters of working mothers most often chose their own mother as their model (Douvan & Adelson, 1966). Mothers who work in the paid labor force may present a role model for daughters, indicating that women can engage successfully in a variety of activities (Keith, 1981).

Among college-aged females, maternal employment has been associated with career orientation as well as with gender role attitudes of the daughter (Altman & Grossman, 1977; Baruch, 1972, 1974; Keith, 1981, 1988; Vogel, Broverman, Broverman, Clarkson, & Rosenkrantz, 1970; Zuckerman, 1981). Vogel et al. (1970) noted that maternal employment appeared to have a strong influence on the gender role attitudes of college-aged daughters. Daughters of employed mothers demonstrated more liberal gender role attitudes and viewed women as more competent than did daughters of homemaker mothers.

Other researchers (e.g., Altman & Grossman, 1977; Baruch, 1972, 1974; Zuckerman, 1981) have indicated similar findings. Specifically, Altman and Grossman (1977) suggested that college- aged daughters of working mothers exhibited more liberal gender role attitudes and indicated greater interest in nontraditional career goals than did daughters of nonworking mothers. In a unique longitudinal study which followed college-aged females for a period of eight years, Bielby (1978) determined that mother's presence in the labor force had an ultimate positive influence on the daughter's career development. She also found that more liberal gender role ideology in the adult daughter was related to greater career salience.

Maternal employment also has been associated with career orientation and aspiration in high school-aged females. In a study of high school female juniors, Burlin (1976) noted that mothers were viewed as significant role models in the development of career goals by their daughters. In particular, maternal employment in nontraditional occupations was associated with aspirations of daughters to be employed in nontraditional occupations. Leslie (1986) indicated that employed mothers provided a strong role model for high school junior and senior females in their assessment of the benefits and costs of employment and parenthood. Daughters of employed mothers tended to use their mothers' experiences in

determining the costs and rewards of employment and parenthood while daughters of homemakers indicated difficulty in assessing the role of employment.

Additionally, maternal employment has been associated with development of gender role stereotyping in five- to eleven-year- old girls. Marantz and Mansfield (1977) found that young daughters of employed mothers were more likely to suggest that going to work and earning money were activities appropriate for men and women. These daughters also indicated that childcare and homemaking tasks were appropriate for both men and women. Women also were perceived as competent, emotionally strong, and competitive by daughters of employed mothers.

In summary, maternal employment has been investigated extensively as a factor in the career development and gender role attitude development of daughters. However, the relative significance of maternal employment has not been tested with young adolescent females. Thus, maternal employment will be included in the models proposed in this study.

Gender role attitudes and agentic characteristics. Maternal gender role attitudes are believed to influence directly and indirectly the career aspiration and orientation of daughters because of the effect of maternal attitudes on gender role attitudes of daughters (Baruch, 1972, 1974; Hay & Bakken, 1991; Rollins & White, 1982; Sholomskas & Axelrod, 1986; Smith & Self, 1980; Weeks et al., 1984). Rollins and White (1982) noted the similarity between maternal gender role attitudes and the gender role attitudes of 10- to 14-year old daughters. Daughters' attitudes toward work, marriage, and children were found to be similar to their mothers attitudes, traditional or nontraditional, toward the same life roles. In a study of sixth grade females and their mothers, Hay and Bakken (1991) noted that daughters of mothers who expressed more liberal gender role attitudes demonstrated more contemporary attitudes toward women's roles in society as well as greater interest in more nontraditional

career options. Likewise, daughters of mothers who demonstrated more traditional gender role attitudes expressed greater traditionality in future career possibilities and more traditional attitudes toward women's roles in society.

Some researchers have noted that the influence of the mother's gender role attitudes on the daughter's attitudes may be more important than other demographic factors such as maternal education or employment status (Smith & Self, 1980; Weeks et al., 1984). However, Smith and Self (1980) did note a positive interaction between maternal level of education and effectiveness in communicating attitudes to the daughter, a finding supported by others (Meier, 1972).

Weeks et al. (1984) also noted the similarity between mothers' and daughters' gender role attitudes in a sample of high school females and their mothers. While the results of this particular study did not support a direct relationship between maternal gender role attitudes and daughter's career plans, the authors noted that, in general, daughters were more career oriented than their mothers. The daughters' career orientation may be a reflection of more liberal gender role attitudes throughout society regarding women's involvement in paid employment (Weeks et al.).

In a related study, Repetti (1984) examined the influence of parental gender role personality traits on the development of gender role stereotyping in children. Using the Bem Sex-Role Inventory (Bem, 1974) as a measure of parental gender role stereotyping, Repetti reported that maternal gender role traits appeared to play an important part in the acquisition of gender role stereotypes in children. Gender role personality traits appear to be closely related to gender role attitudes in the literature. For clarification between personality and attitudinal variables, the influence of maternal agentic characteristics also will be examined in this study.

Thus, it appears that maternal gender role attitudes may be an important predictor of the daughter's gender role attitudes which, in turn, are believed to be predictive of career orientation and aspiration in adolescence. However, it is not clear how maternal gender role attitudes and agentic characteristics may interact directly and/or indirectly with numerous other variables (ability, instrumentality, maternal education, maternal employment) hypothesized to influence career orientation and aspiration in young adolescent females.

Career Orientation and Career Aspiration

Outcome variables specific to women's career development usually take into account the expectation that women's life choices include multiple roles (e.g., marriage, motherhood, career) and varying levels of participation in and commitment to those roles (Betz & Fitzgerald, 1987). Career development for men has focused specifically on the content of career choice since men seldom face competing life role choices. Thus, while career choice may be the most relevant outcome variable for men, other outcome variables may be relevant for women's career development. Variables believed to influence women's eventual career choice are career orientation and career aspiration (Fassinger, 1985, 1990; O'Brien, 1993a, 1993b; O'Brien & Fassinger, 1993).

An area that needs clarification in the literature is the difference between traditionality of career orientation and level of career aspiration (Reid & Stephens, 1985). It is possible for a female to aspire to high levels of participation in typically traditional career fields (e.g., nursing, teaching). Conversely, a female scientist may choose to remain in entry level positions in order to have time for other life roles (e.g., marriage, motherhood). Thus, a desired goal would be clarity in definition of terms specific to women's career development.

Career orientation for women is generally defined in terms of traditionality versus nontraditionality of areas of interest (Brooks et al., 1985). However, some researchers have

defined career orientation in terms of degree of commitment to and level of anticipated participation in careers (O'Brien, 1993a, 1993b; O'Brien & Fassinger, 1993). Confusion about the definition of outcome variables is exacerbated by inconsistency in the names of instruments used to measure career orientation. For example, a ten-item career orientation instrument (Career Orientation Scale; O'Brien, 1993a) is the same instrument entitled Career Aspiration Scale used in other studies (e.g., O'Brien, 1993b; O'Brien & Fassinger, 1993). Items on this particular scale evaluate one's expected participation in and commitment to advancement in one's chosen field (e.g., I plan on developing as an expert in my career field). Thus, the names of scales are not always congruent with the construct supposedly measured.

For the purposes of clarification in this study, career orientation will be defined as interest in traditional versus nontraditional career options and measured by a checklist of traditional, nontraditional, and neutral career options (OCL; Brooks et al., 1985). Career aspiration will be defined as anticipated level of participation in and commitment to future career and measured by the Career Aspiration Scale (O'Brien, 1993a). A young female's ideas regarding appropriate life and occupational gender roles are already being refined during early adolescence. It is particularly important for young women to receive support and information that will enhance exploration of life and career roles. With encouragement, young women are more likely to base life and career choices on ability and interest rather than limiting their options based solely on gender (Reid & Stephens, 1985).

Summary

In sum, the empirical research on women's career development indicates there are multiple variables which are believed to influence career orientation and aspiration in adolescent females. Currently, the trend in adolescent women's career development is the

development and testing of models of career choice incorporating numerous factors including school performance, agentic characteristics, gender role attitudes, and relationship with mother (attachment and psychological separation). Additional factors also hypothesized to influence women's career development are maternal characteristics (e.g., gender role attitudes, agentic characteristics, education, employment). However, no model has been developed or tested that examines the influence of factors specific to the adolescent as well as the influence of maternal characteristics. Additionally, current models of career choice have been tested with late adolescents but not with adolescents in the early stages of career development. Further studies may help determine if factors that influence career development of late adolescent females also are pertinent to females in the initial years of career development. Results of such studies may help educators develop curriculum and design programs and interventions that would facilitate and expand young females' movement through the tasks of career development. This study is aimed at extending current empirical literature in two ways: (a) incorporating multiple factors that have been found to influence career development in late adolescent females, and (b) applying those factors to early adolescent females.

CHAPTER III

METHODOLOGY

The current study is an attempt to expand the current literature to include information about what factors influence career aspiration and career orientation of females in early adolescence. This chapter reports the research hypotheses; examines the method of sampling used; and describes the instruments which measure the relevant variables, data collection procedures, and statistical analyses that were used to examine the data.

Research Hypotheses

This study explored the following research hypotheses:

1. The model depicted in Figure 3 fits the data.
2. The model depicted in Figure 4 fits the data.

Sampling

Potential participants for this study were approximately one thousand and one hundred females, approximately 12-14 years of age, in grades seven and eight who were enrolled in the Randolph County school system in North Carolina and the mothers of these middle school females. A minimum of 135 mother-daughter pairs was needed to test the hypothesized models.

Instrumentation

Adolescent participants completed the masculine subscale of the Short Bem Sex-Role Inventory (Bem, 1981), the mother subscale of the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1992), maternal items from each subscale of the Psychological Separation Inventory (Hoffman, 1984), the Attitude Toward Women Scale for Adolescents

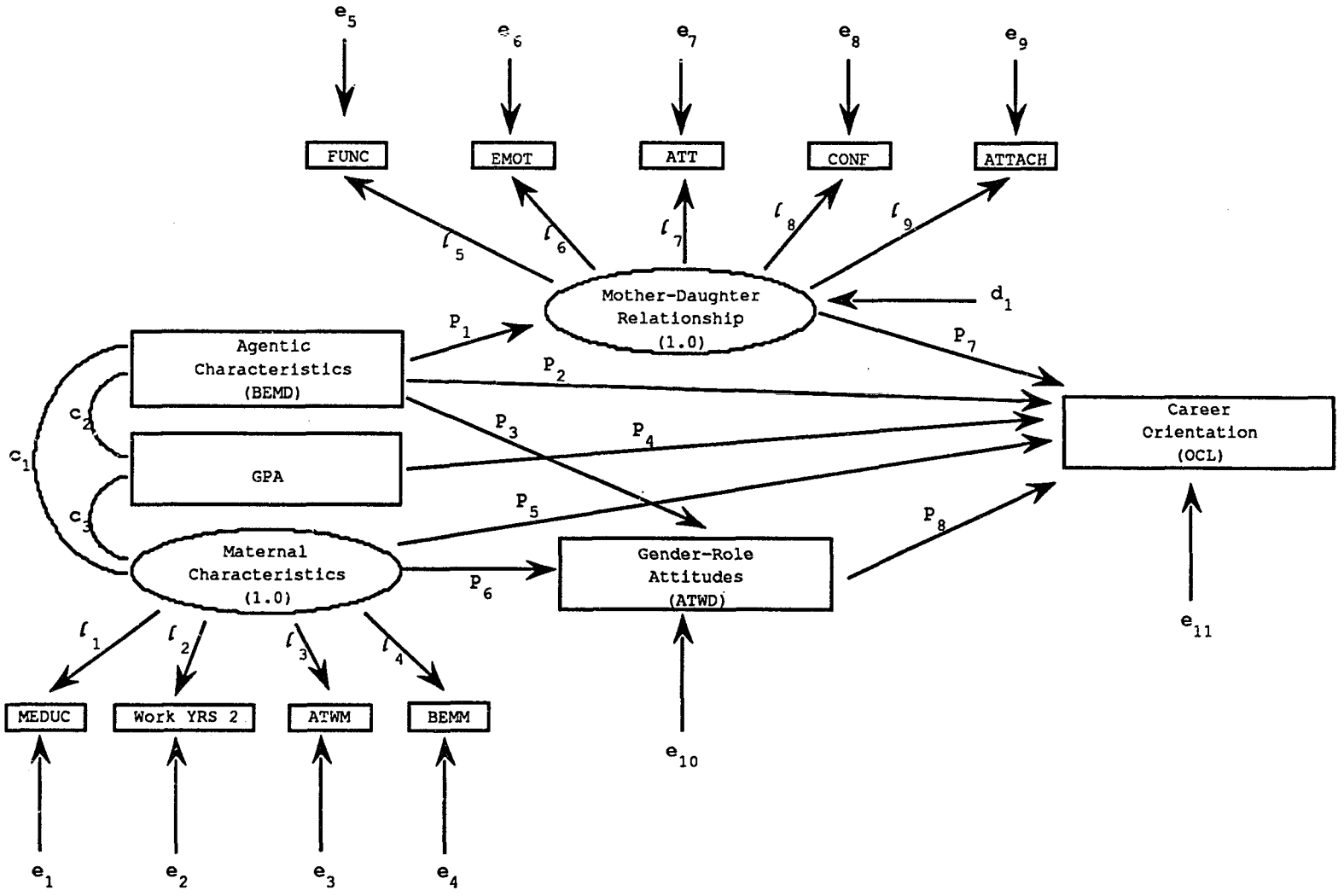

Figure 3. Proposed Structural Equation Model of Model 1 with Career Orientation as the Final Outcome Variable

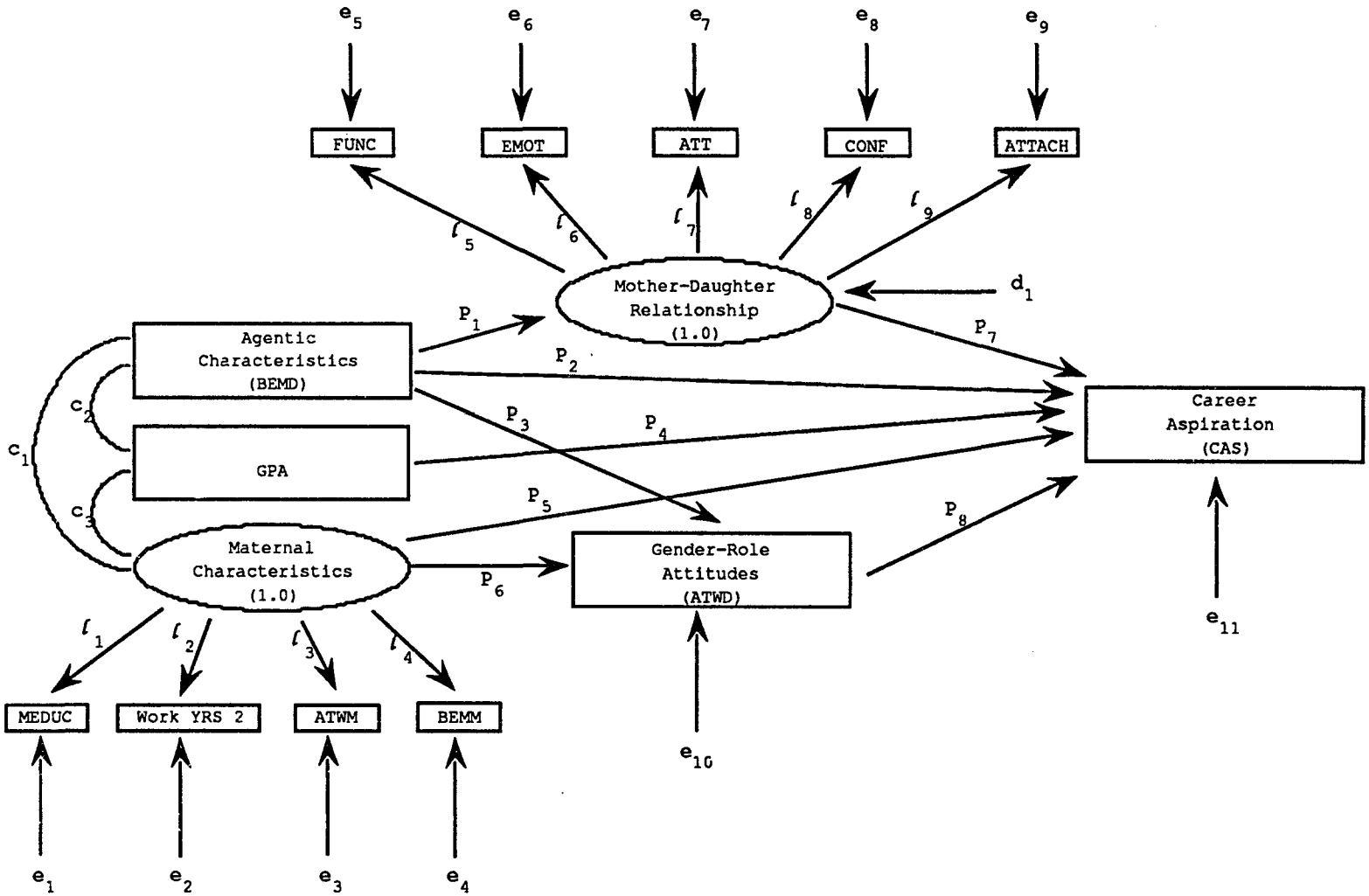

Figure 4. Proposed Structural Equation Model of Model 2 with Career Aspiration as the Final Outcome Variable

(Galambos et al., 1985), the Occupational Check List (Brooks et al., 1985), the Career Aspiration Scale (O'Brien, 1993a), and a demographic questionnaire. Maternal participants completed the Attitudes Toward Women Scale for Adolescents (Galambos et al., 1985), the masculine subscale of the Short Bem Sex-Role Inventory (Bem, 1981), and an information sheet which provided demographic data (e.g., age, ethnicity, etc.) as well as indicators of the educational and employment history and status of the mother. An indicator of school performance (grade point average) of the adolescent was obtained from school records.

Inventory of Parent and Peer Attachment (IPPA)

The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987; 1992) is a self-report instrument designed to assess the perceived quality of close relationships between adolescents and their parents and friends. This measure is theoretically based on assumptions of attachment theory (Bowlby, 1969/1982), particularly that parental attachment models are significant to the development and psychological well-being of adolescents (Lopez & Gover, 1993). The IPPA was originally developed using samples of adolescents aged 16-20 (Armsden & Greenberg, 1987); however, the revised version has been used successfully with participants as young as 12 years of age (Armsden & Greenberg, 1992). The mother subscale of the revised instrument was used in this study.

Construction of the IPPA began with an expansion of the Inventory of Adolescent Attachments (Greenberg, Siegel, & Leitch, 1983) to include a more comprehensive examination of theoretical concepts of attachment theory (Bowlby, 1969/1982). Items were developed to determine the adolescent's trust that attachment figures (parents and peers) understand and respect her emotions and that these same figures will respond with helpful concern to her needs and desires. Items designed to assess anger toward or alienation from attachment figures also were included because anger is often a response to perceived or actual

insecure attachment. Generally, most parent items had a similarly worded, corresponding peer item; items with a clear family context were exceptions.

The original questionnaire consisted of 60 items which were factor analyzed using iteration and Varimax rotation. Results of this initial analysis indicated the appropriateness of separate scales for parents and peers. The parent scale resulted in 31 items, 29 of which had values loading greater than .35; twenty-one of 29 items on the peer measure had values loading greater than .35. The two items tapping general feelings of alienation and anger were included with the parent scale due to higher loadings on that portion of the questionnaire.

A second analysis using Varimax rotation indicated three factors with eigenvalues greater than 1, accounting for 92% of the total variance on the parent scale. The first factor (loadings ranged from -.20 to +.71) suggested parental understanding, respect, and mutual trust. The second factor (loadings ranged from -.21 to +.76) indicated items suggesting degree and quality of verbal communication between parent and adolescent. The third factor (loadings ranged from -.43 to +.64) indicated items reflecting feelings of alienation and isolation. Three similar factors (eigenvalues greater than 1) also emerged from the peer measure; these factors accounted for 84% of the total variance. A final item selection eliminated those items whose inclusion reduced the internal consistency (Cronbach's alpha) of the scale.

The original inventory included the Parent scale (28 items) and the Peer scale (25 items). Using Cronbach's coefficient, alpha levels for the original Parent scale were reported to be .91 for the Trust factor (10 items), .91 for Communication (10 items), and .86 for Alienation (8 items). The Peer scale reported alpha levels of .91 for Trust (10 items), .87 for Communication (8 items), and .72 for Alienation (7 items).

The revised version is a 75-item (25 items each for mother, father, and peer subscale) instrument with Trust, Communication, and Alienation factors for each subscale. The mother and father scales each have 10 items in the Trust subscale, 9 items in the Communication subscale, and 6 items in the Alienation subscale, while the peer scale has 10 items (Trust), 8 items (Communication), and 7 items (Alienation). Internal reliabilities (Cronbach's alpha) for the revised version were reported as mother attachment, .87, father attachment, .89, and peer attachment, .92 (Armsden & Greenberg, 1992).

In a test of instrument validity, Armsden and Greenberg (1987) found that attachment scores on the IPPA were significantly related to several family measures, including the Family Self and Social Self subscales on the Tennessee Self-Concept Scale (Fitts, 1965), the Cohesion, Expressiveness, and Conflict subscales on the Family Environment Scale (Moos, 1974), and a measure of family communication developed by the researchers. Parent and peer attachment scores also were found to be predictors of self-esteem, life satisfaction, depression/anxiety, and resentment/alienation as measured by Bachman's (1970) Affective States Index.

The IPPA uses a five point Likert format with responses ranging from "almost always or always true" (5) to "almost never or never true" (1). Specified items are reverse scored. A summary score which represents psychological security can be computed by summing scores on each item. Following the design of O'Brien and Fassinger (1993), only the 25 items for the mother subscale were used in this study. Internal reliability (Cronbach's alpha) for this sample was .93. Using Fry's Readability Graph (Fry, 1977), the reading level of the IPPA was calculated to be fourth-grade.

Psychological Separation Inventory (PSI)

The Psychological Separation Inventory (PSI; Hoffman, 1984) is a self-report, 138-item inventory designed to measure four components of the adolescent-parent relationship. The four subscales identified by the PSI are Functional Independence (FI, 13 items), Emotional Independence (EI, 17 items), Conflictual Independence (CI, 25 items), and Attitudinal Independence (AI, 14 items), with a total of 69 items relating to each parent. These four subscales reflect the theoretical basis of psychological separation in the adolescent's relationship with each parent (Hoffman, 1984). The Functional Independence items assess the adolescent's ability to manage personal affairs. Freedom from excessive need for parental approval, closeness, and emotional support is measured by the Emotional Independence subscale, while freedom from excessive anger, guilt, resentment, and mistrust for each parent is assessed by the Conflictual Independence items. The Attitudinal Independence subscale assesses the extent to which the adolescent demonstrates attitudes and values that are different from those of the parents (Hoffman, 1984). Participants indicate on a 5-point rating scale (1 = not at all true of me, 5 = very true of me) how accurately each item describes their relationship with mother or father. Scales are scored separately by adding the number of points for items in the scale and then subtracting that number from the total number possible for each scale, so that higher scores indicate greater psychological separation.

In the original PSI, Hoffman (1984) reported estimates of internal reliability coefficients ranging from .84 to .92. Test-retest reliability coefficients ranged from .49 to .96. To establish construct validity, Hoffman tested the prediction that greater psychological separation of adolescents from their parents would be related to better personal adjustment. Hoffman (1984) reported a significant relationship between the PSI and the Personal

Adjustment scale of the Adjective Check List (Gough & Heilbrun, 1980). The PSI correlated with two general indices of academic and relationship adjustment from the ACL (Gough & Heilbrun, 1980). The PSI also has been related to academic adjustment (Rice, 1992); predicted changes in scale scores over a four year time span were observed in college students (Lapsley, Rice, & Fitzgerald, 1989; Rice, 1992).

Because the PSI was originally constructed for use with college students who no longer live at home with parents, the wording of some of the items (e.g., "My mother's wishes have influenced my choice of major at school") is inappropriate for younger students who continue to live with parents. Accordingly, O'Brien (1993a) altered the PSI to include ten items from each subscale appropriate to high school students living with parents (e.g., "I wish my mother wasn't so overprotective."). For the altered version, O'Brien reported reliability estimates for each subscale for the mother and father items. For the mother subscale she reported internal reliability estimates of .78 for Functional Independence, .86 for Conflictual Independence, .79 for Emotional Independence, and .82 for Attitudinal Independence.

Since the participants in this study were middle school students living with parents, an adapted version of the PSI was constructed, following O'Brien's (1993a) lead. When possible, items were modified for early adolescents. For example, the item "I generally consult with my mother when I make plans for an out of town weekend" was presented as "I generally check with my mother when I make plans with my friends." Two items not appropriate for adolescents who live with family were deleted (e.g., "I wish that my mother lived nearer so I could visit her more frequently"). Although changes were minimal, face validity was established by a panel of experts (two counselor educators, two school counselors, and one 8th grade female) who examined the modified PSI. Additionally, a

Cronbach coefficient alpha of .90 for this modified instrument was calculated based on responses from this early adolescent population. The following internal reliability coefficients (Cronbach's alpha) were calculated for each subscale: .90 for Attitudinal Independence; .90 for Conflictual Independence; .90 for Emotional Independence; and .90 for Functional Independence.

Occupational Check List (OCL)

The Occupational Check List (OCL; Brooks et al., 1985) is a measure of interest in traditional versus nontraditional occupations for women. It is a self-report instrument which lists equal numbers (25 each) of occupations that are considered traditional (70% or more employees are women), nontraditional (30% or fewer employees are women), and neutral (30%-70% of employees are women). Participants are instructed to indicate whether they "Might Choose" or "Would Not Choose" each occupation based solely on interest in the occupation; they are to assume they have ability to perform any of the occupations and adequate resources to obtain any training necessary. For items selected ("Might Choose"), a value of one (1) is assigned to traditional occupations, a value of two (2) to neutral occupations, and a value of three (3) to nontraditional occupations. A mean score for "Might Choose" items is obtained by summing the values of all items checked "Might Choose" and then dividing by the number of checked "Might Choose" items. A higher mean score indicates greater interest in nontraditional occupations.

Using separate samples of middle school and high school students, two-week test-retest reliability coefficients were reported as .85 and .86, respectively (Brooks et al., 1985). In addition, adolescents in the two samples indicated recognition and knowledge of 97% of the occupational titles. Based on personal communication with the author (L. Brooks, July 6, 1994), occupational titles were updated to comply with current census data regarding women's

employment (U. S. Department of Labor, Bureau of Labor Statistics, 1991). For example, the occupational title "grain buyer" was no longer included in the 1991 data. Thus, it was removed from the OCL and replaced with "animal caretaker," a job title on the more current census report.

Career Aspiration Scale (CAS)

The Career Aspiration Scale (CAS; O'Brien, 1993a) was developed to assess the value one attributes to having a career, specifically emphasizing the degree to which one aspires to achieve leadership or advanced positions within one's chosen field. Using a five-point Likert scale (5 = "very true of me" to 1 = "not at all true of me"), participants indicate how accurately each of the ten items applies to them. Examples of items are "I hope to become a leader in my career field" and "Attaining leadership status in my career is not that important to me." The CAS is scored by summing ratings on each item (reverse scoring on specified items) so that higher scores indicate greater commitment to achieving in one's career, and thus greater aspiration.

Using a sample of 408 high school females, reliability was indicated with an internal consistency coefficient of .76 (O'Brien & Fassinger, 1993). In a test of instrument validity, scores on the CAS were positively correlated with measures of academic ability, career salience, number of semesters of completed math and science courses, and career self-efficacy (O'Brien, 1993b). Scores on the CAS were negatively correlated with scores on measures of negative affectivity and occupational traditionality (O'Brien, 1993b). An internal consistency coefficient of .67 was calculated for adolescent participants in the current study.

Bem Sex-Role Inventory (BSRI)

The Bem Sex-Role Inventory (BSRI; Bem, 1981) is designed to examine masculinity and femininity as psychologically independent personality dimensions rather than opposite

extremes of one continuum (Bem, 1981). The integration of masculinity and femininity within the individual is described as psychological androgyny, the possibility of being able to exhibit characteristics that are defined as masculine and/or feminine as needed in a given situation. For example, depending on the needs of a situation or the motivation of the individual, it is possible for an individual to be both assertive and nurturing, both expressive and instrumental. An individual may exhibit leadership abilities (masculine) in organizing an activity while remaining sensitive to the needs of others (feminine). Theoretically, the BSRI is grounded both in cognitive processing (how individuals think they are supposed to behave according to sex-type) and in motivational dynamics (the extent to which the individual is inclined to use these cultural definitions in assessing her own behavior and personality).

The Original BSRI is a 60 item, self-report instrument. Twenty items assess masculinity, 20 items assess femininity, and 20 items are considered neutral or filler items. The masculine items (e.g., "assertive," "dominant," "independent") are associated with an instrumental, agentic orientation, indicating an emphasis on task completion, problem solving, and concern for self as an individual. The feminine items (e.g., "gentle," "compassionate," "loves children") are associated with an expressive, communal orientation indicating focus on self in relation to others, consideration of welfare of others, and group harmony. Participants are asked to indicate on a 7-point Likert scale (1 = never or almost never true; 7 = always or almost always true) how well each of the characteristics is self descriptive.

Items for the Original BSRI were selected from a pool of approximately 200 characteristics compiled by the author and her research team. The pool items were deemed positive in value and overtly masculine or feminine in tone. From this pool, judges used a 7-point scale to rate characteristics as being extremely desirable (7) to not at all desirable (1) for a male or female according to American societal standards. Judges (50 male and 50 female

undergraduate students at Stanford University) rated items either for a female or male; no judge was asked to rate items for both. A characteristic was classified as feminine if it was judged as significantly more desirable for a female than for a male by men and women judges. Similarly, a characteristic qualified as masculine if judged to be significantly more desirable for men than women. Seventy-six personality characteristics met the criteria as being significantly socially desirable for women or men in American culture. From this pool, 20 items were selected for the Masculinity Scale and 20 items for the Femininity Scale. An additional 20 items were chosen to complete the original scale based on the neutrality of their social desirability for either a man or woman (Bem, 1974). However, because that neutrality has been questioned by other researchers (Walkup & Abbott, 1978), those items are currently used only as filler items and are not scored.

The Original BSRI has been modified into a 30-item instrument (10 each of masculine, feminine, and neutral characteristics) titled the Short Bem Sex-Role Inventory (Short BSRI; Bem, 1981). Based on factor analyses of the items on the Original BSRI, items for the Masculine and Feminine scales for the Short BSRI were selected to maximize internal consistency of the scales and the orthogonality between the scales. Using a varimax rotation, the pool of items was narrowed to twenty-five characteristics (11 feminine and 14 masculine) with loadings greater than .35. From this 25-item pool, two ten-item scales were constructed based on item-total correlations. The ten unscored, filler items (e.g., "tactful," "conventional," "reliable") which complete the Short BSRI were selected from items which met the neutral criteria in the original social desirability test and in the Walkup and Abbott (1978) study. Since this particular study examined agentic characteristics, only the masculine items on the Short BSRI were included.

Internal consistency of the Short BSRI was demonstrated by computing separate coefficient alphas for males and females in two samples of undergraduate students. For females responding to items on the Masculine scale, internal consistency was reported as .84 for the 1973 sample and .86 for the 1978 sample. Internal reliability (Cronbach's alpha) for maternal participants in this study was .87 and .79 for adolescent participants. A four-week test-retest correlation also indicated robust reliability for female scores on the Masculine scale of the Original BSRI (.94) and the Short BSRI (.91). Validity of the Short BSRI was demonstrated by correlating scores with responses on the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) (.14 for female responses to Masculine items, -.08 for male responses to Masculine items). Additional tests of instrument validity include a series of studies (e.g., Bem, 1975; Bem, Martyna, & Watson, 1976) providing evidence that subjects who demonstrate Masculine or Feminine characteristics on the BSRI also behave in a manner consistent with cultural definitions of those dimensions while androgynous participants demonstrated high levels of behavior in both domains.

Attitudes Toward Women Scale for Adolescents (AWSA)

The Attitudes Toward Women Scale for Adolescents (AWSA; Galambos et al., 1985), based on the short form of the Attitudes Toward Women Scale (Spence, Helmreich, & Stapp, 1973), is designed to assess adolescents' attitudes about the rights and roles of women in society. Participants indicate agreement or disagreement with 12 items using a 4-point scale (1 = "strongly agree"; 4 = "strongly disagree"). Items are designed to assess attitudes regarding women's roles and rights in educational, vocational, and intellectual domains (e.g., "It is more important for boys than girls to do well in school"), as well as dating and etiquette behavior (e.g., "On a date, the boy should be expected to pay all expenses"). A mean score is computed by summing item scores (5 items are reverse scored) and dividing by 12. The

result is a global score assessing attitudes toward women's rights and roles; higher scores indicate less traditional attitudes.

Using four samples of students, ranging across grades 6-12, reliability was indicated using Cronbach's alpha (Cronbach, 1970) as a measure of internal consistency. For males and females in the four samples, alphas ranged from .62 to .86, with an average of .78 for boys and .72 for girls. Alphas of .70 and .62 were reported for girls in grades seven and eight, respectively. Test-retest reliability was examined with one sample which included males and females in grades 6, 7, and 8 with one-year intervals between assessments. This extended interval was deliberately chosen in order to assess the stability of attitudes over a long time span. For females in the sample, attitudes were more stable across a two-year interval (grades 6-8) than for a one-year interval (grade 6-7 and 7-8), which may indicate seventh grade girls experience a temporary change in attitudes. Galambos et al. (1985) also tested several hypotheses related to construct validity, including differences in traditional attitudes between girls and boys and between adolescents in rural versus suburban communities, correlations between traditional attitudes and measures of sex role orientation, and correlations between traditional attitudes and measures of self image and self esteem. All hypothesized relationships were supported.

Internal consistency (Cronbach's alpha) for adolescent participants in this study was calculated as .70 while a reliability coefficient of .73 was calculated for maternal participants.

Demographic Questionnaire

The mothers who participated in the current study completed a demographic questionnaire which included the mother's age, ethnicity, educational history and status, and employment history and status. Two items on the demographic questionnaire were used to determine the adult woman's relationship (i.e., mother, stepmother, grandmother) to the

adolescent female and how long the adult had been in this relationship with the adolescent. The adolescent participants also completed a brief demographic questionnaire requesting age, grade, and ethnicity.

Participants

Participants were drawn from the population of approximately 1,100 seventh and eighth grade female students in the school system (see Procedures section). Randolph County is located in central North Carolina and has a population of approximately 107,000 residents; females comprise 51.1% of the county's population.

The final sample in this study consisted of 276 seventh and eighth grade female students in the Randolph County school system and their mothers who volunteered to participate and completed all the procedures. Information from two items on the maternal demographic questionnaire was utilized to delete some adult females from the final sample. In an attempt to insure as much homogeneity in the definition of mother as possible, female adults who identified themselves as any role other than "mother" (e.g., stepmother, grandmother, other) and who reported being in the mothering role for the adolescent female less than 12 years were deleted from this study.

Descriptive information concerning the participants is reported in Table 1 (mothers) and Table 2 (daughters). All of the adolescent participants were in the seventh (n = 147; 53.3%) or eighth (n = 129; 46.7%) grade. Daughters ranged in age from 12 - 15 years, with a mean of 13 years. The age range for mothers was 28 - 56 years, with a mean of 37.8 years (SD = 5.1 years). Participants were predominantly Caucasian (White) (daughters, 96.0%; mothers, 95.3%), with the remaining participants reporting minimal racial diversity [daughters: African American (2.9%), Native American (0.7%), Hispanic (0.4%); mothers: African American (2.5%), Native American (1.4%), Asian American (0.4%), Hispanic

(0.4%)]. The racial representation of the participants is consistent with the population of Randolph County. The racial makeup of the county is predominantly white (93%) with only 6% of the population identified as black, 0.4% as American Indian, 0.3% as Asian, 0.7% as Hispanic, and 0.3% as "Other" (Piedmont Triad Council of Governments, 1993). The proportions of minorities in Randolph County has remained stable over the past three decades.

Table 1

Demographic Data for Mothers

	n	%	
Ethnicity			
African American	7	2.5	
Caucasian	263	95.3	
Native American	4	1.4	
Asian American	1	0.4	
Hispanic	1	0.4	
Current Employment			
Part time	13	4.7	
Full time	194	70.5	
Not employed	43	15.6	
Other	25	9.1	
(Frequency Missing = 1)			
Highest Education			
Less than high school	42	15.2	
High School or GED	83	30.1	
Some college/technical school	107	38.8	
College Degree	20	7.2	
Post college	8	2.9	
Other	16	5.8	
	Mean	SD	Range
Age	37.8	5.1	28-56
Years Worked as an Adult	16.6	6.9	0.5-38
Years Worked Since Birth of This Daughter	9.6	4.3	0-15
Years Completed in School	12.6	2.0	6-21

n = 276 mothers

Table 2

Demographic Data for Daughters

	n	%
Ethnicity		
African American	8	2.9
Caucasian	265	96.0
Native American	2	0.7
Hispanic	1	0.4
Grade		
Seven	147	53.3
Eight	129	46.7

	Mean	SD	Range
Age	13.0	0.74	12-15

n = 276 daughters

All maternal participants reported some years of paid employment as an adult; the range of the number of years worked as an adult was 0.5 - 38. with a mean of 16.7 years and a standard deviation of 6.9 years. Specifically, 96.4% (265) mothers reported having been employed to some degree since the birth of the adolescent daughter. The mean number of years worked since the birth of this child was 9.6 years (SD = 4.3; range = 0.0 - 15). Most of the mothers (70.5%) reported currently being employed full time while about 5% reported current parttime employment. Thus, almost all of the mothers in this study reported some degree of employment in the paid labor force during the lifetime of the adolescent daughter, with about three-fourths indicating current employment. Employment patterns of mothers in this study are representative of adult females in Randolph County. In 1990, 66.3% of the females over age 16 in Randolph County were active in the paid workforce. Over 80% of women with children under age 18 were employed in the county's labor force in 1990

(Piedmont Triad Council of Governments, 1993). Thus, the mothers seemed to be a representative group of the county's female population.

Approximately one-third of the mothers (35.3%) in this study reported having a high school education or less. In particular, 42 of the maternal respondents indicated they had not completed high school or earned a general education diploma (GED); this represented 15.2% of the participants. One hundred and twenty-five (35.3%) participants (high school graduates) reported no training beyond high school while the remaining 151 mothers (54.7%) reported some level of training beyond high school. Of the latter group, 38.8.% reported education below the bachelor's degree. Nine of the mothers (3.3%) indicated current enrollment in a training program. Only 28 (10.1%) of the mothers reported any training at the bachelor's, master's, doctoral, or professional degree levels. The mean number of years of school completed was 12.6 (SD = 2.0; range = 6.0 - 21.0). Again, the educational levels of the mothers in this study compare favorably with those of the general workforce of Randolph County, which rank below state averages in almost every category. Sixty-two percent of the county's residents over age 25 have a high school diploma as compared with 70% statewide. In Randolph County, 16% of the residents have not completed ninth grade; the state average is 13%. Randolph County also has a lower rate of college graduates (9.1%) than the state rate (17.4%) (Piedmont Triad Council of Governments, 1993).

Procedures

Participants in this study were drawn from the approximately 1,100 seventh and eighth grade female students in the Randolph County school system and their mothers. A total of 1111 packets was delivered to counselors in the six middle schools in Randolph County the second Friday in December. Counselors were asked to distribute the packets to all seventh and eighth grade classroom teachers with instructions for the packets to be sent

home the following Monday. An instruction sheet (Appendix D) was provided for the teachers to follow when distributing packets. These packets were given to all seventh and eighth grade females with instructions from the classroom teacher to take the packet home to the mother. Mothers received a number coded packet (see Appendix A) in a sealed envelope. Included in the packet were a letter of explanation, an active consent statement, a demographic questionnaire, an Attitudes Toward Women Scale for Adolescents (AWSA), the masculine subscale of the Short Bem Sex-Role Inventory (Short BSRI), and a stamped, pre-addressed return envelope. Mothers were given a specified date (approximately one week after receipt) for return of their completed forms. Code numbers for all returned, completed maternal packets were entered in a raffle for $50.00. The total number of returned surveys was 352, which represented a 31.68% total return rate. Responses were received from each of the six middle schools. The number of usable surveys returned was 276, a return rate of 25%. Surveys were deemed unusable for the following reasons: omitted over 15% of items on any instrument (see Table 3), omitted response to number of years worked since birth of this child, included no permission form for adolescent's participation, person who completed and returned survey did not meet operational definition of mother, adolescent female moved out of system before completing adolescent survey or was absent on day of administration and make-up administration.

After maternal packets were returned, the primary investigator contacted the school counselor at each middle school to determine convenient days and times to conduct the adolescent portion of the study.

Adolescent participants (whose mothers consented to their participation; see above) met in groups with the primary investigator at a time and location designated by each school counselor. These participants completed a number coded booklet (see Appendix B) which

Table 3

Rates of Missing Data on Each Instrument

Instrument	Number of Items	Maximum items missing	Percent of Participants missing any items
Mothers			
Attitudes Toward Women Scale for Adolescents	12	1	2.2
Short Form Bem Sex-Role Inventory	10	1	0.7
Daughters			
Occupational Check List	75	4	9.4
Career Aspiration Scale	10	1	4.7
Attitudes Toward Women Scale for Adolescents	12	1	2.5
Short Form Bem Sex-Role Inventory	10	1	3.3
Psychological Separation Inventory	67	4	18.8
Inventory of Parent-Peer Attachment	25	2	7.2

included a demographic questionnaire, the Occupational Check List (OCL), the Career Aspiration Scale (CAS), the Attitudes Toward Women Scale for Adolescents (AWSA), the masculine subscale of the Short Bem Sex-Role Inventory (Short BSRI), the Psychological Separation Inventory maternal items (PSI), and the Inventory of Parent and Peer Attachment mother subscale (IPPA) (in that order). The order of instruments in the adolescent survey was intentional so that measures of the outcome variables, career orientation and career aspiration, would not be contaminated by the measures of endogenous and exogenous variables. The measures of endogenous and exogenous variables were arranged so that the most benign items were completed first and measures that were potentially more uncomfortable (e.g., items on the PSI and IPPA) were completed last. To facilitate standardized administration, the administrator had a list of acceptable definitions and

explanations for terms that may not have been understood by all participants (see Appendix C). Preliminary administrations of the instruments indicated that one hour would be adequate for completing the packet, and this was true for the major study. Students placed completed booklets on the desk or table. The measure of school performance, an overall grade point average from the previous school year, for each adolescent participant was given to the primary investigator by the school counselor at each participating school. This measure of school performance was obtained from each individual's official, cumulative school record.

Data Analysis

Descriptive Statistics

Using PC-SAS, descriptive statistics including means, standard deviations, and frequency distributions were used to describe the adolescent and maternal participants on their respective instruments and demographic items.

Structural Equation Modeling

Hypothesis 1 was tested with a structural equation model (see Figure 3). The CALIS procedure in the SAS statistical package (Hatcher, 1994) was used for the analysis. Career orientation (OCL), as measured by the Occupational Check List (OCL; Brooks et al., 1985), was the final outcome variable. Daughters' gender role attitudes (ATWD), as measured by the Attitudes Toward Women Scale for Adolescents (AWSA; Galambos et al., 1985), was an endogenous variable. The other endogenous variable, mother-daughter relationship, was a latent variable constructed from the mother subscale of the IPPA (ATTACH) and the four subscales of the PSI (FUNC, EMOT, ATT, CONF). Daughter's GPA and score on the Short BSRI (BEMD) were exogenous variables.

The final exogenous variable, maternal characteristics, was a latent variable constructed from mother's education (MEDUC), mother's paid work experience since the

birth of this daughter (WORKYRS2), mother's gender role attitudes (ATWM), and mother's score on the Short BSRI (BEMM).

In Figure 3, e's refer to error coefficients, c's are correlations, d's are disturbances, l's are factor loadings, and p's are path coefficients. The covariance matrix was used for the simultaneous solution of the model using a maximum-likelihood-ratio estimation technique. Overall and detailed goodness of fit for the model were assessed with several indices.

Hypothesis 2 was tested with a structural equation model (see Figure 4). Again, the CALIS procedure in the SAS statistical package (Hatcher, 1994) was used for the analysis. The model was identical to that in Hypothesis 1 except the final outcome variable was career aspirations (CAS), as measured by the Career Aspiration Scale (CAS; O'Brien, 1993a).

CHAPTER IV

RESULTS AND DISCUSSION

This chapter provides an explanation of the data analyses introduced in the previous chapter. Presented first are descriptive statistics to illustrate participants' (mothers' and daughters') responses to each measure (see Tables 4 and 5). Then, the two structural equation models are outlined (see Figures 5 and 6), including specific tests of each hypothesis and research question (see Tables 6 and 7).

Attitudes Toward Women Scale for Adolescents

The Attitudes Toward Women Scale for Adolescents (AWSA; Galambos et al., 1985) is a 12-item instrument in which respondents rate 12 statements about boys and girls using a 1 ("strongly agree") to 4 ("strongly disagree") response format. An average rating across the 12 items (specified items reverse scored) is used as the score for the scale, with a higher score representing more nontraditional attitudes toward women. Both mothers and daughters responded to the AWSA in this study (see Tables 4 and 5).

The mean response for the mothers was 3.16 (SD = .36), suggesting moderately strong nontraditional attitudes toward women's rights and roles in society. Review of item responses (means) indicated that this sample of mothers tended to give higher nontraditional ratings to those items related to education (e.g., "More encouragement in a family should be given to sons than to daughters to go to college"; M = 3.68) than to items regarding social or family roles (e.g., "On a date, the boy should be expected to pay all expenses"; M = 2.43).

The mean score for the adolescent participants on the AWSA was 3.32 (SD = .38). Overall, daughters in this sample indicated slightly more nontraditional attitudes toward

women than did their mothers. Review of item responses (means) indicated daughters tended to give slightly higher nontraditional ratings to social items (e.g., "Girls should have the same freedoms as boys"; M = 3.66) than to educational items (e.g., "Girls are as smart as boys"; M = 3.23). The mean score for adolescents in this study is comparable to scores reported by Galambos et al. (1985) for seventh grade (M = 3.31, SD = .33) and eighth grade (M = 3.40, SD = .32) females.

Results indicate that both mothers and daughters in this study demonstrated moderately strong nontraditional attitudes toward women's rights and roles in society, with daughters' attitudes being slightly more nontraditional than mothers' attitudes.

Short Form Bem Sex-Role Inventory

Both mothers and daughters also responded to the instrumental descriptors (10 items) on the Short Bem Sex-Role Inventory (Short BSRI; Bem, 1981) (see Tables 4 and 5). Using

Table 4

Descriptive Statistics for Maternal Responses on Measures

Measure	Potential Range of Scores	Actual Range of Scores	Mean	Standard Deviation
Attitudes Toward Women Scale for Adolescents	1-4	1.83-4.0	3.16	0.36
Short Form Bem Sex-Role Inventory	1-7	1.4-7.0	4.99	0.98
Level of Education	0-21	6.0-21.0	12.60	2.00
Year of Employment Since Birth of this Child	0-15	0-15	9.60	4.30

Table 5

Descriptive Statistics for Adolescent Responses on Measures

Measure	Potential Range of Scores	Actual Range of Scores	Mean	Standard Deviation
Attitudes Toward Women Scale for Adolescents	1-4	1.75-4.0	3.32	0.38
Short Form Bem Sex-Role Inventory	1-7	1.40-7.0	5.17	0.92
Psychological Separation Inventory				
Functional	0-52	0-52	23.71	12.22
Emotional	0-64	3-64	33.18	13.80
Attitudinal	0-56	0-56	21.93	12.31
Conflictual	0-96	12-94	58.03	18.34
Inventory of Parent-Peer Attachment	25-125	25-125	93.40	19.93
Trust	10-50	10-50	39.67	8.95
Communication	9-45	9-45	32.45	7.93
Alienation	6-30	6-30	21.28	5.68
Occupational Check List	1-3	1-2.75	1.88	0.24
Career Aspiration Scale	10-50	19-48	36.19	6.33
School Performance (GPA)	1.0-4.0	1.55-4.00	3.29	0.61

a scale from 1 ("never or almost never true") to 7 ("always or almost always true"), respondents rate how well the 10 characteristics describe themselves. An average rating across the 10 items is used as the score for the scale, with higher ratings indicating stronger agentic characteristics.

The mothers' mean score on this scale was 4.99 (SD = .99), suggesting moderately strong agentic characteristics. Mothers rated themselves weakest on "forceful" (M = 3.77) and strongest on "defends own beliefs" (M = 6.18). These scores are in line with those reported by Bem (1981) for adult women (M = 4.71, SD = .95).

The mean score for the daughters' responses on the same Short BSRI was 5.17 (SD = .92). Generally, daughters reported slightly stronger agentic characteristics than did their mothers. Similar to their mothers, daughters' weakest responses were to the item "forceful" (M = 3.90) and strongest to "defends own beliefs" (M = 6.10). Bem (1981) reported comparable results (M = 4.99; SD = .63) for adolescent females who were 14 - 17 years old. O'Brien and Fassinger (1993) reported similar results (M = 5.02; SD = .78) for their sample of high school senior females.

Thus, results indicate that both mothers and daughters in this study demonstrated moderately strong agentic (instrumental) characteristics, with daughters reporting slightly stronger agentic characteristics than did mothers.

School Performance

Adolescents' school performance was measured by overall grade point average (GPA) from the previous school year (see Table 5). The GPA was obtained from official school records. The mean grade point average, using a 1.0 (D) to 4.0 (A) scale, was 3.29 (SD = .61). Thus, as a group, these adolescents appear to have high average academic skills.

Psychological Separation Inventory

Scores on the Psychological Separation Inventory (PSI; Hoffman, 1984) are reported by subscale, with each subscale using a response format ranging from "not at all true of me" (1) to "very true of me" (5). Scores are calculated by summing ratings for items and subtracting the sum from the total possible score for each subscale, so that higher scores indicate greater psychological separation. The following scores are detailed in Table 5: mean score on the 13-item Functional Independence (FI) subscale was 23.71 (SD = 12.22); mean score on the 16-item Emotional Independence (EI) subscale was 33.18 (SD = 13.80); mean

score on the 14-item Attitudinal Independence (AI) subscale was 21.93 (SD = 12.31); and mean score on the 24-item Conflictual Independence (CI) subscale was 58.03 (SD = 18.34). Although there are no previous reports of the use of this instrument with early adolescents, these scores appear consistent with those reported by Hoffman (1984) for college-aged females.

Review of item responses (means) indicated the following areas of psychological separation on each subscale. On the Functional Independence (FI) subscale, adolescents expressed greater independence from mother regarding selection of friends (e.g., "My mother's wishes have influenced my selection of friends"; M = 2.57) and reported greater dependence on mother when making plans with friends (e.g., "I generally check with my mother when I make plans with my friends"; M = 4.17). Emotionally (EI), daughters identified mothers as the most important person in the world (M = 3.81), but expressed minimal difficulty in leaving mother when school starts in the fall (M = 1.92). On the Conflictual Independence (CI) subscale, adolescents in this study did not tend to blame mother for their problems (M = 1.74), but did wish mother would treat them more like an adult (M = 3.55). Attitudinally (AI), daughters reported religious attitudes very similar to mothers (M = 4.07), but indicated greatest independence from mother regarding attitudes about being alone (M = 2.70).

Results indicate a healthy degree of psychological separation from mother for this group of early adolescent females.

Inventory of Parent and Peer Attachment

The Inventory of Parent and Peer Attachment (maternal scale) (IPPA; Armsden & Greenberg, 1992) is a 25-item listing of statements concerning the adolescent's feelings of attachment to her mother. Using a response format from 1 ("almost never or never true") to

5 ("almost always or always true"), each participant rates how accurately each statement describes her relationship with her mother. A total attachment score is derived by summing scores for each item (specified items reverse scored), so that higher scores indicate greater attachment.

Scores on the IPPA mother scale are detailed in Table 5. The mean score was 93.4 (SD = 19.93). These results are comparable with those reported for late adolescent females (i.e., high school seniors) by O'Brien and Fassinger (1993) (M = 89.73, SD = 20.45).

Review of item responses (means) on the Trust subscale indicated that few of the adolescents (M = 4.50) wish they had a different mother and most do not feel that mother expects too much from them (M = 3.63). On the Communication subscale, all item means were 3.33 or higher, indicating higher than average levels of communication. Specifically, daughters indicated that if mother knows something is bothering daughter, mother asks about it (M = 4.02). Item means on the Alienation subscale indicated that adolescent respondents do get upset more often than mothers know (M = 2.99), but daughters feel they do get lots of attention from mother (M = 3.95). Generally, then, daughters in this study reported high levels of attachment to their mothers.

Career Aspiration Scale

The Career Aspiration Scale (CAS; O'Brien, 1993a) is a 10-item measure designed to assess the degree to which respondents desire advancement toward leadership in chosen careers. Using a response format from 1 ("not at all true of me") to 5 ("very true of me"), participants indicate how true each item is for themselves. A total score is determined by summing the ratings, with higher scores indicating greater desire to advance or excel in one's chosen career field. For the adolescents in this study, the mean score was 36.19 (SD = 6.33;

range = 10 - 50) (see Table 5). Items rated lowest were those assessing desire to manage or train others (e.g., "When I am established in my career, I would like to manage others"; M = 3.25), while items regarding the importance of graduate training and attaining leadership positions received the most agreement (e.g., "I hope to move up through any organization or business I work in"; M = 4.27). Thus, these adolescents appeared to exhibit moderately high aspirations for advancement in chosen careers. The CAS previously has not been used with early adolescents; however, scores for this early adolescent female sample are comparable to scores reported for females in late adolescence (i.e., high school seniors) (O'Brien, 1993a, 1993b; O'Brien & Fassinger, 1993).

Occupational Check List

The Occupational Check List (OCL; Brooks, Holahan, & Galligan, 1985) is a 75-item listing of occupations (25 traditional, 25 neutral, 25 nontraditional). Participants indicate whether they "might choose" or "would not choose" each occupation. A total score is derived by summing occupations selected (i.e., "might choose") according to 1 (traditional), 2 (neutral), or 3 (nontraditional), and then dividing the total by the total number of selected occupations. The mean score for this sample was 1.88 (SD = .24) (see Table 5). Thus, this sample of early adolescent females selected slightly traditional career possibilities.

Overall, the average number of occupations selected was 25. The average number of traditional occupations selected (i.e., 9.59) was higher than the average number of neutral occupations (i.e., 8.85) or nontraditional occupations (i.e., 6.32) identified as "might choose." Scores for this sample of early adolescents females are consistent with those findings reported by others (e.g., Brooks et al., 1985; Dunnell & Bakken, 1991) for middle school and high school females.

Maternal Education

The measure of mother's education was the number of years completed in school and was determined by self-report of the adult females. The mean number of years of school completed was 12.6 (SD = 2.0) (see Table 4), with a range of 6 - 21. These results are similar to the educational levels of the county's population (Piedmont Triad Council of Governments, 1993).

Maternal Employment

Mothers reported having worked an average of 9.6 years (SD = 4.3) since the birth of this adolescent daughter (see Table 4). Range of number of years worked since birth of this child was 0.0 - 15.0. Thus, some of the mothers have not worked at paid employment during the lifetime of this child while others have been employed since the birth of this child.

Structural Equation Models

Model 1

A structural equation model as presented in Figure 3 was used to test Hypothesis 1. This model, with career orientation as the final outcome variable, was analyzed using the CALIS procedure in the SAS statistical package (Hatcher, 1994). In this model, the latent variable of mother-daughter relationship (FUNC, EMOT, ATT, CONF, ATTACH), and daughter's gender role attitudes (ATWD) were endogenous variables while daughter's agentic characteristics (BEMD), GPA, and the latent variable of maternal characteristics (MEDUC, WORKYRS2, ATWM, BEMM), were the exogenous variables. This model reached convergence without modifications. Results of this procedure are detailed in Figure 5.

There are multiple ways of examining overall fit for the model. One method is examination of the Chi-square statistic. For Model 1, the Chi-square value of 359.51 (see Table 6) was significant, suggesting a poor fit of this data to the model. However, because

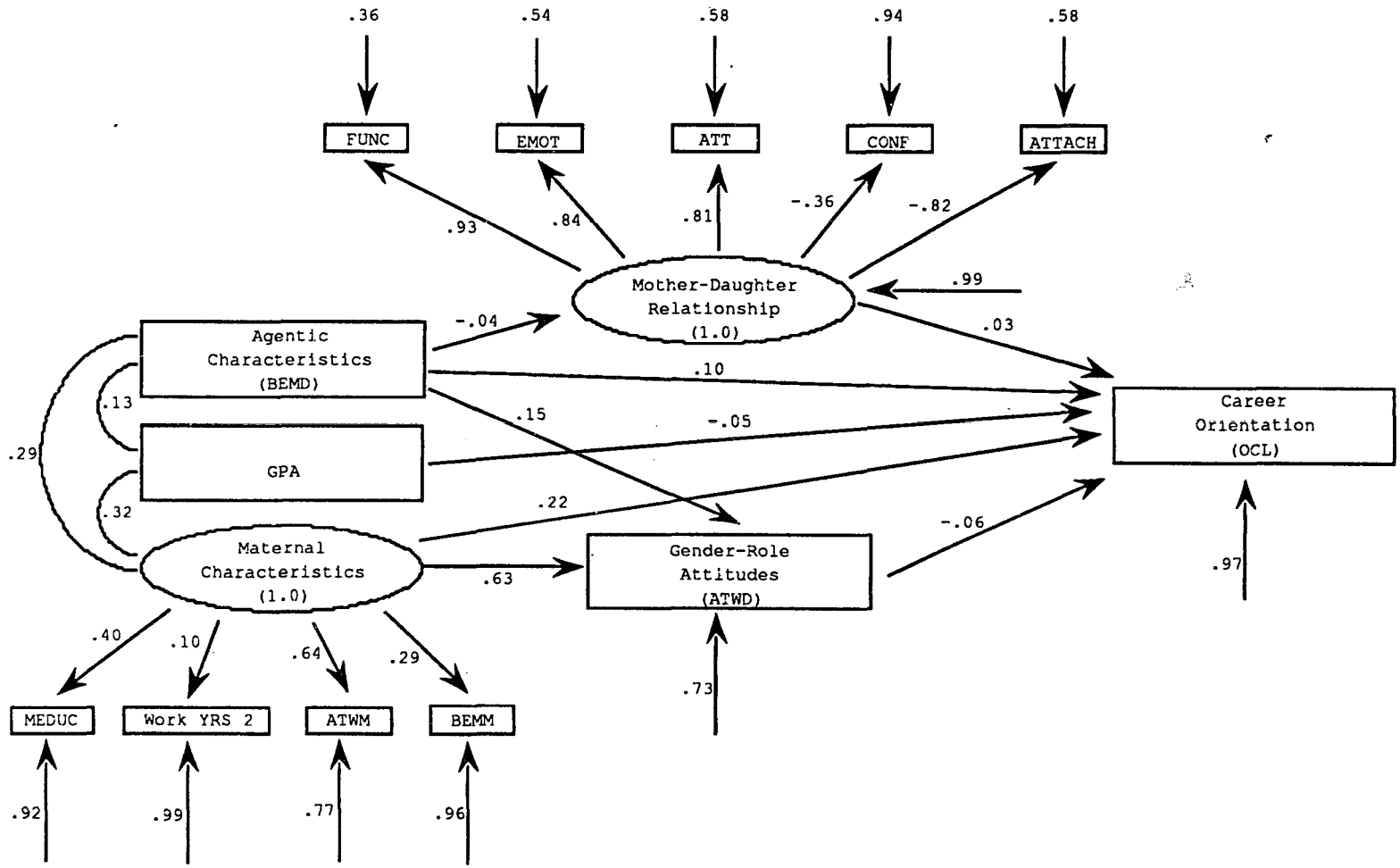

Figure 5. Final Structural Equation Model of Model 1 with Career Orientation as the Final Outcome Variable

Table 6

Overall and Detailed Fit Information for Models of Career Orientation and Career Aspiration of Early Adolescent Females

	OCL	CAS
Chi-square (p = .0001)	359.51	359.38
Goodness-of-fit Index (GFI)	.84	.85
Root-mean-square residual	13.82	13.89
Bentler & Bonett's Normed-Fit Index (NFI)	.73	.74
Bentler & Bonett's Non-normed Fit Index (NNFI)	.67	.69
Bentler's Comparative Fit Index (CFI)	.76	.77
R^2		
Mother-Daughter Relationship	.00	.00
Attitudes Toward Women/Daughter	.47	.47
Final Outcome Variable	.05	.23

large sample sizes tend to distort the Chi-square statistic, researchers (e.g., Hatcher, 1994; Fassinger, 1987; O'Brien & Fassinger, 1993) suggest interpreting the Chi-square statistic with caution and recommend supplementing this particular test with other goodness of fit tests. Thus, other indices also were examined to assess overall fit of the model. The goodness-of-fit index, which can range from 0 to 1 and is interpreted like a correlation coefficient, indicated the data might fit the model: GFI = .84. Other indices suggested only moderate fit of the model: Bentler and Bonett's Normed-Fit Index (NFI) = .73, on a scale of 0 to 1; Bentler and Bonett's Non-Normed-Fit Index (NNFI) = .67 (can range from less than 0 to greater than 1); and Bentler's Comparative Fit Index (CFI) = .76 (ranges from 0 to 1) (see Table 6). For good fit, each of these indices should be .90 or above.

Finally, the model was examined to determine the variability in the endogenous and final outcome variables that has been accounted for (R^2). These results are detailed in Table 6. This model did not account for any of the variance in the endogenous latent variable mother-daughter relationship (R^2 = .00) and only minimal variance (R^2 = .05) in the final outcome variable career orientation. The model did account for almost half (R^2 = .47) of the variance in the adolescent's gender role attitudes. Examination of the path coefficients (detailed in Table 7) indicated that two exogenous variables, maternal characteristics (.63, $p < .001$) and daughter's agentic characteristics (.15, $p < .05$), were significant predictors of

Table 7

Path Coefficients for Model 1 and Model 2

	Model 1 (OCL)		Model 2 (CAS)	
Path	Standardized coefficient	t	Standardized coefficient	t
Predicting M-D Relationship				
BEMD	-.04	- .65	-.04	- .65
Predicting ATWD				
BEMD	.15	2.19*	.14	2.04*
Maternal characteristics	.63	7.51***	.63	7.50***
Predicting final outcome variable				
BEMD	.10	1.50	.35	6.14***
GPA	-.05	- .73	.01	.23
Maternal characteristics	.22	1.53	.11	.83
M-D Relationship	.03	.51	-.16	-2.92**
ATWD	-.06	- .51	.07	.75

* $p < .05$
** $p < .01$
*** $p < .001$

the daughter's gender role attitudes. Of these two variables, the latent variable, maternal characteristics, was the better predictor of the daughter's gender role attitudes. In particular, two factors (i.e., mother's education, maternal gender role attitudes) within the latent variable, maternal characteristics, contributed strongly to adolescent gender role attitudes. Thus, it appears that early adolescent females' attitudes toward women are influenced by their mothers' educational status, their mothers' attitudes toward women, and by their own personality characteristics. No other variables in Model 1 emerged as significant predictors.

Thus, Hypothesis 1 was rejected; the data did not fit Model 1 as depicted in Figure 3. Even though the data did not provide an overall fit for this model, the portion of the model predicting adolescents' gender role attitudes worked fairly well.

Model 2

A structural equation model as presented in Figure 4 also was used to test Hypothesis 2. This model, with career aspiration as the final outcome variable, was examined using the CALIS procedure in the SAS statistical package (Hatcher, 1994). In this model, the latent variable of mother-daughter relationship (FUNC, EMOT, ATT, CONF, ATTACH), and daughter's gender role attitudes (ATWD) are endogenous variables while daughter's agentic characteristics (BEMD), GPA, and the latent variable of maternal characteristics (MEDUC, WORKYRS2, ATWM, BEMM), are the exogenous variables. This model reached convergence without modifications. Results of this procedure are detailed in Figure 6.

This model was examined for goodness of fit using the same tests that were used for Model 1. For Model 2, the Chi-square value of 359.38 (see Table 6) was significant, again suggesting a poor fit of this data to the model. Similar to Model 1, interpretation of the Chi-square statistic was made with caution and supplemented with other goodness of fit tests (see Table 6) to assess overall fit of the model. Examination of the goodness-of-fit index (.85) for

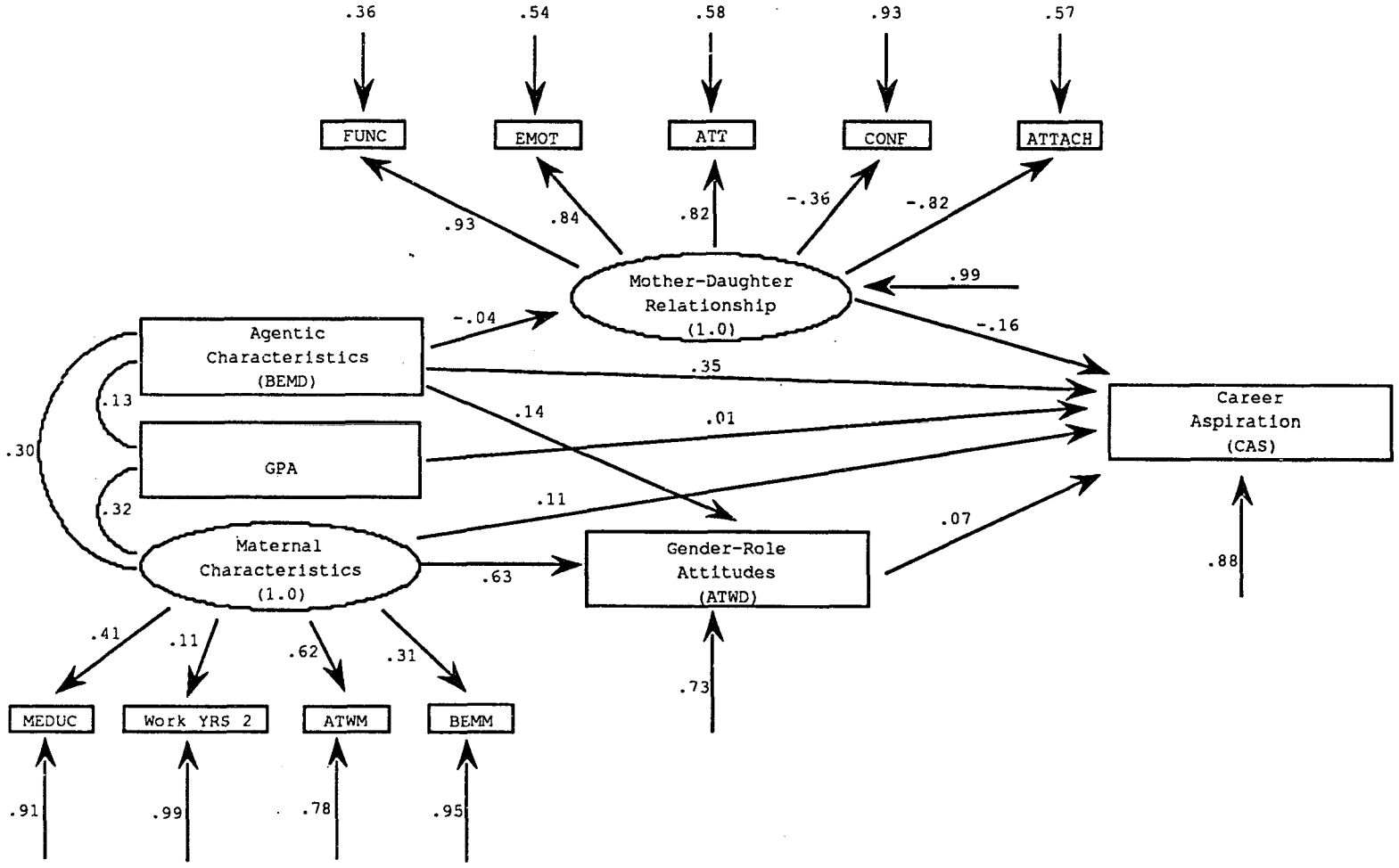

Figure 6. Final Structural Equation Model of Model 2 with Career Aspiration as the Final Outcome Variable

this model indicated the data might fit the model. Other indices (Bentler & Bonett's NFI = .74; Bentler & Bonett's NNFI = .69; Bentler's CFI = .77) suggested only moderate fit of the model.

Finally, Model 2 was examined to determine the variability in the endogenous and final outcome variables which was accounted for in the model (R^2). These results are detailed in Table 6. This model did not account for any of the variance in the endogenous latent variable mother-daughter relationship (R^2 = .00). Approximately one-fourth of the variance (R^2 = .23) in the final outcome variable career aspiration and almost half of the variance (R^2 = .47) in the adolescent's gender role attitudes was accounted for. Examination of the path coefficients (detailed in Table 7) indicated that two exogenous variables, maternal characteristics (.63, $p < .001$) and daughter's agentic characteristics (.14, $p < .05$), were predictors of the daughter's gender role attitudes. Of these two variables, the latent variable of maternal characteristics was the better predictor of adolescent gender role attitudes. Similar to Model 1, mother's educational status and attitudes toward women emerged as the stronger factors within the latent variable, maternal characteristics. In addition, path coefficients indicated that daughter's agentic characteristics (.35, $p < .001$) and the latent variable, mother-daughter relationship (-.16, $p < .01$), were significant predictors of career aspirations. Adolescent's agentic characteristics (BEMD) was the better predictor of these two variables. Thus, results indicate that, for the participants in this study, young adolescent females who reported instrumental personality traits also demonstrated greater desire to advance within a chosen career field.

Thus; hypothesis 2 also was rejected; the data did not fit Model 2 as depicted in Figure 4. Even though the data did not provide an overall fit for this model, the portions of

the model predicting adolescents' gender role attitudes and career aspirations worked fairly well.

CHAPTER V

SUMMARY, LIMITATIONS, RECOMMENDATIONS, IMPLICATIONS, AND CONCLUSIONS

In this final chapter, the study is summarized, conclusions are drawn, limitations are identified, recommendations are provided, and implications are discussed.

Summary

Researchers previously have identified multiple individual factors that influence women's career development. Academic ability (Betz & Fitzgerald, 1987), agentic characteristics (Spence & Helmreich, 1980, 1981), gender role attitudes (Hay & Bakken, 1991), aspects of the mother-daughter relationship (Blustein et al., 1991; O'Brien, 1993a, 1993b), and specific maternal characteristics (i.e., level of education [Russo & O'Connell, 1980], work history [Etaugh, 1974], agentic characteristics [Repetti, 1984], gender role attitudes [Sholomskas & Axelrod, 1986]) have been found to influence career development of females in late adolescence (high school and college-age) and adulthood. Recently, O'Brien and Fassinger (1993) introduced a model of career development for high school senior females. Using a structural equation modeling procedure, these researchers tested a model which examined the predictive quality of ability, agentic characteristics, gender role attitudes, and mother-daughter relationship on career orientation and career choice. O'Brien and Fassinger concluded that career orientation and career choice of late adolescent women are predicted by academic ability, agentic characteristics, gender-role attitudes, and the adolescent's relationship with her mother.

The current study was an initial attempt to expand the existing literature on career development for females in two ways: (a) by expanding an existing model (O'Brien & Fassinger, 1993) of career development for late adolescent females to include characteristics of the mother and (b) by applying the expanded model to females in early adolescence. This study also attempted to address a need identified in the literature (Reid & Stephens, 1985) to refine and clarify the definitions of career orientation (traditionality versus nontraditionality) and career aspirations (desire to advance within one's chosen career field) as they apply to young adolescents' career choices.

Two models of career development were tested. Model 1 (Figure 1) proposed that career orientation would be predicted by the adolescent's school performance, agentic characteristics, gender role attitudes, aspects of her relationship with her mother, and specified maternal characteristics. The predictor variables in Model 2 (Figure 2) were identical to Model 1; the only difference was the final outcome variable, career aspirations.

Conclusions

Results of this study indicate that multiple factors do influence career development for early adolescent females and that certain factors appear to exert more influence than others at this stage of adolescent development. This sample of middle school females expressed more interest in traditional careers than nontraditional, but also demonstrated high levels of desire to advance to a leadership position within a chosen career. Thus, this group of adolescent females confirmed the need to delineate between career orientation and career aspiration when studying women's career development (Reid & Stephens, 1985). It appears that women can be traditional in career orientation while exhibiting high levels of aspiration, as well as nontraditional in orientation with minimal levels of aspiration.

Although none of the predictor variables in Model 1 (see Figure 5) contributed significantly to the outcome variable career orientation, two factors, agentic characteristics (e.g., independence, assertiveness, willingness to take a stand) of the adolescent and characteristics of the mother (e.g., education, employment, agentic characteristics, gender role attitudes), did contribute to the adolescent's gender role attitudes, an endogenous variable. The latent exogenous variable, maternal characteristics, was the strongest predictor of daughter's gender role attitudes. Two manifest variables (i.e., maternal education, maternal attitudes toward women) emerged as the stronger factors used to construct the latent variable, maternal characteristics. This finding is in line with other researchers (e.g., Baruch, 1972, 1974; Hay & Bakken, 1991; Hertsgaard & Light, 1984; Rollins & White, 1982; Sholomskas & Axelrod, 1986; Smith & Self, 1980; Tallichet & Willits, 1986; Weeks et al., 1984; Zuckerman, 1981), who have noted the influence of maternal education and gender role attitudes on adolescent daughters' attitudes toward women. In particular, a similarity between 10- to 14-year old daughters' attitudes toward work, marriage, and family and mothers' attitudes toward the same roles was noted by Rollins and White (1982). Additionally, Hertsgaard and Light (1984) indicated that junior high age girls whose mothers were college educated expressed more liberal gender role attitudes than did those girls whose mothers did not have a college education. Similar results have been noted with high school females (Tallichet & Willits, 1986) and with college-aged females (Zuckerman, 1981). Thus, there is increasing evidence, based in a variety of measures, that mothers have strong influence in the development of daughters' attitudes toward women's rights and roles in society.

In Model 2 (see Figure 6) the same exogenous variables (i.e., daughter's agentic characteristics, maternal characteristics) contributed to the endogenous variable gender role attitudes as they did in Model 1. Again, the latent variable, maternal characteristics, was a

stronger predictor of the daughter's gender role attitudes than were other variables in this model.

Additionally in Model 2, two variables (i.e., adolescent's agentic characteristics, mother-daughter relationship) contributed to the outcome variable career aspiration. Of the two predictive variables, agentic characteristics of the adolescent was the stronger predictor of career aspiration. This finding is consistent with the work of Fassinger (1990) and O'Brien and Fassinger (1993) who suggested that late adolescent females who demonstrated instrumental (agentic) personality characteristics also anticipated advancement within their chosen career. Finally, the mother-daughter relationship (i.e., psychological separation, attachment) did emerge as an influential factor in the career aspirations of females in early adolescence. This finding supports the premise that the mother-daughter relationship is influential in the career development of early adolescent women, as has been noted in later stages of adolescent development (Blustein et. al., 1991; O'Brien & Fassinger, 1993). In summary, results of this study indicate that career aspirations of young adolescent females are influenced by their own agentic characteristics and by aspects of the mother-daughter relationship. Additionally, the gender role attitudes of females in early adolescence are influenced by characteristics of the mother and by the adolescent's instrumental personality traits. It is possible that responses on the measure of agentic characteristics are reflective of the developmental tasks (i.e., separation, independence) of early adolescence and might be expected to decline in later adolescence. However, the mean ($\underline{M}$ = 5.17) for the measure of agentic characteristics in this sample of early adolescent females is similar to that reported ($\underline{M}$ = 5.07) for high school senior females by O'Brien and Fassinger. Informal comments received from maternal participants in this study (e.g., "I encourage my daughter to be whatever she wants"; "Being a girl shouldn't keep her from doing anything she wants to do")

are demonstrative of the influence of some mothers on their daughters' attitudes. Results of this study clearly indicate that the influence of mothers is a significant factor in the career development of early adolescent females.

Limitations of the Study

Results of the current study should be viewed within the context of its limitations. Generalizability of this study is limited in several ways. First, all of the participants were volunteers. Thus, it is not known how the responses of this sample of volunteer participants may have differed from those persons who chose not to participate. However, this group of volunteers was demographically representative of the county's population according to ethnicity, educational levels, and employment status. Next, generalizability is limited to adult females who identify as "mother" and who have been in this role since the infancy of the daughter. These results may not accurately reflect career development of adolescent females who live with their stepmothers, grandmothers, or other adult female caregivers.

Additionally, generalizability is limited to a particular geographical area (i.e., a rural population in the Southeast). However, this also is a unique aspect of this study, since it is the first to look at a rural population in this type of study.

An additional limitation of this study is the reliance on self-report measures. Only one variable (i.e., grade point average) was obtained from official records, and even these were determined by a variety of school teachers.

Recommendations for Future Research

The following recommendations for future research are based on this study, some of which address limitations of this study described earlier in this chapter.

Continued research is needed to determine what factors are significant to the career development in the early stages of adolescent development. Factors investigated in this study

have been cited by others (e.g., O'Brien, 1993a, 1993b; O'Brien & Fassinger, 1993) as influential in the career development of high school and college-aged females. However, results of this study provided support only for portions of the proposed models of factors which influence career development of early adolescent females. Additional research is needed to determine if there are other factors (e.g., family structure, academic self-esteem, ego development, maternal life satisfaction) which also might influence career development of young females. Also, there may be other aspects of influential factors (i.e, degree of intimacy in the mother-daughter relationship, maternal expectations for daughter's life and how those expectations are communicated) or other ways to measure factors which have been found to influence career development of adolescent females. Additional research also is needed to identity appropriate outcome variables for career development of early adolescent females. Such possibilities might include career interests, prestige, or financial status and expectations.

As noted by Gelso and Fassinger (1992) and also indicated from the results of this study, longitudinal data is needed to identify factors which influence career development in adolescent females. Additionally, longitudinal data could be useful in identifying the developmental stages when specific influences are most powerful (i.e., when the mother-daughter relationship is most influential in career development). Longitudinal data also could provide needed information regarding congruence of career aspirations and eventual career choice. Early adolescents, particularly those growing up in a rural area, may have had limited exposure to a variety of career options or choices. These girls have, however, already begun developing a sense of their desire for advancement and beliefs about whether this is or will be important in their lives. One adolescent participant commented that "...this [the information in the survey booklet] is important stuff that we need to be thinking about now

and the grownups around us need to know what is important to us." Another young female expressed some confusion about how to respond to statements about advancing to leadership positions because she "...intend(s) to start at the top of the field."

Finally, there is a need to develop better methods of measuring variables pertinent to career development of young adolescents. Few of the measures used in this study reported normative data for this age group. One measure (i.e., Psychological Separation Inventory) was developed for college-aged students and was adapted for this sample of early adolescents while other measures reported normative data for middle to late adolescents (e.g., Short Form Bem Sex-Role Inventory) or for clinical populations (e.g., Inventory of Parent and Peer Attachment).

Implications for Counseling

It is important to consider implications of this study for counselors who are providing developmental services for early adolescent females. The current study suggests that career development of early adolescent females is influenced not only by the adolescent's own attitudes and personality characteristics, but also by factors in the mother-daughter relationship as well as by characteristics of the mother.

In light of these results, counselors should consider community or school activities which would assist mothers and daughters in negotiating the developmental processes of psychological separation and attachment. Such activities could benefit mothers and daughters in achieving a healthy balance of separation and attachment in their relationship at this critical stage of development.

Counselors also should be aware of the influence of the mother's education, work experience, personality characteristics, and gender role attitudes on middle school-aged females. Using this knowledge, counselors could design programs that would encourage

mothers to share their experiences and attitudes with their own daughters, as well as with other young females. Mothers could be invited to speak at activities such as career days or to demonstrate specific skills or abilities related to an academic unit of study (i.e., dissection of frogs in biology class). Additionally, publicity regarding national programs such as "Take Our Daughters to Work" could be provided by counselors. Counselors also could establish programs in which mothers provide one-on-one mentoring relationships with middle school females, particularly those adolescents who might not have an adult female living in the home.

Counselors need to address the importance of providing opportunities for young adolescent females to find support and encouragement in the development of agentic personality characteristics that influence career development. Participation in activities such as student government and leadership development programs is one avenue to support development of instrumental personality traits in young females. Counselors also could provide inservice training for school personnel on the developmental needs of the young females with whom they work. School personnel who work with this age and gender group could then provide an environment that would encourage optimal development of these young women.

In conclusion, the current study suggests that there are some specific factors which influence career development of early adolescent females. It is important for counselors to be aware of and have knowledge of these factors in order to provide developmentally appropriate group activities and individual services to early adolescent females.

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APPENDIX A

MATERNAL PACKET

Leslie M. Rainey
108 Shaw Street
Randleman, NC

December 12, 1994

Dear Mother of a 7th or 8th Grade Daughter,

I am a graduate student at the University of North Carolina at Greensboro and I would like to ask for your help on a project that I think will be helpful to your daughter and other young girls. As part of my graduate requirements, and with the permission of the Randolph County School System, I am conducting a study of mothers (or women who fill the mothering role in the family) and their daughters who are currently in the 7th or 8th grade. As the mother of an eighth grade daughter, I am interested in finding out what is important to middle school girls when they make decisions about their futures. The purpose of this study is to help educators understand how young girls make choices about what they want to be when they grow up.

More and more young girls will have to make decisions about jobs and careers outside of the home, and teachers and counselors want to help these girls make the best choices for themselves. It seems important to know not only what the girls think about their futures, but also to know what kind of influence mothers have on our daughters' choices, especially at this middle school age. Your participation in this study may shed some light on how your daughter will make choices about her future career and her adult life. All of the information you and your daughter provide in this research will be kept confidential and used only for the purposes of this study. No names will be used in this study and no individual will be identified in any way.

Enclosed is a questionnaire which will take approximately 15 minutes for you to complete. There is also a permission form for you to sign to give permission for your daughter to participate in her part of this study. Your daughter will be asked to complete instruments about her career goals, her attitudes about women's roles in society, and her relationship with you. It will take students less than 1 hour to complete their questionnaire; this time will be scheduled at the convenience of the students at the school.

Please complete the enclosed information about yourself, sign the permission form, and return the questionnaire and the permission form in the postage paid, pre-addressed envelope. All participants whose completed forms are postmarked by December 19 will be entered in a raffle for $50.00. The winner of the raffle will be notified by the school.

If you have any questions concerning this study, please call me at 910-498-2540 or my supervisor, Dr. L. DiAnne Borders, in the Department of Counseling (910-334-3425) at UNCG. Thank you for your participation and for permitting your daughter to participate in this study.

Sincerely,

Leslie M. Rainey

Permission Form

I give permission for my daughter, _____, to participate in this study about mothers and their daughters' career plans. I understand that neither I nor my daughter will be identified in any way and that all information given by us will be kept confidential.

Signed _____

Please print name _____

Date _____

M#: _____

SURVEY OF MOTHERS WITH

SEVENTH OR EIGHTH GRADE

DAUGHTERS

If you received more than one packet, please follow the instruction below:

1. Complete a consent form for <u>each</u> daughter.

2. Complete one mother's survey booklet for your oldest daughter. Record the identitication number for that booklet here:

   _____

3. Complete items #1, #2, and #7 of Section 1 (on pages 1 and 2) in the other survey booklet for your other daughter. Record that identification number here:

   _____

4. Mail both consent forms and both survey booklets back in the same envelope.

Section 1

Instructions: Please complete the following information.

1. Your relationship to the 7th or 8th grade female who brought this packet home to you:

   _____ 1 Mother

   _____ 2 Stepmother

   _____ 3 Grandmother

   _____ 4 Other (please describe: _____)

2. How long have you been in the mothering role for this 7th or 8th grade female?

   _____ years

3. Your age: _____

4. Ethnicity:

   _____ 1 African American (Black)

   _____ 2 Caucasian (White)

   _____ 3 Native American

   _____ 4 Asian American

   _____ 5 Hispanic (Latino)

   _____ 6 Other (please describe: _____)

OVER

5. Please check which **ONE** of the following statements best describes you. In my adult years, I have worked at paid employment . . .

_____ 1 Never

_____ 2 Before marriage

_____ 3 After marriage

_____ 4 Before and after marriage

_____ 5 Before birth of children

_____ 6 After birth of children

_____ 7 Before and after birth of children

_____ 8 Before and after marriage, and before and after birth of children

_____ 9 Other (please describe: _____)

6. In my adult years, I have worked at paid employment a total of

_____ years.

7. Since the birth of this 7th or 8th grade daughter, I have worked at paid employment a total of

_____ years.

8. Please check which **ONE** of the following statements best describes you. I am currently working in paid employment . . .

_____ 1 Part time (20 hours per week or less)

_____ 2 Full time (more than 20 hours per week)

_____ 3 Not working in paid employment at this time

_____ 4 Other (please describe: _____)

9. If you are currently working in paid employment, please list your job title or occupation.

Job Title/Occupation: _____

10. Have you completed high school or earned a GED?

_____ 1 No **(go to #11)**

_____ 2 Yes **(go to #12)**

11. **If no to #10**, what is the highest grade you completed in school?

_____ grade **(skip to Section 2)**

12. **If yes to #10**, have you received any education beyond high school?

_____ 1 No **(skip to Section 2)**

_____ 2 Yes **(go to #13)**

13. **If yes to #12**, please check the highest level of education you have received:

_____ 1 Attended school or training program beyond high school but did not graduate

Number of years completed: _____

_____ 2 Certificate from a training program (i.e., carpentry, cosmetology, auto mechanics, secretarial, etc.)

Certificate in _____

_____ 3 Associate degree. Major: _____

_____ 4 Bachelor's degree. Major: _____

_____ 5 Master's degree. Major: _____

_____ 6 Doctoral degree. Major: _____

_____ 7 Professional Degree (i.e, law, medicine, seminary, etc.)

Area: _____

_____ 8 Currently enrolled in an educational or training program

Please describe: _____

_____ 9 Other (please describe: _____)

OVER

APPENDIX B

ADOLESCENT BOOKLET

D#: _____

ADOLESCENT SURVEY

Section 1

Instructions: Please complete the following information about yourself.

1. Grade _____

2. Age _____

3. Ethnicity:

_____ 1 African American (Black)

_____ 2 Caucasian (White)

_____ 3 Native American

_____ 4 Asian American

_____ 5 Hispanic (Latino)

_____ 6 Other (Please specify: _____)

OVER

Section 8

Directions: Please answer the following questions in 1-2 sentences. Don't worry about spelling or what you think others may think. What is important is what you think.

1. What grown-up do you know personally who is living a life you would like to have? (List the relationship you have with this person, such as friend, mother, father, teacher, etc., not the person's name. Please do not list movie stars, sports stars, or celebrities you do not know personally.)

2. What is it you particularly like or admire about this person's life?

3. What would you like to be when you grow up?

4. What do you think you will be when you grow up?

Thank you very much for taking the time to participate in this study!

Please put your completed booklet in the box on the desk.

-17-

APPENDIX C

PROCEDURES FOR ADMINISTERING ADOLESCENT BOOKLET

Procedures for Administering Adolescent Instrument Booklet

Room Arrangement

The administrator should prepare the room before participants arrive. Tables and chairs or desks should be arranged so that each participant has privacy in completing the information. There should be enough room between seats/tables to allow movement. Place sharpened #2 pencils with erasers at each seat.

Directions

Below are the adminstrator's instructions to the participants. Please follow exactly as printed.

> "Good morning (afternoon). Thank you for being here today. My name is _____ and I will be here with you while you answer some questions this morning (afternoon).
>
> The purpose of this questionnaire is to help me understand how you and other girls your age make decisions about what you want to be when you grow up. There may be lots of things that you think about when you are trying to decide about your future and I am interested in finding out what some of those things are.
>
> Everything you answer today will be confidential and you will never be identified by name.
>
> Does anyone have any questions?"

[The administrator may answer any general questions such as how long this takes (less than 1 hour), confidentiality (clarify above statement), etc.]

> "Let's begin by making sure everyone has a #2 pencil with an eraser."

[The administrator should have enough sharpened #2 pencils for each participant.]

> "Let me tell you about the booklet that you will complete in a few minutes.
>
> Do not put your name on any of this information.
>
> The first sheet asks for some general information about you, like your age and grade. Please check the blank that best describes you.
>
> Next, you will have several different sections that will ask you about different things, like what kinds of jobs you might choose, what you think about women's rights and roles, words that describe you, and your relationship with your mother.

Each section has a set of directions for you to follow and a rating scale for you to use. Please read each set of directions carefully. If there is anything you don't understand as you read the directions or the questions, please raise your hand and I will come to you.

To answer the questions, circle the number beside each statement that best describes you.

Please answer each question as honestly as possible. No one will know who you are or what answers you put down since your name is not on the booklet.

I will now pass out the questionnaires. You may begin as soon as you receive yours. I expect it will take you about 45 minutes to complete this booklet of questions. When you complete your questionnaire, please bring it to the desk and place it in the box with your school's name on it." [Administrator should show the box.] "Place your pencil in the basket on the desk."

"Again, let me thank you for completing the questionnaire. I appreciate your cooperation.

Remember to raise your hand if you have any questions as you are completing the booklet and I will try to answer them for you."

[The administrator may again answer any general questions. Distribute booklets.]

[As students complete the booklet, they should be allowed to return to their classes according to the directions of the particular school. Be sure to thank each student individually as they turn in the booklet.]

Following is a list of definitions and examples for items or words that may be difficult for young adolescents to understand.

Suggested definitions to be used for items or words that may be difficult for young adolescents to understand.

Section 2, page 3

19. Biological Technician

Definition to use if needed: This is a person trained in collecting and testing living (usually human) tissue in a medical or science laboratory; this person often works in a hospital or doctor's office.

34. Dietitian

Definition to use if needed: This is a person who plans and helps prepare well-balanced, nutritious meals, usually for large groups of people.

Section 2, page 4

40. Forester

Definition to use if needed: This is a person who lives in a densely wooded area and helps prevent fires in that wooded area. This person often works in national parks or forests.

52. Stenographer

Definition to use if needed: This is a person skilled in taking dictation and shorthand, especially one who takes dictation in an office or courtroom.

Section 5, page 8

2. Assertive

Definition to use if needed: positive, bold, persistent

3. Dominant

Definition to use if needed: commanding, supreme, powerful

6. Aggressive

Definition to use if needed: overbearing, forceful, hostile

Section 6, page 9

2. Sometimes my mother is a burden to me.

Definition to use if needed: It means sometimes you feel like you have to be responsible for your mother and take care of her and you really don't want to do that.

3. I feel lonesome or longing if I am away from my mother too long.

Definition to use if needed: It means you really want to be with your mother and you miss her if you are away from her for a long time.

4. My ideas about racial equality are similar to my mother's.

Definition to use if needed: It means you and your mother think the same way about people of different races, such as black people, Native American people, white people, or Hispanic people.

Section 6, page 10

9. My attitudes about obscenity are similar to my mother's.

Definition to use if needed: It means you and your mother think the same way about using bad words.

20. I wish my mother wouldn't try to manipulate me.

Definition to use if needed: It means you wish that your mother would not try to trick you to make you do things.

Section 6, page 11

25. I feel that I have obligations to my mother and I wish I didn't feel that way.

Definition to use if needed: It means you feel that you have responsibilities to your mother that you wish you did not have.

27. I wish I could stop lying to my mother.

Definition to use if needed: If you are not lying to your mother, then you would circle "Not at all true of me"; if you are lying to your mother, then you have to decide if you wish you could stop lying to her.

Section 6, page 12

43. My attitudes about environmental protection are similar to my mother's.

Definition to use if needed: It means you and your mother feel the same way about taking care of and saving the environment (the land, lakes, rivers, oceans, etc.).

Section 6, page 13

60. I sometimes feel like an extension of my mother.

Definition to use if needed: Sometimes it feels like both of you are so alike inside, so close that you're almost the same person.

62. My attitudes about national defense are similar to my mother's.

Definition to use if needed: It means you and your mother feel the same way about defending our country against other countries.

APPENDIX D

INSTRUCTIONS TO TEACHERS FOR DISTRIBUTION OF MATERNAL PACKETS

Leslie M. Rainey
108 Shaw Street
Randleman, NC

December 9, 1994

Dear Teacher of Seventh and/or Eighth Grade Female Students,

With the approval of the Randolph County Board of Education, I am conducting a study of seventh and eighth grade female students and their mothers. I need your help in order to make this project successful. The purpose of this study is to investigate factors which are believed to influence career orientation and career aspiration of young adolescent girls. More and more women are entering the workforce and it is important for educators to know what kinds of factors are influencing students as they explore possible life roles, including jobs and careers.

I need you to distribute the enclosed number-coded packets to all of your female students and to give them the following instructions:

"Mothers of female students in Randolph County are being invited to work with one of the women in the community on a special project. This project does not affect <u>your</u> school work or grades in any way. What we need for you to do is take this packet home to your mother and ask her to read it as soon as possible. All the information your mother needs is included in this envelope. Please be sure to give this envelope to your mother tonight. If your mother decides to help in this project and returns her information promptly, she will be entered in a drawing for a prize. Thank you for helping in this special project."

When you distribute the packets to the students, please be sure the student receives the number coded packet with her name on it. Names of students and mothers will be not be used in the study so it is imperative that the number code for the mother and daughter are the same. If you have a female student who does not have a packet included, please notify the school counselor. If a student is absent on the day you distribute the packets, please give to her as soon as she returns to school.

Thank you very much for assisting me in this project. If you have any questions about the study, please call me at 910-498-2540 or my supervisor, Dr. L. DiAnne Borders (910-334-3425), in the Department of Counseling at UNCG.

Sincerely,

Leslie M. Rainey