INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.
The relationship between career self-efficacy and degree of feminist orientation

Williams, Theodore W., Ph.D.
The Ohio State University, 1993

Copyright ©1993 by Williams, Theodore W. All rights reserved.
THE RELATIONSHIP BETWEEN CAREER SELF-EFFICACY  
AND DEGREE OF FEMINIST ORIENTATION  

DISSERTATION  

Presented in Partial Fulfillment of the Requirements for  
the Degree Doctor of Philosophy in the Graduate  
School of The Ohio State University  

By  

Theodore W. Williams, M.A.  

* * * * *  
The Ohio State University  
1993  

Dissertation Committee:  

Nancy E. Betz, Ph.D.  
Samuel Osipow, Ph.D.  
W. Bruce Walsh, Ph.D.  

Approved by  

Nancy E. Betz  
Advisor  
Department of Psychology
ACKNOWLEDGEMENTS

The work before you is the realization of a goal I set for myself fifteen years ago when I was fortunate enough to have early and close contact with the faculty of Ohio State University’s Psychology Department. Having such mentors as Dan Christie, Terry Pettijohn and Nancy Betz early in my undergraduate career inspired me to pursue the doctorate in psychology. The support and encouragement of the Counseling Psychology faculty, my friends family and co-workers enabled me to achieve a goal I had, for a time, considered unattainable. In fact it would have been unattainable if not for the efforts and input of those closest to me. It is to those who worked as hard to allow me the time and resources to work as I did in the actual working that I wish to express my gratitude.

The faith in my abilities expressed by my advisor and mentor Dr. Nancy Betz was instrumental and indispensable during this process. Our long association in research endeavors, beginning for me as an undergraduate, has given me a greater understanding and appreciation of the science that is psychology. My appreciation, admiration and respect go to her for showing me the meaning of scholarship.

I also wish to thank the members of my committee, Dr. Sam Osipow and Dr. Bruce Walsh for help in refining my thoughts prior to implementation and in their constructive critique of the final draft version.
I wish to express my deepest appreciation and love to those who were the most adversely affected by this project, my wife Pam and children Tim and Sarah. The time it took to create this work was time not spent with them and is not possible to recapture even though I owe this to them. To Pam who often had to act as the "single" parent and to Tim and Sarah who had to "let Daddy work" I dedicate this effort and manuscript to each of you.

Very special thanks are owed to the grandparents of this family system who acted as relief workers when needed (which was often). To Pat and Bob Williams and Marian and Bob Dolbow I express my thanks for all the times you helped with the kids or with meals. Your support was frequent and often volunteered at just the right moment. And to Pat Dolbow, my sister-in-law, your filling in as needed for a variety of reasons and with little notice was invaluable. Love and appreciation go to my grandparents, Kenneth and Mildred Williams for their interest and support in just seeing how everything was going. I still find that going home to the farm can remind me of what’s truly important; after days of struggling with details I could recover with a walk down the lane. To each member of my family I am indebted because everyone in their own way allowed and supported me in pursuing what was truly important to me regardless of whether it meant additional work and expense on their part. I am fortunate to be a related to so many wonderful people.

To my co-workers, supervisors and friends at Crittenton Family Services I also owe a debt of thanks to this agency and the people who are the agency for providing much in the way of emotional and financial support. For allowing me the time and
resources to complete my doctorate I wish to thank Bill Blackburn, Bill Gorga, Kevin Drollinger, and in particular, Jane Walker. Each of these people played important roles at various points along the way. Thanks also to my colleagues and co-workers for listening and understanding: Cathy Downs, Shira Ehrenberg, Sarah Graffagnino, Julie Green, Mary Ann Grimshaw, Cathy Murphey and Norm Roberts. Additional thanks to Peg Blackburn who helped me through agency policy and procedures as well as to Jim Lathrop for his frequent computer consultations.

And finally as a "commuter student" I owe much to the Psychology Departments dedicated secretarial staff, namely Linda Thompson, Tess Davis and Sandy Daley for all the extra work they went to in saving me extra trips to campus.
VITA

December 28, 1957

1980

1983

1987- Present

Born - Marion, Ohio

B.S., The Ohio State University, Columbus, Ohio

M.A., The Ohio State University, Columbus, Ohio

Family Therapist/Psychology Assistant, Crittenton Family Services, Columbus, Ohio

FIELDS OF STUDY

Major Field: Psychology

Speciality Area: Counseling Psychology
TABLE OF CONTENTS

ACKNOWLEDGEMENTS ................................................................. ii

VITA ............................................................................................ v

LIST OF TABLES ................................................................. x

CHAPTER I: STATEMENT OF THE PROBLEM ......................... 1

CHAPTER II: LITERATURE REVIEW ........................................ 18
    The Study of Women’s Career Development:
        A Historical Perspective ........................................... 20
    Early Theoretical Models Used in the Study of
        Women’s Career Development .................................. 20
        Career Patterns. .................................................. 20
        Career orientation and career salience ..................... 23
        Divergent theoretical perspective:
            Deviance versus enrichment. ............................... 25
        Summary. .......................................................... 27
    Theoretical Incorporation of Female Gender-Role Socialization... 27
        Interactional models of women’s career development. .... 27
        The concept of barriers to women’s career development . 29
        Summary. .......................................................... 31
    Contemporary Concepts in the Study of Women’s Career Choice .... 32
        The Concepts of Occupational Traditionality and
        Traditionality of Women’s Gender-Attitudes ................ 32
        Correlates of women’s nontraditional career choice. ..... 32
        Facilitative Environmental Correlates ....................... 33
        Facilitative Individual Correlates ............................ 34
    Correlates of Feminist / Nontraditional / Liberal, Gender-Role Attitudes. 36
        Academic behavior as a function of gender-role attitudes . 39
        Academic and performance self-esteem &
            expectancies for success ........................................ 41
        Summary. .......................................................... 42
The Relationship Between Women’s Gender-Role Attitudes and Career Choice ......................................... 43
Summary ....................................................................................... 50
Problems with Gender-Role Attitude Research ................................ 51
Nonstandard use of terminology ............................................... 51
What is a gender-role attitude? .............................................. 52
The problem of role and situational specificity ...................... 54
Lack of a theoretical link between belief and action. ................. 57
Cognitive Mediation of Women’s Career Behavior:
Beliefs Defining Behavioral Capabilities .................................... 58
Self-efficacy theory. ................................................................ 58
A Self-Efficacy Approach for the Study of Women’s Career Behavior 62
Career-related self-efficacy studies producing gender-differential response patterns. 64
Career self-efficacy and gender-role attitudes. ...................... 72
Task-specific self-efficacy. .................................................... 78
A Theoretical Framework of the Functional Relationship of Gender-Role Attitudes During Cognitive Processing of Self-Efficacy Information ......................................................... 87
Summary of purposes ................................................................ 90
Summary of purposes and hypotheses ..................................... 92
Task-specific Self-Efficacy ....................................................... 94
Summary ....................................................................................... 95

CHAPTER III: METHOD ............................................................................................. 97
Participants .................................................................................... 97
Instruments ................................................................................... 97
Attitudes Toward Feminism Scale. ............................................. 97
Occupational Self-Efficacy Scale. ............................................ 101
Task-Specific Occupational Self-Efficacy Scale ....................... 104
Demographic information ......................................................... 106
Procedure ...................................................................................... 107
Analysis of the Data ..................................................................... 108

CHAPTER IV: RESULTS ............................................................................................ 112
MANOVA Results. ................................................................. 112
MANOVA ONE: General Career Self-Efficacy and Total Task-Specific Self-Efficacy ........................................... 113
MANOVA TWO: OSES and TSOS Sub-Scale Self-Efficacy Variables .......................................................... 116
Univariate t tests of specific Hypotheses ............................... 126
OSES-based Hypotheses ......................................................... 126
TSOS-based Hypotheses ......................................................... 132
Pearson Correlation Data ........................................................ 135
<table>
<thead>
<tr>
<th>Betz &amp; Hackett (1981) Replication</th>
<th>142</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betz &amp; Hackett (1981) Item Pattern Replication</td>
<td>148</td>
</tr>
<tr>
<td>Williams (1983) Replication</td>
<td>153</td>
</tr>
<tr>
<td>Rooney &amp; Osipow (1992) Item Pattern Replication</td>
<td>155</td>
</tr>
<tr>
<td>Attitudes Toward Feminism Scale Data</td>
<td>161</td>
</tr>
</tbody>
</table>

**CHAPTER V: DISCUSSION**

- Summary of Primary Findings .......................................................... 167
- Gender and Order Effects with regard to Self-Efficacy Expectations .... 175
- Hypotheses ......................................................................................... 182
- Betz and Hackett (1981) and Williams (1983) Replications ................. 184
- Limitations, Research Considerations and Implications ................. 187
- Developmental Perspective with regards to the Findings ................. 191
- Degree of Feminist Orientation and Men’s Career Development ........ 196
- Summary ......................................................................................... 197

**REFERENCES** ..................................................................................... 200

**APPENDIX A** .................................................................................... 219

**APPENDIX B** .................................................................................... 222

**APPENDIX C** .................................................................................... 224

**APPENDIX D** .................................................................................... 231

**APPENDIX E** .................................................................................... 233

**APPENDIX F** .................................................................................... 234

**APPENDIX G** .................................................................................... 235

**APPENDIX H** .................................................................................... 236

**APPENDIX I** .................................................................................... 238

**APPENDIX J** .................................................................................... 241

**APPENDIX K** .................................................................................... 245
LIST OF TABLES

TABLE 1
General Career Self-Efficacy Scores as a Function of
Gender, Degree of Feminist Orientation & Instrument Order .............. 114

TABLE 2
Total Task-Specific Self-Efficacy Scores as a Function of
Gender, Degree of Feminist Orientation & Instrument Order .............. 115

TABLE 3
Traditionally Female Career Self-Efficacy Scores as a Function of
Gender, Degree of Feminist Orientation & Instrument Order .............. 117

TABLE 4
Traditionally Male Career Self-Efficacy Scores as a Function of
Gender, Degree of Feminist Orientation & Instrument Order .............. 118

TABLE 5
Traditionally Female Task-Specific Self-Efficacy Scores as a Function
of Gender, Degree of Feminist Orientation & Instrument Order ............ 120

TABLE 6
Traditionally Male Task-Specific Self-Efficacy Scores as a Function
of Gender, Degree of Feminist Orientation & Instrument Order ............ 121

TABLE 7
Gender Neutral Task-Specific Self-Efficacy Scores as a Function of
Gender, Degree of Feminist Orientation & Instrument Order .............. 122

TABLE 8
Summary of Order Effects Across Conditions ................................. 125

TABLE 9
Summary of Gender Effects Across Conditions ............................... 127
<table>
<thead>
<tr>
<th>Table Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 10</td>
<td>Intercorrelations Among Self-Efficacy and Degree of Feminist Orientation for Males and Females</td>
<td>137</td>
</tr>
<tr>
<td>Table 11</td>
<td>Intercorrelations Among Self-Efficacy and Degree of Feminist Orientation for Occupational Self-Efficacy Scale Presentation Order</td>
<td>138</td>
</tr>
<tr>
<td>Table 12</td>
<td>Mean Career Self-Efficacy Scores for Male and Female College Students Between 1981 and 1993</td>
<td>143</td>
</tr>
<tr>
<td>Table 13</td>
<td>OSES Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation and Instrument Order for Males, Females and Total Sample</td>
<td>145</td>
</tr>
<tr>
<td>Table 14</td>
<td>Gender Differential Response Patterns For Occupational Self-Efficacy Scale Items Across Order Conditions and Studies</td>
<td>149</td>
</tr>
<tr>
<td>Table 15</td>
<td>Gender Differential Response Patterns For Occupational Self-Efficacy Scale Items For Which Pattern Replication Varies by OSES Presentation Order</td>
<td>150</td>
</tr>
<tr>
<td>Table 16</td>
<td>Gender Differential Response Patterns For Occupational Self-Efficacy Scale Items In Which Replication Did Not Occur</td>
<td>151</td>
</tr>
<tr>
<td>Table 17</td>
<td>Females’ Occupational Self-Efficacy Scale Scores 1983 and 1993</td>
<td>154</td>
</tr>
<tr>
<td>Table 18</td>
<td>Gender Differential Response Patterns For Task-Specific Occupational Self-Efficacy Scale Item Content Across Order Conditions and Studies</td>
<td>157</td>
</tr>
<tr>
<td>Table 19</td>
<td>Distribution Statistics for The Attitudes Toward Feminism Scale</td>
<td>162</td>
</tr>
</tbody>
</table>
CHAPTER I
STATEMENT OF THE PROBLEM

During the past twenty years it has become increasingly clear that the career development of women is more complex in its structure and process than its male counterpart (Farmer, 1985; Fitzgerald & Crites, 1980; Osipow, 1973; 1983). This complexity is reflected in the inability of theories and models developed from the study of men's career behavior to adequately explain or predict the career behavior of women (Fitzgerald & Crites, 1980; Osipow, 1975). Of considerable importance, and the focus of much study during the past decade, has been the effort to explain two disquieting aspects of women's labor market participation: 1) women's continued over-representation in low paying, low status traditional careers/jobs, and 2) women's underutilization of their abilities in career pursuits. (Fitzgerald & Betz, 1983; Betz, in press, a).

Prior to World War II, women's paid labor force participation was largely the exception to the rule and tended to be limited to those who had not yet married or borne children. The occurrence of these family life events in a woman's life would usually result in the termination of labor force participation (Perun & DelVento-Bielby, 1981). However beginning with, and stemming from, America's need for workers to replace
those lost to the war effort, women's labor force participation has undergone a dramatic increase over the last fifty years.

In 1984, 63% of all women (ages 18-64) were working outside the home and it is near 80% as of the 1990 census (Betz, in press,a). Women workers comprise approximately 44% of the entire labor force (U.S. Department of Labor,1984). Based on these data, the average woman in American society today can expect to work 29.3 years outside the home (compared to 39.1 years for the average man) with the lifetime probability of labor force participation being 95 out of a 100. For the vast majority of women, employment is not as much a matter of choice as it is of survival(Russo & Denmark,1985): two-thirds are single, divorced, separated or have husbands earning less than $15,000, and three-fourths of mothers of children under 18, and 62% with children of preschool age are currently working outside the home (U.S. Department of Labor,1989) So it can be seen that the working woman is the norm (Hyde,1985) and she has been "becoming" the norm for nearly half a century.

With women's labor force participation approaching parity to that of men, one would expect comparable participation rates across occupations and professions. However the majority of women workers (approximately 80%[Newsweek,1983]) can be found in a limited number of "pink collar"(Howe,1977) occupations, e.g. clerical worker, retail sales, waitress, beautician, and housekeeping services (U.S. Department of Labor,1984). Women professionals concentrate in professions offering lower pay and status than that offered in male-dominated professions, with a serious underrepresentation of women in the fields of mathematics, the sciences and engineering as well as the skilled
trades (Dix, 1987; National Science Foundation, 1990). A consistent finding in the career development literature (e.g. Betz, in press, a; Fitzgerald & Crites, 1980; Fitzgerald & Betz, 1983; Osipow, 1983) is that occupational choice for women and men tends to follow predictable gender-stereotypic patterns. Women continue to select from a limited number of traditionally female-dominated occupations (Hesse-Biber, 1985) and such occupations characteristically offer less in the way of financial renumeration, status and upward mobility (e.g. Ferraro, 1984; Fitzgerald & Betz, 1983). In 1985 women accounted for 87% of librarians and 95% of nurses but only 18% of lawyers and judges, 17% of doctors, 11% of architects and 7% of engineers (U.S. Bureau of Labor Statistics, 1985).

In addition to women’s concentration in traditionally-female and frequently low-level occupations is the empirical evidence of the failure of the “matching” or trait-factor model of career choice in predicting women’s career behavior and aspirations (Betz, in press, a; Betz & Hackett, 1986). In sum, Betz (in press, a) states that in contrast to men in general, "women’s intellectual capacities and talents are not reflected in their educational and occupational achievements" (p.15). As noted by Fitzgerald and Crites, (1980) the career aspirations and choices of women are frequently far lower than those of men with equivalent abilities, resulting in a loss to both the individual and society in that unique talents are not developed and used to their fullest extent.

Society’s "homogenization" of women into a single group, where life roles and vocational choices are defined by gender rather than by individual characteristics (Bem & Bem, 1979) may in general explain the failure of the matching model when applied to
women's career development in that it reflects the reality of women's gender-role socialization. The practical effects of such homogenization are that the prediction and explanation of men's career behavior requires knowledge of particular talents and capabilities, while one need only know the individual female's relative life-role priorities (career versus family) to be able to "predict" with a high degree of accuracy, the nature and extent of their career participation (Arnold, 1989). It is the differential impact of gender-role socialization which appears to make women's career behavior more complex (Fitzgerald & Crites, 1980). Therefore the explanation of women's over-representation in traditional careers and underutilization of their abilities in such pursuits requires an understanding of the processes or mechanisms by which women's gender-role socialization becomes manifest in women's career-related behavior and choice (e.g. Hackett & Betz, 1981).

One perspective that has been extensively explored and gaining in empirical support since it was first proposed involves the role of cognition in behavior and behavior change as a means to explain women's over-representation in traditional careers and underutilization of abilities in career pursuits (Betz & Hackett, 1986; Lent & Hackett, 1987). Originating from the social learning theory of Krumboltz, Mitchell and Jones (1976) as applied to career development, and further delineated as "Social Cognitive Theory" by Bandura (1986), the influence of self-referent thought in human behavior culminates more specifically in self-efficacy theory (Bandura, 1977; 1986). Hackett and Betz (1981) first applied self-efficacy theory to the study of career-related behavior and career development. Hackett and Betz postulated that gender differences
in one particular class of cognitive behavior (i.e., career self-efficacy) could help explain women's disproportionate representation with regard to traditional versus nontraditional career pursuits as well as women's underutilization of abilities in career areas.

Bandura's (1977; 1982; 1986) self-efficacy theory is predicated on the view that cognition are important mediators of behavior. Within this framework, the primary mediators of behavior and behavior change are self-efficacy expectations, that is, cognitive self-appraisals of one's ability to successfully execute a particular behavior. According to Bandura, such expectations of personal efficacy determine whether behavior will be initiated, the amount of energy expended in the attempt, and the duration or maintenance of the behavior in the face of obstacles and/or aversive experiences (1977; 1982; 1986).

Self-efficacy expectations are believed to develop in response to a variety of social learning experiences which, according to the theory, affect self-efficacy level and strength through four information sources (Bandura, 1977; 1986). This aspect of the theory will be discussed in the following chapter. The fundamental assumption of the Hackett and Betz (1981) approach is that women's gender-role socialization offers limited exposure and access to experiences and information capable of facilitating strong career self-efficacy expectations. Gender-role socialization is stipulated to influence self-efficacy information presented to women in terms of the types and levels communicated (Betz & Hackett, 1986). More specifically, it was postulated that the lack of strong career self-efficacy is of particular importance in women's decision to pursue a traditional rather than a nontraditional career option. Women's under-representation in nontraditional
occupations is therefore seen as partially due to low career self-efficacy expectations with regard to nontraditional major and career options (Betz & Hackett, 1981; Hackett & Betz, 1986). When combined with the reality that it is nontraditional/male-dominated career options which offer the most in terms of financial renumeration, status and upward mobility (Betz, in press a;b Fitzgerald & Betz, 1983, Osipow, 1983), it becomes clear that the choice for women between traditional and nontraditional options has consequence throughout a woman's life-span (e.g. Harmon, 1981).

Initially studies of the applicability of self-efficacy theory focused on clinical problems such as phobias (e.g. Bandura & Adams, 1977; Bandura, Adams, & Beyer, 1977; Bandura, Adams, Hardy, & Howells, 1980). Interest in the investigation of Bandura's theory has escalated significantly since its debut and the number of studies available for review regarding self-efficacy theory in general exceed the needs of the present investigation (PsychLIT indicates nearly 800 relevant listings for 1983 to present). The reader is referred to Bandura's (1986) work for a general review of self-efficacy theory as it relates to his social cognitive framework.

The literature on career self-efficacy (to be reviewed in greater detail in the following chapter) is evidencing movement both toward greater theoretical specificity and empirical diversification. This growing body of work can been divided into six broad categories:


The critical reviews of Betz and Hackett (1986) and Lent and Hackett (1987) and Hackett and Lent (1992) represent the most recent and extensive compilations of the empirical status, current level of conceptual maturity and theoretical direction of this domain of inquiry. While noting certain limitations in both the conceptual and empirical realms, these authors conclude that the career self-efficacy approach originally presented by Hackett and Betz (1981) has received considerable empirical support and produced significant research activity. Lent and Hackett (1987) note that self-efficacy has been found to be predictive of important correlates of career entry behavior (e.g. academic major choice and performance). Hackett and Lent (1992) conclude that the research
indicates that self-efficacy relates to career entry indices, work adjustment outcomes, alternative career counseling constructs such as interests and appears causally linked to performance. The authors further state that "gender differences in self-efficacy frequently help explain male-female differences in occupational consideration."

(p. 435-436). And Osipow (1986) notes that self-efficacy theory has garnered enough support to be considered an important construct in the study of career development in general, and in particular for the study of the career development of women in nontraditional careers.

The meta-analysis of Multon, Brown & Lent (1991) in which 68 studies of self-efficacy and academic outcomes were reviewed (studies which attempt to challenge the core tenant of Bandura's theory i.e. that beliefs are functionally associated with behavior) found "positive and statistically significant relationships between self-efficacy beliefs and academic performance and persistent outcomes across a wide variety of subjects, designs and assessment methods"(p.30). They also note that self-efficacy theory is being shown to be more robust than alternative theoretical systems in the explanation and prediction of academic performance variables for college student populations. Multon et al. (1991) found consistency in the data associated with "homogeneity " in terms of the direction of the relationship between self-efficacy and academic performance as well as "heterogeneity" or variability in the magnitudes of these associations.

From the first empirical test of self-efficacy's potential heuristic and applied utility in the vocational psychology of women (i.e. Ayres,1980; Betz & Hackett, 1981) a persistent pattern has emerged from the data. As Betz and Hackett (1981) predicted, women reported significantly lower self-efficacy with regard to nontraditional/male-
dominated career options, while men reported equivalent levels of self-efficacy regardless of the traditionality of the title. Significant differences between men and women were due almost exclusively to the women's differential responsiveness to occupational traditionality. In an early review of self-efficacy theory, Bandura (1982) implied that Betz and Hackett's (1981) data suggested a relationship between internalized social beliefs or attitudes regarding gender-appropriate career pursuits and women's career self-efficacy. Repeatedly, and with few exceptions, studies of self-efficacy to date have shown that women's career self-efficacy varies in accord with stereotypic notions of gender appropriateness. The concordance between self-assessments of capability (self-efficacy) and career/academic behavior is being demonstrated whether assessment involves occupational titles or specific tasks (Betz & Hackett, 1986; Lent & Hackett, 1987; Rooney & Osipow, 1992) but when differential response patterns exist, the nature of the patterns are consistent with traditional definitions of gender-appropriateness. Betz and Hackett (1986) conclude that "Career self-efficacy appears to be important in understanding women's career choices when traditionality of the occupational alternatives is taken into account. Likewise, when investigating expectancies with regard to specific skills, tasks, or abilities, the sex-role stereotypicality of the task or activity is a major determinant of gender differences in self-efficacy." (p.287).

Broadly defined, the purpose of this study involves attempting to both integrate and differentiate judgements of ability (self-efficacy) and judgements of gender-appropriateness (gender-role attitudes) by connecting them within Bandura's social cognitive theory (1986). Although Bandura did not originally attempt to incorporate
gender-role attitudes and women's career development in his theoretical framework (i.e. Bandura, 1977), his reconceptualization of social learning theory into a more all encompassing theory linking knowledge to action does specifically allow such accommodation (Bandura, 1986). It is in this way that the lack of theoretical framework in the domain of gender-role attitudes research, as noted by Betz, (in press, b) might initially be addressed.

Hackett and Betz (1981) theoretically incorporated the influence of women's gender-role socialization on career self-efficacy development by stipulating environmental barriers which limited access to self-efficacy information. In other words, women's over-representation in traditional careers reflects women's limited access and exposure to information capable of developing sufficiently strong career self-efficacy for nontraditional career pursuits (Betz & Hackett, 1981; Hackett & Betz, 1981). Bandura (1986) however notes that "While it is true that conceptions govern behavior, the conceptions themselves are partly fashioned from direct and socially mediated transactions with the environment (p. 27)." which supports his "triadic reciprocal causation model." Hackett and Betz (1981) conceptualization is unidirectional rather than reciprocal in that the environment limits access to information. However, while not to argue that the environment treats females and males identically, it does appear that males and females occupy the same environmental space which supplies self-efficacy information. The individual must somehow participate in the process by which externally presented standards of appropriate conduct are internalized.
Bandura's triadic model stipulates that one may have access to information and ignore it. Bryan and Luria (1978), cited by Bandura (1986), regarding gender-role acquisition, state that "Variations in gender-role learning are better explained by selective attention promoted through selective association than by deployment of attentional models of both sexes one is constrained to observe (p. 94)." What this leads to is the notion that the information sent does not necessarily equal the information received: "information conveyed by events must be distinguished from information as processed and transformed by the individual" (Bandura, Adams & Beyer, 1977, p. 137).

It may therefore be that women's lower self-efficacy expectations with regard to nontraditional career options results not only from limited access and exposure to self-efficacy information but also from alterations, distortions, and avoidance (which occurs during cognitive processing) of any relevant information available. As reviewed by Betz (in press, a), evidence of this filtering effect may be seen in the data generated by Drabman, Robertson, Patterson, Jarvei, Hammer and Cordua (1981) in which children altered their perceptions and memories of events to fit gender-stereotypic patterns of appropriateness. The development of accurate expectations of personal efficacy (i.e. self-efficacy equivalent to objective measures of ability) requires accurate perception of the information conveyed by experiences encountered in the social milieu.

When viewed from this perspective, it seems reasonable to speculate that women's gender-role attitudes regarding the gender appropriateness of a particular career option, behavior, task or sequence of actions leading to career participation, may serve to distort or disavow available career self-efficacy information. In this way it is being proposed
that, gender-role attitudes are another form of "knowledge" that may functionally relate to behavior by filtering available self-efficacy expectation information. Bandura (1986) reviews empirical evidence supportive of the statement that people have trouble weighing and integrating multidimensional information, preferring to rely on simple judgement rules to make decisions and execute actions. Gender-role attitudes may be defined, in general, as simple judgement rules.

More specifically, gender-role attitudes, although lacking a consensually agreed-upon definition (Beere, 1979; 1990; Robinson, Shaver & Wrightsman, 1991), include judgements of gender appropriateness regarding life roles, behaviors and personal attributes. In reviewing the literature and compendiums of "sex-role measures," the terms "gender-role," "sex-role," "gender-role attitudes" and "sex-role attitudes," while all professing to have different conceptual meanings, seem instead to all attempt to define the degree to which an individual has been gender-socialized. In other words, gender-role attitudes are taken to be reflective of the degree and manner to which an individual has internalized the externally presented information regarding gender-appropriateness. Measures of these constructs also seem to involve a similarity in purpose in rank ordering individuals relative to one another on an attitudinal continuum with traditional and nontraditional endpoints. While lacking a theoretical framework (Betz, in press, b) and conceptual precision, it is the area of gender-role attitudes as a domain of inquiry that may be crucial in understanding and explaining the greater complexity of women's career development indicated graphically by Farmer's (1985) path analysis.
In her review of "gender-related individual differences variables," Betz (in press, b) concluded that studies in the area of "sex-role attitudes" have produced consistent findings, particularly in association with women's career development. The consistency and stability of traditional/gender-typed occupational stereotypes regarding gender-appropriateness (e.g. Getty & Cahn, 1981; Shepard & Hess, 1975; Shinar, 1975; White Kruczek, Brown & White, 1989) supports their potential utility as a functional part of a theoretical framework. Women's gender-role attitudes have been found to be significant predictors of a variety of career-correlates (e.g. Betz, in press, a; b; Fitzgerald & Betz, 1983; 1987) and in particular are consistently associated with major & career selection traditionality (e.g. Crawford, 1978; Fassinger, 1985; Harren, Kass, Tinsley & Moreland, 1979; Zuckerman, 1977; 1980; 1981) Traditional gender-role attitudes may therefore serve to filter-out and/or distort facilitative self-efficacy information pertaining to nontraditional behavioral, personal and career domains, while nontraditional gender-attitudes may serve to facilitate the acquisition of such information, or at least not interfere with its accurate cognitive processing. In this way, gender-role attitudes as a variable may constitute either an internalized barrier or an internalized enabler with regards to the development of strong self-efficacy expectations.

The fundamental assumptions being presented as the foundation of this study are that women's overrepresentation in traditional majors and occupations and their underutilization of abilities in such career pursuits results from both: 1) limited access and exposure to self-efficacy information with regard to nontraditional majors and careers, and 2) the maintenance of traditional gender-role attitudes regarding judgements
of appropriateness which serve to distort or reject the perception/acquisition of the nontraditional career self-efficacy information available from the environment.

An empirical test of these assumptions (Williams, 1983) provided initial support for the primary hypotheses. In a study of 215 female Ohio State University students were administered the OSES (Betz & Hackett, 1981) in which participants were requested to rate their level and strength of self-efficacy with regard to the educational and job requirements of 10 traditional and 10 nontraditional career options. The Attitudes Toward Women Scale (Spence & Helmreich, 1972) was administered to assess the participants’ "Degree of Feminist Orientation." Degree of Feminist Orientation was the variable defining gender-role attitudes with a median split used to classify women as traditional or feminist. Results showed that Degree of Feminist Orientation was associated in the predicted manner with regards to self-efficacy strength: traditional attitudes were associated with greater variance in career self-efficacy with regards to career option traditionality, while feminist attitudes were associated with significantly less variability in self-efficacy levels between traditional and nontraditional career options. More recently, Fassinger (1985) found that Degree of Feminist Orientation was among the strongest predictors of career orientation, prestige and nontraditionality of career choices among college women. She further notes that feminist orientation emerged as a separate and distinct dimension in comparison to the more generally assessed gender-attitudes regarding women's roles.

The present study is intended to replicate Williams (1983), to extend the design to included males, and to incorporate updated and varied assessments of both self-efficacy
and gender-role attitudes. A few studies to date have attempted to assess the relationship between self-efficacy and gender-role/gender-role attitudes (located in PsychLIT search: Foss & Slaney, 1986; Gorrell & Shaw, 1988; Long, 1989; Matsui, Ikeda & Ohnshi, 1989; Rotberg, Brown & Ware, 1987) and these will be reviewed in detail in the next chapter. As a group they suffer from certain limitations in their assessment of self-efficacy, gender-role attitudes and/or their failure to structure the research design to incorporate "traditionality" of occupation of task. However the overall findings support the contention that women's lower self-efficacy expectations with regard to nontraditional career options are associated with more traditional gender attitudes. There are initial indications in the literature that if an occupation or task is or can be made "gender-neutral" as a stimulus it "loses" its capacity to differentiate by gender (i.e. compare results of Campbell & Hackett, 1986 to those of Hackett & Campbell, 1987). The most important limitation of the existing body of research from the perspective of the present study has been the treatment of women and men as homogenous groups to allow for gender comparisons. It is the variability within gender in terms of gender-role attitudes and career self-efficacy that will allow greater specificity of the role of gender-role socialization in the development of women's career self-efficacy in that some women do pursue nontraditional options and are therefore able to incorporate the necessary self-efficacy information in their career behavior. It is for this reason the variable "Degree of Feminist Orientation" is being retained with grouping within genders occurring to gain more information regarding within gender variability in terms of gender-role attitudes and self-efficacy expectations. Finally, a recent development in the study of self-efficacy
concerns the appropriate and most useful behavioral level at which to measure expectation level and strength (Lent & Hackett, 1987; Matsui & Tsukamoto, 1991; Osipow & Rooney, 1989; Rooney & Osipow, 1992). While differential responding at the "occupational title" by gender fit well into patterns reflective of occupational stereotypes, it is being found that differential responding is occurring at the behavior level too (e.g. Rooney & Osipow, 1992 found significant gender differences for 41 out of 230 items). Given these initial findings the test of this study's hypotheses will occur using assessment of general/career titles self-efficacy level using the OSES (Betz & Hackett, 1981) as well as at the task-specific level using the TSOSS (Osipow & Rooney, 1989).

Degree of Feminist Orientation will be assessed using a currently unpublished and experimental gender-role attitudes scale being developed by Fassinger, "The Attitudes Toward Feminism Scale" (in press). This measure appears to be more psychometrically sound and able to capture a greater variability in gender attitudes on the high (i.e. feminist) end of the scale. The Attitudes Toward Women's Scale (Spence & Helmreich, 1972), as reviewed by Beere (1979; 1990), has become dated in its item content, and with the documented movement toward more liberal attitudes (Fassinger, in press), presents difficulties in evidencing a "ceiling effect." resulting in a truncated range at the feminist end of the continuum.

In summary, the present study was designed to investigate, replicate and extend an earlier investigation (Williams, 1983) of the extent to which gender-role attitudes moderate the relationship of gender to traditional and nontraditional career self-efficacy expectations. More specifically, the study was designed to examine the hypothesis that
the gender differences in career self-efficacy consistently reported in the literature are, at least in part, a function of predominantly traditional gender-role attitudes among female college students. In that the literature also consistently reports that males in general do not vary in self-efficacy strength with regard to occupational traditionality (exceptions to be discussed in the following chapter), it is being stipulated that men's gender-role attitudes will not be associated strongly with self-efficacy regardless of option traditionality. It is further hypothesized that, as in Williams (1983), differences in self-efficacy would be minimized among feminists female versus traditionalist female students. However it is expected that males will evidence the least variability in self-efficacy, with feminists females evidencing a level of variability falling between males and traditionalist females at the occupational level of specificity.

As for the original study which was designed to expand on Betz and Hackett (1981), it was hypothesized that the career self-efficacy expectations of feminist women would parallel those of the male participants investigated in the Betz and Hackett (1981) sample. It was further hypothesized that the responses of women espousing more traditional gender-role attitudes would parallel the self-efficacy response pattern evidenced by the women in general in the Betz and Hackett (1981) sample.

At the task level this study will be both exploratory and a replication of Rooney and Osipow (1992), while adding the variable "Degree of Feminist Orientation". Few predictions will be made beyond a speculation that unlike self-efficacy reports in response to occupational titles, males may produce lower task-specific self-efficacy levels for traditionally female behaviors/skill sets (e.g. Matsui & Tsukamoto, 1991; Rooney & Osipow, 1992).
CHAPTER II

LITERATURE REVIEW

Interest in the influence of gender-role socialization factors on women's career development has resulted in a rapid increase in the number of investigations designed to study such factors. However the rapid growth of interest in gender-role socialization factors in general, and gender role attitudes in particular, has not been associated with greater theoretical sophistication in terms of how they supposedly influence career-related behavior (Betz, in press a & b). Ambiguous terminology, inconsistent research design and a plethora of assessment instruments (many of which possessing dubious psychometric precision and limited validity and reliability data, Beere, 1979; 1990; Betz, in press, b; Lenny, 1991) characterize this domain of inquiry. Weaknesses not withstanding, it may well also be the area of investigation containing variables crucial to explaining how women's career development differs from men's.

The following review represents a segment of the literature presented in an attempt to delineate the rationale for the present investigation and to offer specific and theoretically derived definitions of the variables of interest. The first section is a historical-developmental review of the study of women's career development literature which traces and describes the movement away from an application of "male-derived"
theories emphasizing individual factors to an incorporation of an interactional perspective focusing on female gender-role socialization. Section two focuses on correlates associated with the traditionality of women’s major/career choice and correlates regarding women’s Degree of Feminist Orientation. Deficiencies within the gender-role attitude literature considered to be of primary importance to the present study are also addressed. The third section briefly reviews the career self-efficacy literature in general. Particular attention is paid to studies producing gender differences in self-efficacy magnitudes and to the discussion of research designs which do and do not produce differential/gender-stereotypic response patterns (i.e. inclusion of gender-loaded stimuli and methodological designs and analysis capable of detecting differential responding). The fourth and final section focuses on presenting theoretically derived propositions of the functional relationship between women’s gender-role attitudes and women’s career behavior. More specifically, and located within Bandura’s (1986) over-arching social cognitive theory, a theoretical framework is offered for incorporating and conceptualizing women’s gender-role attitudes (i.e. Degree of Feminist Orientation) as a functional form of knowledge affecting the acquisition of career self-efficacy information during its cognitive processing, thereby inhibiting or facilitating the development of strong career self-efficacy expectations.
The Study of Women's Career Development:  
A Historical Perspective

Early Theoretical Models Used in the Study of Women's Career Development

Career Patterns. Between the late 1950's and mid-1970's, research on women's career choice was largely concerned with describing women's participation in the labor force in relation to both career and homemaking roles. The underlying question being asked was why were women pursuing careers at all? Early studies and theoretical explanations of women's career development were based on the assumption that women's modal life role was that of homemaker (e.g., Hoyt & Kennedy, 1958; Psathas, 1968; Super, 1957) and that career behavior was therefore "deviant" behavior. In attempting to answer the question of why women pursued outside employment, researchers incorporated a variety of approaches and dependent variables.

One of the first approaches used in the description of women's career behavior involved the dichotomous grouping of women on the basis of career orientation. In 1958 Hoyt and Kennedy presented a rationale for the study of women's career development which divided women into two mutually exclusive groups: career-oriented and homemaker-oriented. At this time, 36% of all women 14 years of age and older were employed outside the home, and nearly 30% of women with children were employed (U.S. Department of Labor, Women's Bureau, 1975).

By 1965, some researchers noted that the career versus home dichotomy had lost much of its utility as a dependent variable (Douce, 1977). The statistics indicated a great
deal of overlap between the two categories or roles, thus invalidating such dichotomous grouping since the number of women combining the roles of homemaking and career increased by nearly 30% (U.S. Department of Labor, Women’s Bureau, 1975).

A second approach to the description of women’s career development involved the concept of career patterns. Super (1957), aware of women’s increasing representation in the labor force and of the lack of research investigating women’s careers, categorized women according to seven career patterns: (1) the stable homemaking career pattern, which includes all women who marry shortly after or during high school or college and having no significant work experience; (2) the conventional career patterns, including women who work for a brief period after high school or college in occupations requiring no specific training before becoming full time homemakers upon marriage; (3) the stable working career pattern, which includes women who work continuously upon leaving high school or college to retirement (such a pattern evidenced by a woman was considered unusual enough to warrant Super’s explanation that such a pattern results when a woman fails, for some reason, in her primary goal of securing a mate (Douce, 1977); (4) the double track career pattern, including women who work after completing their education, marry, and then proceed with a double career of working and homemaking; (5) the interrupted career pattern, involving a sequence of work, homemaking, and then a return to work; (6) the unstable career pattern, described as an irregular and repeated cycle of home versus work involvement; and, finally, (7) the multiple trial career pattern, which has a male counterpart, consisting of a succession of unrelated jobs with stability in none. As of 1973, the frequency distribution of women within each category, based
on a cross-sectional sample of 4,807 women, was found to be: 22 percent, stable homemaking; 27 percent, conventional; 3 percent, stable working; 14 percent, double track; 16 percent, interrupted; and 18 percent, unstable (Vetter, 1973).

The concept of career patterns was also utilized by Zytowski (1969). Zytowski's central proposition, like Super's, was the assumption that the modal life role of women is that of homemaker. But for Zytowski, unlike Super, inclusion within a pattern was contingent upon three dimensions of participation: (1) "age of entry" into an occupation, (2) "span of participation," or number of years in an occupation, and (3) "degree of participation" defined by the proportion of women versus men within an occupation. This final dimension is currently defined as the "traditionality" of an occupation, the utility of which was first discussed by Rossi (1965), and which will be discussed in a later section.

Zytowski described three resulting patterns: (1) the mild vocational pattern characterized by very early or late entry, brief span and low degree of participation, (2) the moderate vocational pattern characterized by early entry, lengthy span and low degree of participation, and (3) the unusual career pattern characterized by early entry, lengthy or uninterrupted span and a high degree of participation. A major difficulty with this model resides in the fact that it confounds degree of participation with participation span, thus making it impossible to classify within this framework women in nontraditional careers who, for example, do not work while their children are young.

Zytowski's career pattern framework was expanded by Wolfson (1976) in a study investigating differences between women classified within the aforementioned groups.
Wolfson found that Zytowski's model could not account for the variety of spans of participation she encountered. This necessitated her addition of a never worked pattern characterized by no work upon leaving school, and a high moderate pattern characterized by early entry, lengthy span (i.e., exceeding 18 years) and a low degree of participation (i.e., in a traditionally female career). The results of this study indicated that inclusion within the high moderate or unusual groups was associated with college graduation, single status and graduate school attendance.

In each of the approaches described thus far, the common element has been the assumed centrality of homemaking and childbearing roles in women's lives. As noted by Fitzgerald & Betz (1983), the existence of competing roles for women constitutes one of the major differences in the study of women's career development as compared to that of men. While research conducted during the early 1960's suggested that the majority of young women did not plan to work after marriage (e.g., Matthews & Tiedeman, 1964), the subsequent research of Rand and Miller (1972) indicated a shift toward combining career and homemaking roles which these researchers termed a "new cultural imperative." The desire to combine roles previously dichotomized into those of career and homemaking, as well as evidence supplied by census data indicating the compliance of a large percentage of young women with this new imperative, fostered the investigation of the nature and degree of career orientation in studies of women's career choices.

Career orientation and career salience. One of the earliest critics of the home-career dichotomy, Rossi (1965) suggested breaking the career oriented category into
"traditional" and "pioneer" career pursuit categories. Traditionals were defined as "women whose long-range career goals are in fields in which women predominate: elementary and secondary school teachers (excluding mathematics and science teachers), social workers, nurses, librarians, secretaries and home economists." Pioneers were defined as "women whose long-range career goals are in predominantly masculine fields: natural sciences, business management, public and educational administration, medicine, law, engineering, dentistry, architecture, and economics" (pp.79-80). This classification system, as well as other systems dealing with degree of career orientation, was based on the assumption that the pursuit of pioneer or atypical careers would necessitate stronger career commitment/orientation than would the pursuit of traditional careers.

Fitzgerald and Betz (1983) indicate that the dominant form of research in the early 1970's involved studying differences between traditional and pioneer women in reference to a variety of characteristics. During this time, women pursuing careers in male-dominated areas were interchangeably referred to as "pioneers," "role innovators" (Almquist, 1974; Tangri, 1972), and/or "nontraditional." Currently, nontraditional seems to have become the most widely used label applied to such women. Rossi's separation of career-oriented women into traditional versus nontraditional categories in combination with Eyde's (1962) conceptualization of career orientation as a continuous rather than static variable allowed for the development of the concept of "career salience." Eyde's research in the construction of her Desire to Work Scale (1962) also represented the first attempt at allowing women a chance to express a wish to work under varying conditions
of marital status, number and ages of children and perceived adequacy of husband's income.

As Douce (1977) states, by means of adapting Eyde's Desire to Work Scale, Almquist and Angrist (1970, 1971; Angrist, 1972) devised a shorter, more statistically sound measure of what they termed "career salience." Conceptualized as an "aspiration for work as a central feature of adult life, regardless of financial necessity and under conditions of free choice" (1971, p.263) the development of this variable allowed the explanation of women's career behavior in terms of the strength of work motivation beyond that of merely getting a job. This distinction was further refined by Richardson's (1974) delineation of "work motivation" versus "career orientation."

Divergent theoretical perspective: Deviance versus enrichment. During this period in the study of women's career development, two opposing hypotheses existed to explain high career salience and atypical career choice among women. Almquist and Angrist (1970) studied aspects of both the "deviance" and the "enrichment" hypotheses by treating career salience and pioneer career choice as separate but related dependent variables. As the name implies, the deviance hypothesis assumes the primary role of women to be that of homemaker by making explicit the notion that women's career pursuits constitute deviant behavior. More specifically, women who choose an atypical career and who are characterized by strong career motivation are seen as quite different in reference to social interaction. According to this hypothesis, such women would have poor relationships with parents, date less, be involved in fewer extracurricular activities and indicate masculine work values. On the other hand, the enrichment hypothesis suggests that such
women have had enriching experiences producing a broader view of *appropriate female roles*.

To determine the validity of each hypothesis, Almquist and Angrist (1970) conducted a four year study of 110 women students at a "professionally and technologically oriented university" and utilized their Life Style Index to assess career salience. The women were classified as career salient and non-career salient on the basis of responses to eleven highly correlated items proposed to assess work motivation under specific family conditions, adult role aspirations and preferred adult role alternatives.

No significant differences were found between career and non-career salient women in attitudes toward parents, dating behavior, nor in extracurricular activities with the exception that sorority membership among career salient women was significantly less frequent. Career salient women were also less likely to be engaged or married as seniors. Of the nine work values, career salient women were significantly more likely to see the use of special abilities and freedom from close supervision in their work as important. In support of Rand and Miller’s new cultural imperative, no significant difference between the groups was found in the women’s consideration that combining career and family would be important. In regard to enrichment variables, only mother’s college education was not significant. Career salient women were significantly more likely to have had working mothers during their college years, to have indicated more career role models, and to have had greater and more diverse work experience than non-career salient women. On the basis of these findings, Almquist and Angrist (1970)
concluded that the deviance hypothesis had limited support and therefore could not be rejected, and that the enrichment hypothesis was well confirmed.

**Summary.** Although no single study should be credited with changing psychologist's theoretical perspectives, the Almquist and Angrist (1970) investigation is representative of a turning point in the study of women's career behavior. Support of the enrichment hypothesis made it apparent that women did not fit easily, nor well, into male-derived theories of career behavior. A major change in perspective, from a focus on female deviancy to a focus on socially imposed constraints, had occurred to allow for the investigation of female gender-role socialization.

**Theoretical Incorporation of Female Gender-Role Socialization.**

**Interactional models of women's career development.** Although not seen as fundamentally different, women's career development has been stated to be far more complex than that of men due to the differential effects of women's and men's gender-role socialization (Fitzgerald & Crites, 1980). Theories of career development devised for the study of males (e.g., Holland, 1973, 1985; Roe, 1957; Super, 1953) focused primarily on individual factors such as interest and abilities. Male socialization was not an important consideration since it would seem counter-intuitive to assume the existence of social sanctions against male achievement and career pursuits. If one could assume an environment in which social expectations demanded the pursuit of an occupation, then one could predict and explain career behavior in terms of individuals factors alone with relative accuracy (e.g., Arnold, 1989; Tyler, 1978). The failure of the individual factors found to be relevant for males to adequately explain the career behavior of
females required an understanding of the interaction between women and their environments.

The models of Sobel (1963) and Psathas (1968) represent a major change in the study of women's career development in that each incorporates individual/psychological and environmental/sociological factors proposed to interact to influence women's vocational behavior. This interactional framework is present in more contemporary models of women's career development such as those proposed by Senesh and Osipow (Osipow, 1973; Senesh, 1973), Hackett and Betz (1981), Farmer (1985), and Fitzgerald, Fassinger and Betz (1989). The models of Sobel and Psathas may be given credit for implicating women's gender-role socialization as important for the explanation of women's career behavior.

Marital and family status, gender-role attitudes and role conflict were first included by Sobel (1963) in attempting to understand what prompted women with children to seek employment outside the home. Sobel proposed three classification of variables deemed to be influential in women's decision to work. They are: 1] enabling conditions comprised of family characteristics such as spouse's income and marital satisfaction, 2] facilitating conditions, e.g., educational level and previous work experience, and 3] precipitating conditions, i.e., individual attitudes such as self-concept and gender-role attitudes. Rather than presenting a classification model, Psathas (1968) listed a set of factors emphasizing cultural, situational and chance elements within the environment which serve to limit women's freedom of vocational choice (Douce, 1977). As with Sobel, Psathas was concerned with precipitating conditions influential in a
woman's decision to work. Psathas cited intention to marry, husband's economic situation and attitude toward his wife's working, and the woman's gender-role preferences as integral components in the making of the decision to work (Psathas, 1968).

**The concept of barriers to women's career development.** The final conceptual development to be addressed in terms of a historical perspective concerns the elucidation of socially imposed "barriers" which act to inhibit women's vocational participation. The approaches reviewed in this section are similar to those of Sobel and Psathas in that they are interactional in nature, but differ in emphasis. The elucidation of "barriers" was based on a concern about women's apparent failure to choose careers commensurate with their level of ability and unique talents. This concern for the individual is seen to represent a major shift in the perspective upon which research regarding women's career behavior is based. Rather than describing women's career behavior as variations on a "deviant" theme, this concept implicitly questioned the validity of gender-based social expectations regarding career pursuits by allowing for the possibility that women and men are similarly motivated toward career pursuits. The question being addressed has been refined and altered from asking "why do women pursue careers at all?" to asking "why do women fail to participate in accordance with their capabilities?".

Research based on a concern for women's failure in selecting careers commensurate with their abilities and talents began with Matthews and Tiedeman's (1964) specification of four conflicts unique to women: 1) a concern that career aspirations and achievements would necessitate the sacrifice of marriage; 2) gender-typed family roles allowing women to be homemakers but not bread-winners; 3) home-career conflict;
and 4) the concurrence of desired age of marriage with the need to emphasize educational pursuits and goals required for career achievement. The specification of these four conflicts was based on their findings that 60-75% of women aged 11 to 26 planned to be married and not working ten years from the time of the study.

In attempting to understand what inhibits women's achievement and career motivation, Farmer (1976) suggested six internal/self-concept barriers to women including fear of success, gender-role orientation, risk-taking behavior, low academic self-esteem, home-career conflict, and three external/environmental barriers, i.e., discrimination, family socialization and availability of resources. Focusing more directly on the impact of socialization on women's career development, Falk and Crosby (1978) indicated that women's socialization into traditional roles, gender-typing of occupations, perceived conflict between marital and career success, and the influence and pressure of significant others toward traditional role pursuits and away from nontraditional achievements.

An apparent commonality among interactional models and the barrier approaches utilized in the study of women's career development, although not always explicitly stated, seems to be the assumption that the degree to which an individual woman has been socialized toward fulfilling the traditional feminine ideal may in part be inferred from one particular set of beliefs--her gender-role attitudes. While gender-role attitudes have not been the only variable considered in attempting to understand women's choice of a traditional or nontraditional career, it seems reasonable to speculate that regardless of the variable investigated, the underlying explanation of the differences found between
women pursuing traditional versus women pursuing nontraditional careers has involved references to the extent to which each group of women has been socialized. More directly stated, in attempting to explain and predict women's career choices, researchers have realized the need to know the extent to which the gender-socialization experiences encountered by an individual woman parallel "typical" experiences common in female gender-socialization and the extent to which such experiences have been internalized and incorporated into the woman's gender-role identity.

Summary. The literature presented thus far represents an delineation of some of the conceptual developments in the study of woman's career development which have increased our understanding of women's career behavior and choices. Osipow (1973; 1983) has noted, however, that the state of the art is still developing and that attempts to present a comprehensive theory of women's career development would probably be premature. A major difficulty currently inhibiting the development of a comprehensive theory has been stated to be due to a lack of understanding of how societal beliefs and expectations become manifested in women's career-related behavior and career choices (Hackett & Betz, 1981). Section two, which follows, presents a review of the literature investigating correlates of women's pursuit of nontraditional career options, and the correlates of nontraditional gender-role attitudes and orientations, with the intent being to show the extensive commonality among correlates across these two domains.
Contemporary Concepts in the Study of Women's Career Choice

The Concepts of Occupational Traditionality and Traditionality of Women's Gender-Attitudes

Correlates of women's nontraditional career choice. The study of women's career development has been advanced by the investigation of both individual and environmental factors. An interactional perspective has allowed for the investigation of what are currently seen as major variables unique to the study of women's career choice behavior, (i.e., marital/family status and background demographics, role conflict and gender-role attitudes (Betz, in press, a; b; Betz & Fitzgerald, 1987; Fitzgerald & Betz, 1983).

Maturation of this area of inquiry has necessitated the classification of such correlates in terms of residence (i.e., residing in the environment or the individual) and effect (i.e. facilitative or inhibitive with regards to women's career development). The most recent reviews of the women's career development literature (e.g. Betz, in press, a;c; Betz & Fitzgerald, 1987) incorporate a structure that denotes environmental barriers and facilitators and individual barriers and facilitators (e.g., Betz, in press, a;c). These unique variables have received considerable research attention during the past two decades, particularly with regard to the traditionality of women's career choices. While environmental barriers and facilitators were not directly assessed within the present investigation's design, a brief review of the literature concerning the primary correlates
facilitative of nontraditional career choice (environmental and individual) is relevant. For a more extensive review of this literature (particularly regarding barriers) the reader is referred to Betz (in press,a), Fitzgerald and Betz (1983), Betz and Fitzgerald (1987) and Lemkau (1979).

Fitzgerald and Betz (1983) have noted that much of the research investigating the social antecedents influencing women's career choice behavior in the 1970's focused on differences in various background and personality characteristics between women pursuing traditional versus nontraditional career options. Some of the background characteristics investigated have been socioeconomic status (SES), level of maternal and paternal occupational and educational level, degree of support for and encouragement of female educational achievement from parents and teachers and parental support of career involvement, and level of education obtained. Individual or personality characteristics have included such factors as self-confidence, self-esteem, independence, locus of control, gender-role related correlates regarding "masculinity", "femininity," and "androgyny" (Bem, 1974) and more contemporary concepts of "instrumentality" and "expressiveness" (Gilbert, 1985; Spence & Helmreich, 1980, 1981).

**Facilitative Environmental Correlates**

Based on the reviews of Fitzgerald and Betz (1983) and Betz (in press,a), women pursuing nontraditional career options, in comparison to women pursuing traditional career options, have been found to: 1) have had mothers and fathers evidencing higher attained educational levels, 2) be more likely to have had working mothers instead of mothers who were exclusively homemakers, 3) have reported greater perceived parental
support and encouragement for educational achievement and career involvement in the form of higher parental expectations for such endeavors, and 4) have reported having received support for their educational and career pursuits from teachers and professors.

Betz (in press,a) noted that while parental SES is one of the most consistent predictors of the occupational level attained by males (i.e., having the where-with-all to implement unique abilities and talents into career endeavors) it is inconsistent in the prediction of women's occupational level. Studies reviewed by Betz (in press,a) indicated that daughters pursuing male-dominated options were more likely than women in general to have fathers who are professionals. The influence of women's educational level and the pursuit of nontraditional career options is noted by Betz (in press,a) to exist for women in general but to be even stronger for graduates of women's colleges.

Noted in both reviews with regard to the importance of parental support and encouragement was the possibility that a concomitant lack of pressure toward the traditional female role could be an equally important facilitator of women's career development. In other words, parental support of daughters' achievements in combination with a lack of pressure to conform to the "feminine ideal" may serve to communicate an acceptance of (and possibly a preference for) behavior stereotypically defined as more appropriate for males.

Facilitative Individual Correlates

With regard to individual/personality characteristics, women pursuing nontraditional careers have: 1) evidenced levels of instrumentality equal to that found for men within the same occupation, and greater than the levels typically found among
women in general, 2) indicated greater self-esteem and self-confidence, 3) been reported as seeing themselves as more independent, autonomous and achieving than women pursuing traditional careers, and 4) been found to be intrinsically rather than extrinsically motivated, with the latter form of motivation being more characteristically found among women pursuing traditional career options (Betz, in press, a; Fitzgerald & Betz, 1983). Lemkau (1984) found that women's participation in nontraditional careers was but one (among other) manifestations of a low adherence to conventional gender roles. Of central importance to the present investigation are the consistent findings accruing over the last decade that women planning to pursue or actively pursuing nontraditional careers express significantly stronger self-efficacy expectations with regard to these options (e.g. Betz & Hackett, 1986; Lent & Hackett, 1987) and that nontraditional career pursuit is consistently associated with more liberal/feminist attitudes (Betz, in press, a; b; c). Detailed discussion of the literature associated with these individual correlates of nontraditional career pursuit occurs in the following section.

In general, women pursuing nontraditional career options appear to come from home environments allowing for, and supportive of, achievement and independence needs facilitating an active exploration of the surrounding environment and the development of "competency" traits typically associated with the masculine stereotypic ideal (Lemkau, 1979). That such an environment is not typically expected for women (i.e. is not typical female gender-role socialization) is indicated in Lemkau's conclusion: "...it takes unusual but positive circumstances to foster androgynous individuation which manifests itself in an atypical career choice" (p. 237). Also, the personality correlates evidenced
by women pursuing nontraditional careers seem more closely associated with the masculine rather than the feminine gender-role stereotype (Spence & Helmreich, 1980). Such personality characteristics (e.g., instrumentality, self-esteem) have long been seen as functionally associated with the carer development of both men and women (e.g., Betz & Fitzgerald, 1987; Fitzgerald & Betz, 1983).

Correlates of Feminist / Nontraditional / Liberal, Gender-Role Attitudes.

As noted in chapter one, Betz (in press, b) indicates that studies in the domain of women's gender-role attitudes produce consistent findings and that gender-role attitudes are found to have logical relationships to women's role choices, especially to career involvement. The literature regarding the investigation of women's gender-role attitudes in general has suggested that women possessing such personality characteristics as those just described in the preceding section may have also concomitantly developed an atypical (i.e., feminist) set of attitudes with which to define their rights, roles and career options in society. Betz (in press, a) indicates that "in addition to an apparent transcendence of gender-stereotypic personality characteristics is transcendence of traditional attitudes towards women's roles as an important predictor of women's career development" (p. 75-76). Regarding gender-role attitude research in general, Betz (in press, b) indicates consistent findings that: 1) women are more liberal than men, 2) that younger women are more liberal than older women, and 3) that women as a group are becoming more liberal in their gender-role attitudes. Betz further notes that, with regard to women's career development, career-oriented women consistently express more liberal views than home-oriented women and that liberal attitudes toward women's roles are also positively related
to women's remaining single and, if married, to remaining childless. More liberal gender-role attitudes are associated with greater labor force participation, higher levels of educational aspiration and attainment and to stronger career motivation and higher career aspirations (Betz, in press, a).

Research investigating the personality and behavioral characteristics of women maintaining feminist or nontraditional gender-role attitudes (as inferred from various attitude measures, membership in a women's political organization such as NOW, and/or self-identification as being a feminist), have generated data similar in many respects to that reported with regard to the personality and behavioral characteristics associated with women's nontraditional career choice.

Feminist women have been found to conceptualize a healthy female in "masculine" terms while "feminine" characteristics were emphasized by non-feminists (Kravetz, 1976). In comparison to non-feminists, feminists have been reported as being more independent, achievement oriented, active and self-accepting (Cherniss, 1972), more likely to aspire to graduate school and higher levels of employment (Gump, 1972; Westervelt, 1973), and to have been superior in risk-taking and creative activities (Joesting, 1971; Stoloff, 1973). Clark and Lane (1978) reported that feminists preferred gender-role equality, rather than traditional gender-typed roles, in their interactions with men. Feminists have also been reported to perceive the characteristics of the "ideal woman" to be similar to those they attributed to the "ideal man," i.e., possessing the characteristics of self-direction and independence (Mezydlo & Betz, 1981). O'Connell, Betz & Kurth (1989) found a concomitant relationship between both SES, career
commitment and more egalitarian gender-role attitudes. As reviewed by Betz (in press, a), more liberal gender-role attitudes are associated with women who 1) had working mothers, 2) pursue higher education, and 3) work in the skilled crafts, labor and technical fields (i.e., Stringer & Duncan, 1985).

Wolfe and Betz (1981) found that "masculine-typed" women were more likely than "feminine-typed" women to select careers congruent with their measured vocational interests, while Orcutt and Walsh (1979) indicated that feminist attitudes could differentiate women with incongruent career aspirations in terms of the traditionality of the career to which they aspired. Women's nontraditional gender-role attitudes have been reported to be associated with self-expectations more similar in degree to the level of aspirations evidenced by men rather than the level found among women in general (Wieger's & Frieze, 1977). Matsui, Ohsawa & Onglatco (1991) found for Japanese women that the combination of liberal gender-role attitudes and instrumentality made dominant contributions to career commitment.

Of particular importance to the present study are findings that more liberal gender-role attitudes are related to perceived self-competence (Orlovsky & Stake, 1981; Stake, 1979) and to objectively measured intelligence (cf. Williams, 1983). Finally, and as noted earlier, Fassinger (1985) found that feminist gender-role attitudes were among the strongest predictors of career orientation and the prestige and non-traditionality of career choices among college women.

These findings offer support for the notion that there exists a functional association between the degree to which women adhere to more nontraditional or
feminist gender-role attitudes and various personality/individual attributes facilitative of women's career development. More specifically, the maintenance of more feminist in comparison to more traditional attitudes has been consistently shown to be associated with personal characteristics (e.g., independence, self-acceptance, achievement orientation) one would expect to develop in accord with the enrichment hypothesis. There also appears to be a great deal of similarity between correlates of nontraditional/feminist gender-role attitudes and the correlates of nontraditional career choice. However a major problem within the gender-role attitudes literature (discussed in greater detail later) is the lack of a theoretical framework which delineates the process or mechanisms by which women's socialization in general, and gender-role attitudes in particular, become manifested in women's career behavior. The research discussed in the following section, although lacking such a theoretical basis, does however indicate that the traditionality of women's beliefs is in some way influential with regard to behavior.

**Academic behavior as a function of gender-role attitudes.** Research investigating women's gender-role attitudes has been characterized by an implicit assumption that individual attitudes influence behavior, however few studies attempt to investigate this relationship directly (Beere, 1991). However one area of research in which such attempts have been made involves the investigation of gender-role attitudes and academic/intellectual performance

As reviewed by Unger (1979), a study conducted by Campbell and McKain (1974) investigated the phenomena of decline in measured intellectual abilities (as measured IQ scores), as evidenced by young women during adolescence. Campbell and McKain
compared "decliners" and "nondecliners" with regard to the degree of adherence to the traditional feminine ideal. The researchers reported that decliners, in comparison to nondecliners, rated themselves as less active, less in need to control others, having a greater need to be included, and also rated themselves as being closer to the passive, nonassertive feminine ideal. In addition, decliners were found to be more likely than nondecliners to rate an occupation as either male or female. Campbell and McKain concluded that since part of that (feminine) ideal is not to be smarter than men, it would appear that young women who "decline" intellectually are again fitting themselves to the stereotypic ideal by ignoring or not using their abilities (1974).

Another study designed to investigate the possible influence of the belief in male intellectual and occupational superiority with regard to women’s performance behavior was conducted by Peplau (1976). More specifically, Peplau investigated the relationship of women’s gender-role attitudes and performance on competitive achievement tasks (i.e., a scrambled word problem). Peplau hypothesized that the maintenance of a belief in male superiority would require women to preserve this illusion by performing poorly in a competitive situation with a significant male (i.e. male friend) in as such behavior would be perceived as a norm violation. The data supported Peplau’s hypothesis; women maintaining traditional gender-role attitudes performed significantly better on the task when working with their male friend as a team than when performance achievement required direct competition against their male friend. Women with more nontraditional gender-role attitudes however evidenced the opposite pattern, with significantly better performance being associated with the competitive rather than the cooperative situation.
In addition, Peplau reported that traditional gender-role attitudes were associated with significantly lower career aspirations and lower self-ratings of intelligence than those reported by women with nontraditional gender-role attitudes. One intriguing interpretation of these data in explaining women's underutilization of their abilities and their segregation into traditionally female career options might be that both reflect efforts at avoiding competitive (i.e., gender-loaded) situations with males.

**Academic and performance self-esteem/expectancies for success.** As reviewed by Betz (in press, c) and Betz and Fitzgerald (1987), studies in the areas relating women's academic and performance self-esteem and expectancies for success have shown that women tend to provide lower estimates of their abilities, performance, and expectations for future success in many achievement situations, even when their performance is objectively better than that of males. While the studies reviewed by the authors did not attempt to assess either gender-role attitudes nor actual behavior, they may be seen as reflective of the relative traditionality of female college student research samples.

Conclusions presented indicated that females, as a group, express less confidence regarding this domain than males of equal ability (Maccoby & Jacklin, 1974; Stake, 1979) and that women's lower expectations for success occur primarily on masculine-stereotyped tasks (Deaux, 1984). Orlovsky and Stake (1981) found, however, that such effects were less pronounced for masculine-typed (versus feminine typed) women with the former evidencing stronger achievement motivation and greater performance self-esteem and self-perceived capabilities. For a more extensive review and discussion of this literature, the reader is referred to Hare-Mustin and Maracek (Eds., 1990).
As noted by Betz (in press, c), tasks lacking in clear performance feedback, which include elements of social comparison, social evaluation or competition (i.e., the very conditions under which career/academic achievements must occur) produce significantly lower expectations for success among women. The phenomenon of differential responding to gender-loaded tasks and situations will be discussed in greater detail with regard to the career self-efficacy literature in a later section.

**Summary.** The portion of the findings of research investigating women's vocational development through the use of the concepts of occupational and attitudinal traditionality indicates a movement away from investigating women as a homogeneous group. The findings presented in the preceding section attest to a diversity among women which cannot be ascertained by research designed to investigate gender-differences alone (Fitzgerald & Betz, 1983). In addition, this portion of the literature regarding the traditionality of women's gender-role attitudes strongly suggests that the degree to which women have been socialized in accordance with traditional notions of appropriate female characteristics, abilities and behaviors influences their behavior in general, and possibly their career decision-making process. Reflecting on the data accumulated on sex differences, Lott (1990) concluded that behavior does not depend on male or female sex but rather on acquired attitudes, expectations, sanctions and the situational demands that separate the experiences of girls and boys, women and men.

The second half of this section of the literature review pertains to a discussion of the influences of two domains of cognitive behavior, gender-role attitudes and self-efficacy expectations, with regard to women's vocational choice behavior. For the
purposes of the present study, an attempt was made to elucidate how women’s gender-role attitudes may be functionally related to women’s career-related behavior in terms of Bandura’s (1977;1986) self-efficacy theory.

**The Relationship Between Women’s Gender-Role Attitudes and Career Choice.**

Psathas’ (1968) assertion that an understanding of women’s occupational behavior must begin with an understanding of the relationship between gender-role and occupational role has been more actively pursued since the original study (i.e. Williams, 1883) was conducted, with greater emphasis and empirical weight being given to gender-role attitudes (i.e., Betz, in press, a;b; Farmer, 1985: Fassinger, 1985). Even with this greater attention, the investigation of the relationship between the nature of women’s gender-role attitudes and the nature of chosen major and occupation (with integration of the conceptual advances discussed earlier) has occurred primarily during the last decade. It is the assessment of both the *traditionality* of women’s gender-role attitudes and the determination of the *traditionality* or *gender-loadedness* of the task or stimuli presented that seems to be advancing the heuristic and applied utility of research into women’s career development at this time.

Crawford (1978) investigated the relationship between women’s "feminine role perception" and the nature of women’s major choice. Sixty-three women majoring in female-dominated areas and 43 women majoring in male-dominated fields were grouped as "traditional" or "pioneer" respectively. Majors were classified as either male or female-dominated, based on 1976 HEW information, dependent upon which sex constituted 60% or more of the graduates within a particular major. Crawford reported
that the nature of feminine role perception (defined as "liberal" or "conservative" on the basis of responses to item content of the Attitudes Toward Women Scale (AWS), Spence & Helmreich, 1972), discriminated significantly between pioneers and traditionals. The data reported would seem to suggest feminine role perception to be role-specific, as derived from group comparisons across 3 of the 6 AWS subscales. More specifically, pioneer women were found to be significantly more liberal than traditionals with regard to beliefs concerning their vocational, educational and intellectual rights and roles, t(104) = 1.808, p < .05, and beliefs regarding appropriate sexual behaviors, t(104) = 2.278, p < .05. Traditionals were found to be significantly more conservative than pioneers with regard to beliefs associated with marital obligations and relationships, t(104) = 1.943, P < .05. On the basis of these findings, Crawford (1978) concluded that a connection between "feminine role perception" (inferred from self-reported gender-role attitudes) and the traditionality of women's career choice seems to exist.

By assessing a wide variety of factors, including gender-role attitudes, self-esteem, height, and religiosity for example, Zuckerman (1977) found feminist gender-role attitudes to be the most predictive factor associated with a woman's choice of a nontraditional career. The method of study involved labeling 541 female undergraduates as either "feminist" or "traditional" on the basis of AWS scores. Information concerning educational goals and career plans was obtained and coded as "traditional" (i.e., composed of at least 2/3's women), "androgynous" (1/3-2/3 female composition), and "pioneer" (characterized by less than 1/3 women). Coding criteria were based on 1975 workforce statistics. In addition, Zuckerman reported that unconventional or
nontraditional gender-role, in comparison to traditional, attitudes were found to be associated with higher levels of self-reported intelligence.

Zuckerman extended her research to include investigation of race, SES, age (1980) and a variety of background characteristics (1981) for both women and men. Both these studies are described as extensions and replications of her 1977 work and inclusive of the original variables self-esteem, self-concept, educational goals, preferred and expected career commitment and gender-role attitudes. Zuckerman (1980) found men and women to be equivalent in their self-assessed levels of intelligence and self-esteem. For young (18-25) white women, consistent positive associations within a constellation of belief systems (gender-roles, religion, general nonconformity) was found. In particular, women's self-assessed intelligence was again found to be significantly associated with nontraditional gender-role attitudes (as well as non-conformity in beliefs in general) and with the selection of nontraditional career goals. Gender-role attitudes were not found to be associated with educational or career goals for men, although self-described nonconformity and self-described intelligence were significantly associated for both men and women (with self-assessed intelligence associated with traditional career goals for men).

Zuckerman (1981) compared men and women attending technical colleges versus university settings in terms of the above variables with the addition of background characteristics. In comparison to women, men were found to be significantly more likely to pursue traditionally male career options and to express more traditional gender-role attitudes. Women with stronger feminist attitudes were found to also express higher
educational goals, more nontraditional career goals and greater preferred and expected
career commitment than women expressing more traditional gender-role attitudes. Unlike
her 1980 findings, Zuckerman reported significant relationships for men between gender-
role attitudes and nontraditional career goals. However, unlike the significant relationship
for women between gender-role attitudes and higher educational goals, men’s gender-role
attitudes were not related to higher educational pursuits. Zuckerman noted, however, that
a much larger percentage of men than women in the sample planned to pursue graduate
degrees and that feminist men interested in nontraditional options such as social work
probably plan to participate in such fields at the doctoral level. These findings may
indicate a relationship between gender-role attitudes and another form of self-rated
capability: self-efficacy expectations.

For the purpose of determining the relative influence of gender, gender-role
attitudes and cognitive complexity during the career decision-making process of women
and men, Harren, Kass, Tinsley and Moreland (1979) investigated 344 female and 248
male undergraduate students. Harren et al. hypothesized that gender exerts a strong and
direct influence on gender-role attitudes which in turn are influential during the career
decision-making process with regard to major gender-dominance (i.e., male or female
dominant based on 1975 proportions of males to females employed within each
occupation). The endpoints of the gender-role attitude continuum were defined as
"liberal" and "conservative," and placement on the continuum was determined by
subjects’ scores on the AWS and Bem Sex Role Inventory (Bem, 1975). The data
reported and the conclusions made parallel findings reported for women by Zuckerman
(1977) and Crawford (1978), and results reported for men by Stockton, Berry, Shepson and Utz (1980) and Zuckerman (1980). Harren et al. (1979) reported that the variable of gender-role attitudes (i.e., liberal-traditional) was second only to gender in the prediction of women's choice of either female or male-dominated major. More specifically it was reported that women with more liberal views were more likely than women with more traditional beliefs to be found in male-dominant majors. The maintenance of traditional gender-role attitudes on the part of women was found to be significantly predictive of a female-dominant major choice. Consistent with the findings regarding male gender-role attitudes reported by related investigations of career choice (e.g., Stockton et al., 1980), Harren et al. (1979) found that men's gender-role attitudes were not predictive with regard to the traditionality of major choice.

Finally, Fassinger (1985) found that responses to questions implying self-identification as a "feminist" (i.e., "I would label myself a 'feminist' in my beliefs and values," I prefer to use the title 'Ms') were among the strongest predictors of career orientation and the prestige and non-traditionality of career choices among college women. These results were produced in a test of a model of women's career choice using structural equation modeling. Incorporating the independent variables Previous Work Experience, Academic Success, Role-Model Influence, and Perceived Encouragement in relation to the dependent variables Attitudes Toward Work, Attitudes Toward Self, and Sex-Role Attitudes.

The analysis generated seven modified models which reduced to a model considered most plausible given the sample used. The initial independent and dependent
variables were reconfigured into independent variables Ability, Achievement Orientation and Feminist Orientation. These variables were found to significantly affect the dependent variables Family Orientation and Career Orientation which in turn affected the dependent variable Career Choice. Gender-role attitudes were assessed three ways using a short version of the Attitudes Toward Women’s Scale (Spence & Helmreich, 1972) a single declarative statement regarding the use of the Title Ms, and a single declarative statement about labeling oneself a Feminist.

A discussion of the actual data analysis procedure used is not relevant beyond simply stating that this procedure incorporated measures of most of the variables found to be significantly associated with women’s career choices based on the empirical evidence embodied in the literature. Of crucial significant to the present investigation is the finding that out of all these components it was the constellation of gender-role attitudes which moved from relative obscurity in the dependent variable category to primary importance in the independent variable category. As stated by Fassinger, "That Feminist Orientation emerged as a key predictor variable in this study underscores its potential importance in women’s career development above and beyond a tendency toward more liberal sex-role attitudes." (p.149).

Fassinger (1990) provided further support for the importance of gender-role attitudes in the study of women’s career choice in a test of the model developed in her 1985 study. Using a "reformulated" version of the 1985 model, Fassinger tested the model using two samples of college women with an effort to correct methodological inadequacies. The reformulated model reduced efforts to assess "historical influences"

Another change involved the use of a newly developed measure for assessing Degree of Feminist Orientation: The Attitudes Toward Feminism (ATF) scale (Fassinger, in press) as well as the use of the single item questions regarding use of the Title Ms and self-identification as a Feminist.

The resulting final model developed combined the independent variables Family Orientation and Feminist Orientation into a single Sex Role Attitudes construct to allow for the best fit of strengths in variable pathways. The author concluded that,

"The final model tested in this study suggests that the career orientation and choices of college women are determined by a combination of ability, agenetic personality characteristics, and sex role attitudes. More specifically, high ability (as manifested by achievement-related variables), liberal sex role attitudes (related to work and family roles) and instrumental personality tendencies (including the confidence to make decisions and engage in math tasks) predict high levels of career orientation, and a tendency toward career choices which are science-related, high in prestige, and nontraditional for women." (p.243).

The author goes on to note a high degree of overlap among the variable regions "indicating a degree of complexity of integration among them which may not be well-represented in a linear cause-and-effect model..." (p.243).

With regard to the present investigation, this relationship between objectively measured abilities (high school GPA, ACT/SAT composite scores) and gender-role attitudes combined with the overall predictive significance of Feminist attitudes would seem to support the possible association between gender-role attitudes and self-assessed ability or self-efficacy.
Summary. Although limited in number, the results of the investigations reviewed in this section provide initial support for further investigation of how women's gender-role attitudes influence women's career behavior in general, and influence women's career choice more specifically. It would seem that investigations of female heterogeneity (rather than investigations which assume homogeneity) would provide valuable information with regard to the development of a theory of women's career development possessing the characteristics of heuristic and applied utility. In addition, studies of the relationship between women's gender-role attitudes and career choice behavior offer support for the contention that the variable of gender-role attitudes is unique to the study of women's vocational development (e.g., Betz, in press, a;b; Betz & Fitzgerald, 1987; Fitzgerald & Betz, 1983). While males may vary in terms of traditionality of their gender-role attitudes, it appears that it is women, and not men, who are currently able to evidence variation in both gender-role attitude traditionality and major/career choice traditionality.

With regard to the literature on women's gender-role attitudes presented in the previous and present sections, it seems that the maintenance of traditionally stereotypic gender-role attitudes may restrict women's vocational behavior in a variety of ways. In that such attitudes define the types of behavior required for successful pursuit of nontraditional career options (e.g., assertiveness, achievement performance in male domains) as "wrong" or inappropriate, such beliefs would constitute an internal barrier to the development and implementation of their own unique potential in the choice of a nontraditional major or career. If it may be assumed that people in general fail or refuse
to engage in behavior they define as inappropriate as well as avoid situations defined as such, then it seems that women who believe that certain occupations are more appropriate for men would avoid such career pursuits and associated requisite behaviors. Therefore women's overrepresentation in traditionally female careers may in part be due to the influence of traditional gender-role attitudes upon their career-related behavior. In that gender-role attitudes are considered a unique and important factor in the study of women's career development and decision-making process (e.g., Betz & Fitzgerald, 1987), a greater understanding of how such beliefs become manifested in women's career behavior is needed.

Before proceeding to a discussion of the theoretical basis of the present study (and the explication of the postulated relationship between beliefs regarding ones capabilities and beliefs defining behavioral appropriateness), it is important to briefly address some of the problems encountered within the literature regarding the study of women's gender-role attitudes. In addition, in an attempt to present a precise rationale for the present study, it was necessary to attempt to at least partially rectify, where possible, some of the inadequacies associated with this area of investigation.

Problems with Gender-Role Attitude Research

Nonstandard use of terminology. A major difficulty which has characterized the research literature on gender-role attitudes is the plethora of labels used to represent opposing ends of the gender-role attitude continuum (Beere, 1979; 1990; Betz, in press, b; Lenny, 1991). Beere (1979) in reviews of instruments designed to assess gender-role attitudes, noted that "emergent, nontraditional, liberal, modern, contemporary,
egalitarian, and profeminist are adjectives that refer to one end of the attitude continuum. Traditional, antifeminist, sexist, and conservative are adjectives that refer to the opposite end." (p. 384). There has also been a general failure on the part of researchers to present a rationale for the choice of the labels used beyond that they may be inferred from a particular studies stated purpose. As a result, many different labels have been applied to define the nature of women's gender-role attitudes as measured by the same attitude measure. For example, responses to the item content of the Attitudes Toward Women Scale (AWS) have been plotted on attitude continua with endpoints labeled as "feminist-nonfeminist" (e.g., Mezydlo & Betz, 1980), "liberal-conservative" (e.g., Harmon, 1981), "liberal-traditional" (e.g., Crawford, 1978) and, "profeminist-conservative" (e.g., Spence & Helmreich, 1972). Can it be said that labels such as liberal, nontraditional, profeminist and feminist each convey similar meanings? The unstandardized application of terminology engendered within the literature seems to be compounded by the fact that no attempt to define the meaning of the variable "gender-role attitude/sex-role attitude" was found.

What is a gender-role attitude? Although no conceptual definition of what constitutes a gender-role attitude was found during a review of the literature, for the purposes of the present study an attempt was made to define this variable. A commonality found to exist among the studies investigating gender-role factors and attitudes reviewed, was that the conservative/traditional/antifeminist end of the gender-role attitude continuum seemed to be characterized by a tendency to define "gender-loaded" stimuli (i.e., behavior, life-roles, patterns of conduct, and personal attributes)
as exclusively appropriate for *either* men *or* women. In other words, this attitudinal extreme was characterized by a marked tendency to define gender-appropriateness in a *dualistic* manner. The liberal/profeminist/nontraditional/feminist continuum extreme was, in turn, characterized by a tendency to *not* define gender-loaded stimuli as appropriate or inappropriate *on the basis of gender alone.* It is this tendency to fail to respond to gender-loaded stimuli which seems the basis for the assertion that a feminist perspective would allow greater freedom of choice and action in the satisfaction of individual needs dependent upon individual talents and capabilities (rather than upon social definitions of how such needs should be *appropriately* satisfied for women). In this way feminist attitudes allow transcendence of traditional gender-role definitions (i.e., Betz, in press, a;c).

For the purposes of the present study, gender-role attitudes and attitudes in general were seen to differ *only* in that gender-role attitudes implicitly and/or explicitly require a *judgmental comparison of men and women,* while attitudes in general do not. For example, a judgement as to the appropriateness of swearing in public would represent the elicitation of an attitude, whereas a judgement concerning the relative appropriateness of a *woman* swearing in public (with the addition of "woman" therefore serving to inform the individual making the judgement that swearing is a gender-loaded behavior) would elicit a response derived from a comparison of women to men (i.e., a gender-role attitude). In this way, both attitudes and gender-role attitudes constitute a form of knowledge upon which judgements of appropriateness are made. As noted by Bandura
(1986), people tend to use simple judgement rules in responding to their environment, and gender-role attitudes are conceptualized as one category of simple judgement rules.

Therefore within the body of this document, a gender-role attitude is defined as "a reported belief based upon a judgmental comparison of women and men regarding the perceived appropriateness of various gender-loaded behaviors, patterns of conduct, life roles and personal attributes, which serve to define individual rights and responsibilities for self and others."

The problem of role and situational specificity. A third problem associated with the study of women's gender-role attitudes concerns their apparent role and situational specificity (e.g., Peplau, 1976; Smith & Self, 1981). Smith and Self investigated attitudinal differences between self-identified feminists and traditionalists. Their findings (based on 1970 fertility study data) seem to have important implications for research investigating the relationship between career-related behavior and gender-role attitudes. Smith and Self found traditionalists to be similar to feminists in their beliefs regarding political and labor equality for women, but differed from feminists in regards to notions of domestic roles and relations to men. The authors concluded that women in general support egalitarianism in the labor and political spheres, but that traditionalists seemed unwilling to alter existing social norms regarding personal relationships.

The existence of a difference between feminists and traditionalists regarding role priorities (i.e., family versus career roles) has been consistently reported in the gender-role factors literature (e.g., Betz, in press, b; Mason & Bumpass, 1975; Parelius, 1975 Rowland, 1986; Ruble, Croke, Frieze & Parsons, 1975; ). Research by Fassinger
(1985; in press) and King and King (1986) involving factor analytic data analysis methods is indicating that "feminism" is a factor distinct from liberal (i.e., Fassinger, 1985) and from egalitarian (King & King, 1986) attitudes regarding women's roles.

With the preliminary findings just cited, and of significance to the present study, it appears to be indicated that an exclusive focus on egalitarian or liberal career-related gender-attitudes would fail to adequately differentiate women in a manner relevant to major/career choice traditionality nor with regard to the strength of self-efficacy expectations associated with gender-loaded career options. Based on research data not available at the time of the original study, Fassinger's (in press) Attitudes Toward Feminism Scale (ATF) was used in place of the Attitudes Toward Women Scale (AWS, Spence & Helmreich, 1972) as the instrument used to assess Degree of Feminist Orientation. Preliminary findings indicate that the ATF is more able to differentiate feminist and nonfeminist on the continuum Degree of Feminist Orientation, and does not evidence the ceiling effect of the AWS (Fassinger, in press).

To further complicate matters, Betz (in press, b) cites recent investigations indicating that not only do gender-role attitudes appear to be role and situation specific, but may also be gender-specific too. In other words, one may be relatively liberal in one's attitudes regarding appropriate behavior for one sex but not the other. In an attempt to allow for role, situation and gender specificity the independent variable Degree of Feminist Orientation was retained in that it captures in its name the notion of variability (unlike more static and mutually exclusive dichotomies as conservative-liberal). Although not defined, this independent variable was used by Mezydlo & Betz (1980) and
seemed to be based on the realization that individuals, when confronted by a variety of
gender-loaded stimuli, may express either feminist or traditional gender-role attitudes
depending on the role, situation or gender-object domain. In other words, an individual
may express a more feminist position with regard to labor market equality while
expressing a more traditional notion regarding who should remain home to parent the
children. In addition, Degree of Feminist Orientation allows for variability as to the
strength of particular gender-role beliefs rather than assuming that an individual either
completely agrees, or disagrees with a particular gender-role attitude instrument's
statements. It was realized during this study's design that few individuals respond
consistently in either a traditionalist or feminist manner across all roles and situations.

*It is the relative and cumulative tendency to respond either in one manner or the other
across a variety of gender-loaded behavioral, and role domains that defines one's place
on the "Degree of Feminist Orientation" continuum.*

The rationale for defining the gender-role attitude continuum as allowing for
variation between extreme traditionalism and extreme feminism involved extending the
present research toward the implementation of possible attitudinal interventions designed
to facilitate women's consideration of nontraditional major and career options (e.g., Betz,
in press, c). Westervelt (1973) has noted that the primary goals of the women's
movement have been to: 1) heighten women's awareness of differential, gender-specific
treatment, 2) increase women's perception of unsatisfying elements associated with the
traditional female role, and 3) abolish all gender-typed roles and expectations. Although
stated 20 years ago, these goals appear to remain intact and seem reflected in much of
the work involving women's career development and counseling (e.g., Betz, in press,a;c; Fitzgerald & Crites, 1980; Fitzgerald, Fassinger & Betz, 1989; Fitzgerald & Nutt, 1986). As stated by Fitzgerald and Crites (1980), the stated goals of career psychology require a confrontation of, rather than cooperation with, traditional female socialization. The amalgamation of scholarly work known as feminist theory as well as "feminist therapy," (cf. Hare-Mustin & Marecek, 1990; Unger, 1989) which has evolved during the course of the woman's movement, may serve as a potentially useful means in the confrontation of social definitions of gender-appropriate behavior and roles, not only for women but for men as well.

Lack of a theoretical link between belief and action. The final difficulty to be addressed in this section is also the problematic aspect associated with gender-role attitude research which the present study attempted to address and , in part, remediate. Although gender-role attitudes studies have produced consistent findings and are stated to have logical relationships to women's career-related role choices (Betz, in press,b), the underlying mechanisms or processes by which traditional, social definitions of appropriate vocational behavior become manifested in behavioral action has yet to be theoretically delineated fully (Hackett & Betz, 1981).

A theoretical perspective from which to explain what has been implicitly stated within the literature concerning women's gender-role attitudes and career-related behavior seems to be needed in order to assess and explain why so few women are found in nontraditional careers and why women in general tend to underutilize their capabilities to their fullest extent in career pursuits. Self-efficacy theory (Bandura, 1977;1982;1986),
proposed to explain the functional link between knowledge (i.e., beliefs) and action (Bandura, 1982), was extended by Hackett and Betz (1981; Betz & Hackett, 1981) to the investigation of women's vocational development. The third section, which follows, reviews self-efficacy theory and selected investigations of career self-efficacy as a means to provide an empirical foundation upon which to present a hypothesized association between two domains of knowledge; beliefs defining gender-appropriate behavior and beliefs regarding individual capabilities. The following section is therefore the theoretical rationale upon which the present investigation was based.

Cognitive Mediation of Women's Career Behavior:

Beliefs Defining Behavioral Capabilities

Self-efficacy theory. One approach gaining empirical support in both heuristic and applied utility in the explanation of women's career behavior involves a focus on the internal, cognitive processes mediating behavior and behavior change.

The importance of cognitive mediational factors in career decision-making has been suggested in connection with social learning theory (Krumboltz, Mitchell & Jones, 1976) in that the nature of career decisions are conceptualized as resulting from an interaction of internal cognitive processes and external behaviors or actions. Within the framework, developed by Krumboltz et al. (1976), the factors which interact to influence the nature of career decisions are classified within categories of genetic endowments, perceptual and cognitive processes, environmental influences and learning experiences. These four categories of factors are seen to interact to produce three sets of outcomes relevant to career decision-making: 1) self-observation generalizations (SOG's), e.g.,
occupational preferences, 2) task approach skills, e.g., decision-making skills, and 3) actions, e.g., career entry behavior. The self-observation generalizations are defined as overt or covert self-statements evaluating one's preferences or performance with regard to a particular behavioral domain, and are thus important cognitive processes mediating career-related behavior. For example, an individual who has perceived she/he has performed well in a science class would possibly produce the SOG: "I am good at science and I like it."

Although the concept of self-observation generalizations have yet to be applied to the study of women's career behavior, one particular class of cognitive behavior has been suggested to have utility in the explanation and prediction of women's career development. The class of cognitions classified as "self-efficacy expectations" (Bandura, 1977; 1986) have been postulated by Hackett and Betz (1981) to be a relevant foci of investigation in the attempt to understand women's choice of a traditional rather than a nontraditional career option. Thus, self-efficacy expectations are seen to be potentially useful for explaining women's current overrepresentation within traditional careers.

The work of Albert Bandura (e.g., 1977, 1982, 1986; Bandura, Adams & Beyer, 1977) has resulted in the development of a theoretical framework emphasizing the role of cognitive mediational factors in behavior and behavior change. Bandura contends that the inter-relationship between knowledge and action may be understood and explained by means of a "common cognitive mechanism" defined as "self-efficacy expectations" (Bandura, 1977; 1982; 1986). Self-efficacy expectations are defined as
subjective beliefs or expectations regarding one’s ability to successfully execute a particular behavior (Bandura, 1977; 1986).

According to Bandura (1977;1986) self-efficacy expectations are proposed to determine whether a behavior will be initiated, the amount of energy expended in the attempt, and the duration of the attempt in the face of obstacles and/or aversive experiences. Within the framework of self-efficacy theory, outcome expectations and self-efficacy expectations are differentiated. Bandura notes that an awareness that a particular behavior will produce a desired outcome (consequence) will not influence an individual’s behavior if the individual seriously doubts his/her ability to perform the requisite activity (Bandura, 1986b). On the other hand, high expectations of personal efficacy, in combination with a lack of sufficient incentives, would also result in a failure on the part of the individual to engage in a particular activity.

Self-efficacy or personal expectations and their consequent action(s) vary along the dimensions of level, strength and generality. Level is defined as the perceived degree of difficulty of a task and serves to differentiate between behavior an individual feels capable of executing from behavior perceived as beyond one’s capabilities. Strength refers to the durability of the initial self-efficacy level in the face of aversive experiences or external obstacles. Generality refers to the degree to which the level and strength of expectations of personal efficacy associated with one particular behavioral domain transfers to, and across, other behavior domains (Bandura, 1977;1986).

The potential utility of Bandura’s theoretical construct rests not only upon its comprehensiveness as an explanatory model, but also upon its supported applicability
within therapy (e.g., Bandura, Adams, & Beyer, 1977; Kazdin, 1979) The reader is referred to Bandura's (1986a) work for a comprehensive review of the self-efficacy treatment literature as well as a comprehensive review of the empirical status of self-efficacy theory in general. As noted in Chapter One, nearly 800 citations are currently available on PsychLIT covering applications in education, alcohol and substance abuse treatment, eating disorders, smoking cessation as well as the treatment of anxiety disorders and phobias (the focus of the seminal empirical research on self-efficacy theory). The successful application of self-efficacy in the therapeutic context (i.e. produces behavior and attitude change) seems due to the exactness of the rationale presented by Bandura (1977; 1986a) delineating how self-efficacy expectations are learned and altered. Bandura identifies four sources of self-efficacy information capable of affecting the level, strength and generality of an individual's self-efficacy expectation with regard to a particular behavioral domain. The four sources of self-efficacy information are: 1) performance accomplishments--considered and shown to be the most powerful source of information (Bandura, 1986a), 2) vicarious experience, 3) verbal persuasion, and 4) emotional arousal.

Within the social learning framework, self-efficacy is considered the primary, but not the sole determinant of behavior and behavior change. Bandura contends that psychological procedures, regardless of their form, affect behavioral change (via the four sources of self-efficacy information) only to the extent to which they alter the level and strength of self-efficacy, given that sufficient incentives are also perceived to exist. In this manner, information is functionally related to behavior and behavior change. In that
a primary purpose of the present investigation is to replicate Williams (1983), which was in fact a partial replication and extension of Betz and Hackett (1981), both the theoretical article (Hackett & Betz, 1981) and its first empirical challenge (Betz & Hackett, 1981) will be reviewed in detail in this section, followed by a review of career self-efficacy literature as it applies to gender-differential responding toward gender-loaded stimuli.

A Self-Efficacy Approach for the Study of Women's Career Behavior

Based on their review of the literature on female gender-role socialization, Hackett and Betz (1981) concluded that the available research evidence suggested that girls and women fail to develop strong career-related self-efficacy expectations as a result of a more limited access to the requisite self-efficacy information than that which is allowed for boys and men. Although considered to be influential in the career development of both women and men, Hackett and Betz (1981) proposed that, given differential access to career-related efficacy information, women's overrepresentation in traditional careers is due partially to the development of lower self-efficacy than that developed by men during the course of their gender socialization. In this way, low or weak career-related expectations of personal efficacy would be classified as an internal barrier to women's consideration and pursuit of a nontraditional career, in that the women would not perceive themselves as capable of engaging in the necessary behaviors associated with such a career option. In addition, Hackett and Betz noted that the development of strong career-related self-efficacy expectations would be required in dealing with various external barriers (e.g., gender discrimination, sexual harassment, lack of educational and vocational support systems).
In order to test the applicability of Bandura's self-efficacy theory to the investigation and explanation of women's career behavior and decision-making, Betz and Hackett (1981) developed the Occupational Self-Efficacy Scale. To test the hypothesis that women would evidence lower and weaker expectations of personal efficacy with regard to nontraditional, in comparison to traditional, career options, Betz and Hackett requested 134 female and 101 male undergraduates to indicate the degree of confidence they perceived regarding successful completion of the educational requirements and job duties of each of 10 traditionally female (e.g., secretary, art teacher) and 10 traditionally male (e.g., accountant, physician) career options. The traditionality of each option was coded on the basis of the percentage of women employed in each occupation in 1975. Traditional occupations were those in which 70% of the members were women, and nontraditional occupations were those in which women represented 30% or less of the members. The participants were also asked to indicate their degree of interest in, and extent of consideration of each of the 20 occupations. Finally, indications of math and english ability were obtained for 64% of the sample from American College Test (ACT) Math and English subtest scores (later analysis indicated a weak relationship between ACT and OSES scores).

The results of this study indicated significant and consistent gender differences in career-related self-efficacy expectations with regard to career traditionality (defined in reference to females). Males reported to perceive themselves as equally efficacious with regard to both traditional and nontraditional career alternatives. Of importance to the present study was the finding that the observed gender differences were due primarily to
females' divergent perceptions of capability with regard to traditional options and significantly lower self-efficacy with regard to nontraditional career options.

This divergent pattern of responding to traditional and nontraditional occupations, coupled with the finding that the women in the sample were *equivalent to the males in measured ability*, lead Betz and Hackett (1981) to suggest that "the traditionality of an occupation may be more important factor in the self-efficacy expectations of women than of males with equivalent abilities" (p. 408). On the basis of these findings, the authors concluded that the data supported the utility of the concept of career-related self-efficacy in the study of women's career development.


Betz and Hackett (1981) was actually the second investigation producing gender-differential response patterns in self-efficacy magnitudes, with the first being Ayres (1980). This study was designed to investigate self-efficacy gender differences with regard to 70 specific behaviors (i.e., tasks) associated with preparation for, and participation in, each of four occupations: physician, nurse, university professor and teacher. Seventy-five male and 110 female undergraduates were sampled to test the hypothesis that women would report lower expectations of personal efficacy with regard to behaviors associated with the nontraditional careers of physician and professor, and higher self-efficacy expectations with regard to behaviors engendered within the traditional occupations of nurse and teacher in comparison to males.

Initial analyses indicated no significant gender differences for the behaviors associated with the occupations physician, nurse and university professor when self-
efficacy scores were summed within each occupation. However, discriminant analysis at the item level indicated consistent and significant differences between self-efficacy of men and women. Ayres found that items differentiating males and females clustered into two groups: items referring to performance in math and science courses and items involving nurturant behavior, e.g., nursing care, teaching children. The first cluster generated significantly higher self-efficacy from males than females, while the second cluster resulted in a reversed pattern, in which women reported significantly higher self-efficacy than did males. Ayres noted that at the item level (i.e. specific behavioral task), "sex-differences are correspondent with traditional views of male and female competencies and interest areas" (p. 73).

Betz and Hackett (1981) included the titles of occupationally stereotyped options and Ayres (1980) broke stereotypic career options down into discrete (but still gender-loaded) tasks, however both methods of assessing self-efficacy produced differential responding between men and women. The level of specificity or abstraction at which one assesses self-efficacy magnitudes (cf. Rooney & Osipow, 1992) is a matter of current theoretical interest and will be discussed in conjunction with this studies replication and extension of Rooney and Osipow's (1992) investigation. At this point it is important to acknowledge that both the nature of the research design as well as the method of data analysis are perhaps of greater significance in the study of gender-differential responding due to role, situational, and gender specificity noted in the discussion of gender-related individual differences variables (Betz, in press, b).
What follows is a bibliographic listing of 56 career-related self-efficacy studies divided into the six categories for purposes of organization and to facilitate comparison. What is striking about the results produced in this research domain is that across categories and across assessment methods requesting information on a diversity of item content and behavior the following statement can be made: Very few studies of career-related self-efficacy fail to produce significant gender-differential response patterns. In fact, of the studies listed, only 25% (14/56) either did not produce or did not discuss gender differences. These studies are presented in italics below.


While not meant to be an exhaustive listing of the available research, it is believed to constitute a representational sample of studies of career-related self-efficacy. A comprehensive review of this domain is not within the purview of the present investigation. The reader is referred to Betz and Hackett (1986), Lent and Hackett (1987) and Hackett and Lent (1992) for a thorough review of the literature.

Much of the research discussed which follows, generated, or did not generate differential responding due in large part to two design factors: 1) whether the study was designed specifically to "capture" gender differences (or whether such differences were classified as error variance or confounding factors), and 2) whether potentially gender-loaded stimuli/items (based on previous research on gender-stereotypic response patterns) were presented. With regards to the second, it may well occur that gender-loaded stimuli are often "found" serendipitously after the fact, rather than intentionally, and a priori, integrated within the research design.

Looking more closely at the designs and intent of the 14 studies not associated with gender differences in self-efficacy magnitudes reveals that only five of these 14 investigations were both designed and intended to determine whether differential gender responding was evidenced (i.e., Betz & Hackett, 1987; Hackett & Campbell, 1987; Lent, Brown & Larkin, 1984; Taylor & Betz, 1983; Taylor & Popma, 1990). The remaining nine investigations failed to produce data on differential responding because: 1) only women were investigated (Foss & Slaney, 1986; Hacket, Betz & Doty, 1985; Williams,
1983), 2) their sample included too few women (Bores-Rangle et al.; 1990), 3) their investigative intent was to make comparisons among competing theories so that gender effects were not relevant (Lent, Brown & Larkin, 1987; M ulton, Brown & Lent, 1991; Sexton & Tuckman, 1991), 4) the investigation of self-efficacy theory in general was the focus (Lent, Lopez & Bieschke, 1991), or 5) gender differences simply were apparently relegated to error variance (Maddux, Norton & Leary, 1988).

One may state that only 8% (rather than 25%) of the studies listed previously failed to produce gender-differential responding in an empirically rigorous and valid manner. Closer scrutiny of the studies remaining (i.e., Betz & Hackett, 1987; Hackett & Campbell, 1987; Lent, Brown & Larkin, 1984; Taylor & Betz, 1983; Taylor & Popma, 1990) is required to ascertain why they failed to produce gender-differential responding that is neither attributable to research design or intent. Examination reveals that these studies appear to have one common characteristic: the apparent lack of gender-loaded item content.

Referred to as gender-neutral item content by Hackett and Campbell (1987), the items in this particular investigation were designed to provide limited information to individuals as to their gender-appropriateness. Hackett and Campbell’s used non-gender-linked tasks (i.e. verbal anagrams) to investigate gender x task interactions observed in the self-efficacy literature (i.e., Campbell & Hackett, 1986; Hackett & Betz, 1984,). In discussing the absence of gender differences the authors noted the data supported the hypothesis that gender-linkage of the task significantly influences gender differences in self-efficacy. When gender-loading was removed, task success and failure...
influenced self-efficacy magnitudes for both women and men task performance in theoretically predicted ways without the need to incorporate the concept of women’s gender-role socialization as part of the explanation of the findings. In other words, when denied information regarding gender-loadedness, males and females performed identically in a manner allowing more parsimonious theoretical explanation.

Regarding the four additional studies which produced similar findings as a possible result of gender-neutral content, none intentionally attempted to design gender-neutrality into their assessments or tasks with the lack of gender-differential responding likely due to assessing a relatively gender-neutral behavioral domain or with the inadvertent wording of content in sufficiently ambiguous manner as to mask/delete gender-loaded content.

The possibility of being able to assess identical behavior while altering its gender-loading (i.e. male/female appropriate) is suggested in studies cited by Betz (in press, a;c) in which women’s performance on mathematical tasks (a male gender-loaded task domain according to Campbell and Hackett, 1986) could be made equivalent to men’s simply by altering the item content to reflect traditionally female-related activities (i.e., calculating cost of food items) in which identical mathematical operations were required.

In fact the only studies in which males produce significantly lower self-efficacy magnitudes occurs when males are assessed at a behavioral specific level (tasks more than occupational titles) and/or are presented with item content that is female gender-loaded (Ayres, 1980; Betz & Hackett, 1981; O’Hare & Beutell,1987; Matsui &
Tsukamoto, 1991; Rooney & Osipow, 1992). This may have bearing on the notion that men’s gender-role attitudes hold little sway in influencing men’s career behavior due to consistent findings that men’s self-efficacy does not vary in relation to occupational traditionality to the degree of variability evidenced by women (e.g., Betz & Hackett, 1981).

This conclusion is not well supported when assessments side-step possible prestige and male-ego factors and go directly to the requisite behaviors and/or specific item content. Using knowledge regarding male gender-role socialization it may be hypothesized that males expressing confidence in their capabilities to successfully pursue the option of "lawyer" might find it to be inconsistent to express doubts regarding their capacity to be successful at "less demanding" female options such as teacher. Such a response pattern would not reflect the "natural order of things" in that male-dominated occupations "are" more important and demanding than female-dominated areas: this is why one is paid more for such career options. However, the data noted above indicates that assessing male’s self-efficacy beliefs about the particular behavioral competencies required may draw attention to their lack of skill (resulting from their socialization denying access to social support and encouragement) in engaging in nurturant behavior (Ayres, 1980) and, more generally, in using social skills (Rooney & Osipow, 1992). Such results may also reflect the undesirability of options which are both demanding (i.e., handling multiple demands which occur simultaneously, limited control over work load, etc.) and not being adequately compensated. It is hypothesized that male gender-role socialization does have an impact on men’s career development and behavior, but
that this influence may not emerge when assessment confounds occupational level and prestige (Lent & Hackett, 1987).

The aspect of gender-loadedness is relevant to the present investigation for theoretical and applied reasons in that it is gender-loading that represents the external environmental press or cue which allows for an individual’s assessment of gender-appropriateness (i.e., gender-role attitudes) in addition to and/or rather than performance capability (self-efficacy). For those with more traditional gender-role attitudes it seems, based on the literature reviewed thus far, that the execution of particular behaviors may depend as much on judgements about appropriateness as on judgements regarding competence. This would also produce a self-perpetuating cycle engendering repeated avoidance of experiences capable of providing self-efficacy information facilitative of stronger self-efficacy expectations with regard to gender atypical domains.

Regarding the applied aspects of gender-loadedness, it will be stated (and discussed in greater detail later) that the measures used in this investigation (with its intent to study differential gender-responding with regard to self-efficacy) must provide potentially gender-loaded content. In other words, it appears that men and women tend to behave in similar, rather than dissimilar ways, when confronted by information or situations that are gender-neutral (i.e., not involving competition, social comparison/evaluation or math-related-nurturant competencies, cf. Betz, in press, a; b). Providing gender-neutral item content would therefore suppress the emergence of the associations, postulated to exist, between career self-efficacy and Degree of Feminist Orientation.
The following section reviews the literature investigating the relationship between gender-role attitudes and self-efficacy expectations (Foss & Slaney, 1986; Gorrell & Shaw, 1988; Long, 1989; Matsui, Ikeda Ohnishi, 1989; Rotberg, Brown & Ware, 1987; Williams, 1983) with particular attention paid to methodological and design weakness.

**Career self-efficacy and gender-role attitudes.**

In a study designed to extend and partially replicate Betz and Hackett (1981), Williams (1983) presented 215 undergraduate female students with the Occupational Self Efficacy Scale (OSES, Betz & Hackett, 1981) and the Attitudes Toward Women Scale (AWS, Spence & Helmreich, 1972). The investigation, by assessing only women, was not intended to study gender differential response patterns but was instead designed to focus on *within gender variability* regarding possible interactions between Degree of Feminist Orientation and strength of self-efficacy expectations regarding 10 traditionally female and 10 traditionally male occupational options. Women were classified as "feminist" or "traditionalist" by means of a median split of the AWS score distribution.

The data revealed, as predicted, significant correlations between AWS scores and self-efficacy scores (traditionally female and traditionally male options) for *traditionalists* but no significant correlations were produced between AWS and self-efficacy (regardless of traditionality) for the *feminist* group. Group comparison data revealed, as predicted, that feminists expressed significantly stronger self-efficacy magnitudes regarding nontraditional options than did traditionalists. The pattern produced by *feminists* was noted to be comparable to the patterns produced by males in the Betz and Hackett (1981) study in that: 1) variability in self-efficacy was not as pronounced for feminists (although
variability was evidenced, it was of a degree less than that evidenced by traditionalists, yet seeming more than that evidenced by the males in the Betz and Hackett study), 2) feminists and traditionalists expressed equivalent self-efficacy regarding traditionally female options (as had the males).

However, support was not found for the hypothesis that feminist would report significantly greater total self-efficacy than traditionalists (i.e. combining self-efficacy scores across traditional and nontraditional items), however this too is analogous to the results produced by Betz and Hackett in which statistically significant gender differences in total self-efficacy across the 20 options were not produced. Betz and Hackett found that significant differences were due in large part to the variability in the women’s response patterns between traditional and nontraditional options: in Williams (1983) it was found that much of the variability was due to the variability of traditionalist women with feminist evidencing a pattern similar to that of males. In other words, a statistically significant association between gender-role attitudes and self-efficacy regarding traditionally female and male career options was evidenced for women with more traditional gender role attitudes but no such significant relationship for women maintaining more feminist attitudes was produced.

Replication even occurred analogously at the item level in that 6 nontraditional items (i.e. specific career options) differentiating males and females in Betz and Hackett, also significantly differentiated feminist and traditionalists (for educational requirements: accountant and engineer, for job duties; accountant, drafter, engineer and mathematician). Similar to Betz and Hackett, which found males producing significantly lower self-
efficacy with regard to some traditionally female options (dental hygienist, social worker, home economist and secretary), it was x-ray technician and secretary that produced significantly different self-efficacy magnitudes between feminists and traditionalists. It was concluded that the hypothesized association between degree and feminist orientation and self-efficacy expectations had gained initial support based on these data.

Foss and Slaney (1986) examined whether 80 college women grouped according to AWS scores, were differentially affected by a videotape career intervention. In an interesting procedure designed to see if subjects would vary in choices made for self versus a significant other, the researchers had participants respond in terms of information regarding themselves and then in terms of their "hypothesized daughters". Two measures of self-efficacy were employed to assess general career self-efficacy and career decision-making self-efficacy as well as an assessment of the traditionality of the subjects' actual career choice. In addition to finding that the intervention produced increases in the women's CDM self-efficacy, the authors found that AWS scores were significantly associated with the traditionality of careers chosen for their "hypothetical daughters" as well as to their own self-efficacy. In addition, after the intervention, the authors found that the choices made for themselves and their "hypothetical" daughters, became more nontraditional.

Gorrell and Shaw (1988) had 154 girls and 138 boys in grades 5, 8, and 11 respond to three questions regarding a list of gender-typed and gender-neutral occupations with single item assessments of self-efficacy (i.e. could you learn to do these jobs?), interest (i.e., would you like to do these jobs?), and gender-stereotypes regarding capability
(i.e. "who can do these jobs). Results indicated that males and females at each grade level were more alike in their gender stereotypes (who can do these jobs) and preferences, but that even at these young ages, divergence in beliefs regarding personal capacity occurred; boys and girls evidenced significantly different self-efficacy magnitudes in accord with stereotypic patterns.

Long (1989) examined 281 19-65 year old Canadian women’s gender-role orientation (using the BSRI), coping strategies, self-efficacy and stress in male and female-dominated occupations. The findings indicated that high-masculine subjects regardless of occupational traditionality, reported less strain, trait anxiety, and work impairment, and greater use of both a problem focused and a preventative coping strategies, and stronger self efficacy expectations. Low-feminine women in male-dominated occupations reported higher self-efficacy and greater problem focused coping styles than low-feminine women in female-dominated occupations. She concluded based on the data that the relationship between "masculinity" (interpreted here as reflective of atypical gender-role attitudes) and strain was nonsignificant when the variance due to self-efficacy was partialled out, suggesting that the relationship between gender-role and strain may be mediated by self-efficacy.

Containing assessments of all of the variables of interest, but assessing an Asian population, Matsui, Ikeda and Ohnishi (1989) examined the contributions of four gender-typed socializations and "personal gender-role" to career self-efficacy expectations. They use of a single item assessment of "personal gender-role" which involved ranking themselves on a 7-point scale as to their degree of masculinity and femininity Self-
efficacy expectations regarding 10 male-dominated and 10 female-dominated occupations (based on Japanese census data). Subjects were 78 male and 81 female Japanese undergraduates. As concluded by the authors the results replicated those produced by American samples (i.e. Betz & Hackett, 1981) in that males produced equivalent self-efficacy regardless of career option traditionality, while females evidenced significant variability in self-efficacy between male and female-dominated options. Of particular interest with regards to this investigation, for the total group, the extent to which subjects perceived themselves as feminine (and were low in math confidence) the larger the difference in self-efficacy between female-dominated and male-dominated options became. The authors further note that gender in an of itself produced nonsignificant contributions to the explanation of self-efficacy variance relative to the gender-typed predictor variables. Over all females" expressed lower self-efficacy expectations regarding male-dominated occupations (than toward female-dominated options) to the extent that they believed they had fewer female role models in male-dominated occupations than in female-dominated occupations, that they perceived themselves as feminine, and to the extent that they were low in math confidence" (p. 11).

Finally, Rotberg, Brown and Ware (1987), studied the relationship between career self-efficacy, perceived range of career options SES, race, gender and gender-role orientation. Subjects were 152 community college students (98 female and 53 male). The researchers found that career interest and gender-role orientation predicted self-efficacy expectations, but that gender and gender-role orientation were not significant predictors or career option range. Given that the authors did not include occupational traditionality
as a variable, the mixed results may be more reflective of uncontrolled influences of gender-loaded (or lack thereof) item content.

To summarize the results of this section of the literature and critique the methodology, it appears that sufficient evidence exists to stipulate that women's gender-role attitudes and career self-efficacy expectations interact in as yet unspecified ways to influence career-related behavior. The association appears in research that includes occupational traditionality with variability largely attributable to women's differential self-efficacy response patterns with regard to the gender-loaded stimuli presented, particularly at the more global occupational title level of assessment. In addition to the original studies focus, it appears that the gender-role attitudes of males may in fact influence career behavior in association with self-efficacy expectations, but possible at a more behavioral specific level.

Weaknesses with regard to the intent of the present investigation involve: 1) the generalizability of data generated in other cultures, 2) use of self-efficacy measures of unknown validity and reliability, 3) difficulties in generalizing from data obtained on subjects varying in developmental stage and age from a college sample. And a primary weakness with regard to investigations of gender-role attitudes in general is, 4) the use of ambiguous terminology and nonstandardized assessment. The next area to be reviewed, and the last portion of this section, reviews the literature of assessing self-efficacy at the task level, with particular focus on the gender-differential responding patterns evidenced in the literature.
Task-specific self-efficacy.

Studies of self-efficacy assessed at the task level to date (e.g. Bores-Rangel, Church, Szendre & Reeves, 1990; Matsui & Tsukamoto, 1991; Osipow & Rooney, 1989; Osipow, Temple & Rooney, 1993; Rooney & Osipow, 1992) have generated further evidence of the construct validity of career self-efficacy, in general, as well as some initial findings supporting the differential utility of assessing self-efficacy at the task (rather than global) level. As discussed earlier, only Bores-Rangel, et al. (1990) failed to produce significant gender-differential responding (there were too few female participants to allow for analysis of gender effects).

The Task-Specific Occupational Self-Efficacy Scale (Osipow & Rooney, 1989) was developed to assess self-efficacy at a more behaviorally or task-specific level due to a determination that the operationalization of Bandura's (1977; 1986a) theoretical constructs was possibly most appropriately assessed at this level (Lent & Hackett, 1987). It has been noted that assessing self-efficacy at the occupational title level of specificity may confound self-efficacy with occupational level, and occupational prestige, and therefore may leave as ambiguous an elucidation of what exactly is being assessed (Lent & Hackett, 1987). Much of Bandura's initial empirical work on the applicability of self-efficacy theory to clinical problems (e.g. Bandura, Adams & Beyer, 1977; Kazdin, 1979) utilized task lists and behavioral hierarchies. Investigations of the utility of assessing career-related self-efficacy at the task-level of specificity have generated support for this method (Ayres, 1980; Bores-Rangel, et al., 1990; Matsui and Tsukamoto, 1991; Rooney & Osipow, 1992) and are seen as having potential applied value in therapeutic contexts.
given the ease with which behavioral items lend themselves to the task of specifying treatment goals. Comparisons of both measures (OSES and TSOSS) has provided initial support for the utility of assessing self-efficacy at the task level (Matsui & Tsukamoto, 1991; Rooney & Osipow, 1992) with Matsui and Tsukamoto (1991) noting the possible differential utility of multiple-level self-efficacy assessment. Matsui and Tsukamoto concluded that support for the construct validity of both self-efficacy measures was generated, and a more detailed analysis revealed a high level of consistency in subjects, self-efficacy scores between occupational titles and the discrete work activities associated with the occupations. Matsui and Tsukamoto note that movement from general (occupational titles) to specific tasks may be needed in treatment and/or research contexts depending on the number of occupations one wishes to explore. What follows is a review of the literature in the area of self-efficacy assessment at the task-specific level with particular attention to gender-differential responding.

Ayres (1980) investigated gender differences in self-efficacy expectations with regard to 70 specific behaviors associated with preparation for and participation in the occupations of physician, nurse, university professor and teacher. Seventy-five male and 110 female undergraduates were sampled to test the hypothesis that women would report significantly lower self-efficacy expectations with regard to behaviors associated with the nontraditional careers of physician and professor, and higher self-efficacy with regard to behaviors engendered within traditional occupations of nurse and teacher to males.

Initial analysis indicated no significant gender differences for the behaviors associated with the occupations nurse, physician and university professor when self-
efficacy scores were *summed within each occupation*. However discriminant analysis at the *item level* indicated consistent and significant gender differences in self-efficacy magnitudes. Ayres found that items differentiating males and females clustered into two groups: 1) items referring to performance in math and science courses and 2) items involving engaging in nurturant behavior (e.g., nursing care, teaching children. The first item cluster generated significantly higher self-efficacy from males than females, while the second cluster resulted in a reversed pattern with women reporting significantly greater self-efficacy than males. Stated in reverse, males evidenced significantly *lower* self-efficacy expectations with regard to stereotypically *female-appropriate behaviors*. Ayres noted that at the item level, "sex-differences are correspondent with traditional views of male and female competencies and interests areas" (p. 73).

Matsui and Tsukamoto (1991) study was designed to compare the effects of assessing career self-efficacy at both the general (i.e., occupational title) level and the task-specific or "activity domain" level, and to investigate the relationship of self-efficacy to Holland's (1985) six occupational/environmental codes (i.e., Realistic, Social etc.). Thirty occupational titles and 60 work activities, categorized by Holland codes, were presented to 259 Japanese undergraduates (127 male, 132 female) who were asked to rate the extent of their confidence in successfully accomplishing either the behavior or training regarding the item (i.e. occupational title of task) on a 10-point Likert scale. Results indicated that males expressed significantly stronger self-efficacy for activities and occupations categorized as Realistic, whereas women were significantly higher than men.
in the Artistic domain. Contrary to predictions, no gender differences were observed for Investigative and Enterprising domains.

Of the 30 occupational titles listed, 12 produced significant gender differences in self-efficacy, with Japanese males evidencing significantly higher self-efficacy than women on 8 occupations (i.e., air traffic controller, airplane pilot, architectural draftsmen, electrician, lawyer, mechanical engineer, real estate appraiser, and restaurant manager). Women produced significantly stronger self-efficacy than men on 4 of the 30 options (i.e., fashion designer, secretary, social worker, and speech and hearing clinician). Unfortunately the authors did not attempt to determine the extent to which gender-differential responding occurred at the activity or task level. With regard to the comparison of "general" versus "task-specific" level of self-efficacy assessment, the authors noted that concordance between task self-efficacy and general self-efficacy occurred for 28 of the 30 occupational items. The authors concluded that construct validity was shown for the assessment of self-efficacy at both levels, thereby providing initial and tentative refutation for the claim that assessing self-efficacy with regard to occupational titles confounds the data (cf. Lent & Hackett, 1987) and that task-level assessment might be a more psychometrically pure means by which to gauge self-efficacy magnitudes. However conclusions based on data generated from a Japanese culture should be viewed with caution and further replication with an American sample is needed. Such replication occurred in the investigation of Rooney and Osipow (1992).

The final study to be reviewed with regard to task-specific career self-efficacy is the investigation of Rooney and Osipow (1992). Designed to compare general self-
efficacy (as assessed with the OSES, Betz & Hackett, 1981) and task-specific self-efficacy (TSOSS, Osipow & Rooney, 1989) 126 female and 75 male undergraduate students in psychology (n=113) and journalism (n=88) were administered both the OSES and the TSOSS in counterbalanced order. Results produced indicated gender-differences at various levels of the data analysis: 1) significant gender differences at the task-specific occupational self-efficacy level of assessment were found for 41 of the 230 items, with males evidencing significantly stronger self-efficacy than females for 32 of the 41 tasks, and females showing stronger self-efficacy than males for 9 of the 41 tasks, 2) the tasks which differentiated males and females were similar thematically to the clusters produced in the Ayres (1980) investigation, with women being significantly more confident in engaging in "people skills" tasks such as counseling, helping, getting along with people, and socializing; accurate speaking and grammar, performing clerical and copying tasks; devising or performing dance routines; and knowing hair and skin care." (p. 26). 3) females were least efficacious in task-areas associated with marine and aircraft operation and hazardous work, with males expressing their weakest self-efficacy in areas related to dance, art, music, hair/skin-related items and clerical skills. 4) Male's greater confidence was evidenced in areas involving physical activity, coordination and supervision areas. The authors noted that males evidenced a "larger efficacious range of tasks", but that the relative magnitudes between males and females for items differentiating them were equivalent.

With regard to the comparison of task-specific and general occupational self-efficacy assessment-level, differences between "educational requirements" and "job
duties" self-efficacy (two forms of self-efficacy assessed by the OSES) were noted in which interactions between gender and self-efficacy for particular occupations (depending on whether educational or job duties were to be rated). For job duties, the occupations of probation/parole officer, social worker, engineer and highway patrol officer produced significant gender X self-efficacy interactions, and for educational requirements, probation/parole officer, highway patrol officer, social worker, drafter and engineer evidence significant interaction effects. The authors noted that, "The relation between task-specific and general self-efficacy is positive and gender specific for some occupations." (p. 30). They continue to stipulate that " differences in the correlations of task-specific and general occupational self-efficacy based on sex of the respondents suggest that males and females define some occupations differently, and that this difference may relate to differences in their perceived self-efficacy for the occupation." (p. 31).

To expand on the data presented by Rooney and Osipow, it may be that participants' responses at the occupational level (for certain occupations) may be more reflective of occupational stereotypes (i.e., reflective more of judgements of gender-appropriateness rather than of capability). Without a corresponding knowledge of the nature of the actual duties associated with the occupational title, it would be possible to produce significantly different self-efficacy magnitudes at the task level if the actual tasks within the occupation are gender-loaded in the opposite direction. To clarify with an example presented by Rooney and Osipow: "males and females are likely to perceive probation officer as a traditionally masculine occupation. Yet the subtasks are generally
in the social and services category, traditionally female sex-stereotyped skills." (p. 31).

For the purposes of the present investigation, consistent findings of gender-differential response patterns fitting stereotypic gender patterns at the task level suggest the potential influence of gender-role attitudes. Findings of a relationship between self-efficacy and Degree of Feminist Orientation and occupational self-efficacy at the occupational title level (e.g. Williams) are suggestive of the existence of a similar relationship between task-specific self-efficacy and Degree of Feminist Orientation. As discussed earlier, it may also be that the influence of male gender-role socialization on self-efficacy strengths regarding traditional male and female task sets would become more visible or accessible when assessed at a behaviorally discrete level.

Ayers (1980) research, as discussed earlier, indicated the importance of getting past the aggregate data level during statistical analysis. Initial analysis of cumulative self-efficacy scores within and across occupational sets (i.e. summing scores on "nurse tasks") to allow comparison of self-efficacy magnitudes for occupations revealed no significant differences between 3 of the 4 occupations. Comparable data was produced in Betz and Hackett (1981) and Williams (1983) in that comparisons of cumulative or total self-efficacy across all 20 occupations (i.e. across occupational traditionality) produced equivalent cumulative self-efficacy magnitudes.

If an occupation can be conceptualized as an aggregate or behavior/task set with the value and gender-loadings of specific behaviors being variable in terms of self-efficacy, weight, importance and visibility, then we may have a situation where individuals may produce counterbalancing values within sets that sum to equivalent totals.
The existence of such a phenomenon would seem to be plausible regardless of the specific level at which one assesses self-efficacy: the difference may simply be in terms of the number of factors/items summed and their relative discrete item values.

The research reviewed in this section is suggestive of the possibility that gender-role attitudes operate to influence self-efficacy response patterns when assessed at the "task-specific" level as well as at the more general "occupational title" level. However, initial data is also suggestive of potentially important differences in terms of the consequences of such diverge "self-efficacy x assessment level" responding. Both males and females may (due to limited information with regard to the actual tasks associated with certain traditionally male or female occupations) maintain self-efficacy beliefs about incapacity when in fact task-specific self-efficacy levels for specific skill sets would be adequate for successful task execution.

This in turn may be reflective of the notion that considerable similarity in tasks exists across occupational domains with differences owing more to the relative proportion of time dedicated to each (i.e., Holland, 1985) that to any objectively defined difference in task value or difficulty. Similar in this way to conclusions based on investigations of women's math self-efficacy (e.g., Hackett, 1985), when related to objectively measured abilities successful execution is based on tasks or procedures which are identical (i.e. use of the same numerical manipulations) but this similarity is masked, distorted or ignored due to the impact of women's gender-role socialization (i.e., gender-role attitudes) regarding appropriateness.
In addition, studies of task-specific self-efficacy, as with earlier studies of general self-efficacy, treat women and men homogeneous groups. Such a research strategy is necessary when investigations of new approaches or concepts are initially explored (and gradually refined as new data is produced). However, such methodology is also restrictive in its explanatory power given the weight of evidence produced in the gender-differences literature suggesting the limited utility of "sex" as a moderating variable (cf. Betz, in press,b; Unger, 1979;1989). Blocking by "sex" both denies the existence of significant gender distribution overlap, but also masks within gender variability. In accord with ideas originally elucidated in Williams (1983) and based on Unger's (1979) conceptual distinction between "sex" and "gender," it is being proposed that the integration of gender-role altitudes (i.e., Degree of Feminist Orientation) as a mediational/blocking variable will improve the overall heuristic and applied utility of Hackett and Betz's (1981) application of self-efficacy theory to women's career development. It is further proposed that such an alteration in the designs of studies investigating self-efficacy at the task-specific level would result in a similar increase in explanatory power.

This concludes the review of the literature relevant to the present investigation as well as relevant in the preparation for suggesting a theoretically derived framework by which to functionally relate gender-role attitudes to women's career behavior. The framework into which gender-role attitudes will be placed is self-efficacy theory, which itself is a subtheory subsumed within Bandura's (1986) social cognitive theory.
A Theoretical Framework of the Functional Relationship of Gender-Role Attitudes

During Cognitive Processing of Self-Efficacy Information

Self-efficacy has been stated to be the primary cognitive mechanism linking knowledge to action (Bandura, 1982) with self-efficacy theory delineating the manner in which this transformation occurs. Within the social learning (Krumboltz et al., 1976) as well as the social cognitive framework (Bandura, 1986) the environment is conceptualized to present the individual with a variety of efficacy generating learning experiences. Bandura, Adams & Beyer (1977) have noted however that individual differences appear to exist during the cognitive processing of the information conveyed by such experiences and events. "Information conveyed by events must be distinguished from the information as processed and transformed by the individual (resulting in the finding that) percepts of self-efficacy will vary..." (p. 137). Self-efficacy theory therefore allows for cognitive perceptual alterations, distortions and avoidance of self-efficacy information when encountered.

In reference to Hackett and Betz’s (1981) supposition that women do not encounter career-related self-efficacy information, it is suggested that this position be modified in the following manner: Not only are women, in general, denied access to facilitative career-related self-efficacy information, women may also have internalized (as provided via the same four channels or sources of self-efficacy information) another type of information or knowledge regarding gender-appropriateness that serves to distort of deny incorporation of self-efficacy information when encountered. Not only does
women's gender-role socialization appear to inhibit the development of strong career-related self-efficacy expectations *externally* (as stipulated by Hackett and Betz, 1981) it may be that the influence of *internalized barriers* may operate to further inhibit its development. As suggested by Bem and Bem (1976), women's gender-role socialization adequately equips women to discriminate against themselves. However the manner in which social beliefs and expectations become manifested in women's career behavior has yet to be fully theoretically defined. For the purpose of the present study, an attempt was made to delineate the manner in which women's gender-role attitudes may influence career behavior indirectly by facilitating or inhibiting the development and maintenance of women's career self-efficacy. The verification that such an association exists is the initial step in determining if such a functional or causal relationship exists.

Unger (1979) has noted that "What people believe greatly affects what they perceive in the social world" (p.viii), and Bem (1981) states that "The stereotypic gender conceptions that people adopt have lasting effects on how they perceive and process social information and how they use their capabilities" (cited in Bandura, 1986, p. 92). In addition Bandura (1982) has stated that evaluations of perceived efficacy cannot be disembodied from the social codes upon which they are conditional. If it may be assumed that people learn (during the course of gender-role socialization) to extract information defining gender-appropriateness from a wide variety of environmental stimuli, then the combination of Unger, Bem and Bandura's statements indicate that two types or forms of *knowledge* are in functional operation during the acquisition and execution of behavior or action. The two forms of knowledge being *self-efficacy*
knowledge regarding capability and gender-role knowledge defining gender appropriateness.

The degree to which an individual perceives and responds to available gender-loaded information (if it is available) is presented as defining Degree of Feminist Orientation (i.e. degree to which typical gender-role socialization has been incorporated into one’s belief system, gender-identity, gender orientation or gender schemata) while the degree to which one operates in accord with self-perceptions of capability is self-efficacy strength. In this way the gender-loadedness of a particular stimulus may be acknowledge by all (i.e., such as the persistently and consistently produced occupational stereotypes) but responded to in ways congruent with gender stereotypes only by some. As noted by Bandura (1986) in his review of studies of gender-role acquisition, one must make a distinction between the acquisition and execution of the behavior learned. He indicates that children know the stereotypes and they acquire the behaviors of both genders but they consistently perform mainly same-gender behavior.

It seems that, on the basis of findings reported in the gender-role factors literature, individuals in general are aware of the gender-loaded content in their environment (e.g., occupational titles, personal attributes, life roles and patterns of conduct). The findings of investigations concerning the relationship between women’s gender-role attitudes and career behavior suggest that women react differentially (particularly at the general level of self-efficacy assessment) to gender-loaded content in a manner reflective of their gender-role attitudes, and that men tend to show greater variability in self-efficacy in line with the nature of their gender-role attitudes at a more task-specific level. It therefore
seems plausible to conclude that a relationship between gender-role attitudes and career self-efficacy expectations may exist.

**Summary of purposes**

The primary intent of the present investigation was to explore the relationship between two distinct forms of knowledge or beliefs: career-related self-efficacy expectations (i.e., judgements/self-perceptions of capability) and gender-role attitudes (i.e., judgements/self-perceptions gender-appropriateness). Of secondary importance to this study was the purpose of presenting a theoretical rationale delineating the manner in which gender-role attitudes may influence women's career development (and possible the career development of men as well, but to a lesser extent) and maintenance of career self-efficacy during exposure to the four sources of information stipulated in Bandura's self-efficacy theory (1977;1982; 1986). Although the present study was not designed to test all of the theoretical propositions made within this document, the theoretical rationale presented does represent the foundation upon which the hypotheses tested were based.

Metaphorically, gender-role attitudes were conceptualized as a filter of career-related self-efficacy information; the nature of women's self-reported gender-role attitudes were seen to define the extent to which career self-efficacy information perceived as male-appropriate (i.e. gender-loaded) may have resulted in its rejection or distortion at the point of acquisition. From this perspective, gender-neutral and gender-loaded self-efficacy information was believed to be inextricably linked during women’s exposure to potentially facilitative information.
In reference to the findings reported within the literature investigating the relationship between women's gender-role attitudes and career behavior, it was noted that feminist and nontraditional gender-role attitudes have been consistently associated with cross-gender or atypical behavior and career pursuits, while more traditional beliefs have been consistently associated with traditional, female-typed behavior and career choice. It is hypothesized that the reported differences between feminists and traditionalists may, in part, be explained to be due to differential perceptions regarding career-related self-efficacy information encountered, as well as due to the resultant differential perception of capability resulting from the denial of such self-efficacy information access to the knowledge base during exposure. With regard to gender-neutral and gender-loaded self-efficacy information, it may be that women maintaining feminist and nontraditional beliefs, although aware of the gender-loaded content, are able to assimilate and incorporate the self-efficacy information presented, and thereby allow the development of stronger career self-efficacy information with regards to nontraditional career options and behaviors. In other words, feminist women are able to assimilate self-efficacy information of a more "male" nature because they are able to ignore or disregard the gender-loaded aspects associated with the material. Feminist attitudes facilitate the acquisition of male gender-loaded information. Traditionalist women, on the other hand, may be more likely to focus on the gender-loaded content (which connotes "gender-appropriateness" information regarding career options, behaviors and life roles) and avoid, ignore or distort whatever facilitative self-efficacy information exists.
In this way, traditional gender-role attitudes are hypothesized to inhibit the development of career self-efficacy by over-emphasizing the importance of the gender-loaded content associated with information while neglecting, negating or distorting the potentially facilitative self-efficacy information encountered. Denying incorporation of such information or knowledge then in turn results in a failure to develop stronger self-efficacy expectations in areas categorized as gender-inappropriate (i.e., traditionally male majors and career options). Women's overrepresentation in traditionally female careers as well as their underutilization of their unique skills and talents) is therefore postulated to be due in part to the inhibitive influence of traditional gender-role attitudes during exposure to potentially facilitative career self-efficacy information.

Summary of purposes and hypotheses

Based on the review of the literature and theoretical rationale presented, the following research hypotheses were tested for the purpose of the present investigation:

Overall it is hypothesized that differential gender response patterns in men’s and women’s self-efficacy expectations will be dependent in part on the manner of self-efficacy assessment used. In that this aspect of the investigation was exploratory in nature, specific hypotheses will be stated separately for General self-efficacy (i.e. assessed with the OSES) and for Task-specific self-efficacy (assessed using the TSOSS).

General career self-efficacy assessment:
H/1: Women maintaining traditional gender-role attitudes would report significantly lower career-related self-efficacy expectations with regard to nontraditional career options than would women maintaining feminist gender-role attitudes.
H/2: Women maintaining traditional gender-role attitudes and women maintaining feminist attitudes would produce no significant difference in their total self-efficacy level (i.e., combining traditional and nontraditional self-efficacy scores).

H/3: Women maintaining traditional gender-role attitudes and women maintaining feminist attitudes would produce no significant deference in traditionally female career options.

H/4: That regardless of gender-role attitudes, men and women will produce no significant differences in total self-efficacy levels (i.e. no gender effect).

H/5: Women maintaining traditional gender-role attitudes would report significantly lower self-efficacy expectations with regard to nontraditional in comparison to traditional career options.

H/6: Women maintaining feminist gender-role altitudes will produce no significant differences in self-efficacy expectations with regard to both nontraditional and traditional career options.

H/7: Women maintaining feminist attitudes would report self-efficacy levels with regard to nontraditional career options that is significantly lower than men in general (regardless of male's gender-role attitudes).

H/8: That men, regardless of gender-role attitudes, would report no significant differences in self-efficacy expectations with regard to both nontraditional and traditional career options.

H/9: That the item content producing significantly gender-different self-efficacy magnitudes in the Betz and Hackett (1981) study would be found to discriminate by
gender in the present study (i.e. assuming no change in occupational stereotypic response patterns)

**Task-specific Self-Efficacy.**

Of the 230 items on the TSOSS, 41 produced significantly different self-efficacy magnitudes between men and women. Incorporating Gender-role attitudes in the assessment of self-efficacy at this level of behavioral specificity, the following hypotheses are presented.

H/10: Women maintaining more feminist gender-role attitudes would express equivalent task-specific magnitudes across these male/female items clusters.

H/11: Women maintaining more traditionalist gender-role attitudes would express significantly higher self-efficacy expectations with regard to the traditionally female item cluster than with regard the traditionally male item cluster.

H/12: Men maintaining feminist gender-role attitudes would produce no significant differences in task-specific self-efficacy magnitudes across these male/female item clusters.

H/13: Men maintaining more traditional gender-role attitudes would express significantly higher task-specific self-efficacy magnitudes with regards to the traditionally male item cluster, and significantly lower self-efficacy with regards to the traditionally female item cluster.

H/14: Men and women will produce similar gender-response patterns to those produced in Rooney & Osipow, 1992).
In addition, data for the purpose of comparing the self-efficacy response patterns found between feminists and traditionalists (as well as between males and females) found both in Betz and Hackett (1981) and by Rooney and Osipow (1992) will be collected. Comparison with data generated by Betz and Hackett (1981) will provide information as well with regard to the relative stability of gender-differential response patterns over a 10 year period at the item level (i.e. occupational title) as well at the aggregate (i.e. self-efficacy associated with occupation traditionality across specific titles).

And finally, comparison of gender-differential responding between levels of assessment, while incorporating the variable "Degree of Feminist Orientation" (to both OSES and TSOSS assessment devices) will occur to compare the influence of gender-role attitudes for men and women at each level of assessment. In this way, replications of both Betz and Hackett (1981) and Rooney and Osipow (1992) will occur: however use of and incorporation of Degree of Feminist Orientation (rather than gender) as the mediator variable will occur to determine whether this independent variable adds to the explanatory power of the self-efficacy construct in its application in the study of women's career development.

Summary

Increased interest and investigation with regard to women's gender-role attitudes has lead to both conceptual advances and confusion within the literature on women's career development. Women continue to select careers in traditional rather than nontraditional areas more in accord with occupational stereotypes than on the basis of individual abilities and talents (e.g., Betz, in press,a; Farmer, 1976). Although research
on women’s gender-role attitudes is based on the assumption that such attitudes influence women’s career behavior, the lack of definition and consistency in the use of the terminology within this research domain can in part explain the inconsistencies found in the data discussed. The confusion is compounded by the lack of a theoretical rationale by which to explain how women’s gender-socialization becomes manifested in women’s career behavior. It is hoped that the present study, by attempting to define the variables studied, by presenting a theoretical rationale for how gender-role attitudes may become manifested in women’s career behavior as derived from self-efficacy theory (which is gaining empirical support in many domains of inquiry, Bandura, 1986a), and by attempting to clearly elucidate the hypotheses to be tested, would avoid some of the problems found within the literature.
CHAPTER III

METHOD

Participants

Participants were 270 students (41% male [n = 111] and 59% female [n = 159]) enrolled in the introductory psychology course at The Ohio State University during the Autumn quarter of 1992. The age of the participants ranged from 17 to 57 years, with the modal age 18 (47.4%) and the mean age 20.12 years. The mean ages for males and females were 20.21 and 20.04 respectively. The majority of participants were freshmen (62%, n = 167), with 25% sophomores (n = 67), 8% juniors (n = 23), and 3% seniors (n = 9); the remaining 2% of the sample comprised of three continuing education students and one graduate student. Sixty-eight percent of the sample indicated they had chosen a major. Regarding the level of interest generated by participating in this investigation, 6% found it "boring", 29% rated it a "neutral" experience, 14% "slightly interesting", 44% "interesting", 3% "very interesting" and 4% did not respond to the question. Participation in the study, although voluntary, allowed the students to earn class credit.

Instruments

Attitudes Toward Feminism Scale. Degree of Feminist Orientation was assessed with the Enns (1987) version of the Attitudes Toward Feminism Scale (ATF, Fassinger,
The Attitudes Toward Feminism Scale assesses attitudes regarding feminism and the women's movement and, as revised, is embedded within the Social Issues Inventory to reduce the "instrument transparency" associated with gender-role attitude assessment (Beere, 1979; 1990; Enns, 1987; Fassinger, 1985; in press; Lenny, 1991) and also to reduce participant reactivity/response set bias (Enns, 1987; Fassinger, 1985; in press). Based on the initial data, Fassinger concluded that this process was successful in reducing both instrument transparency and participant reactivity. However, Enns (1987) found no differential responding between masked and unmasked versions of the ATF, and so concluded that this masking process did not appreciably influence the manner in which individuals responded to the embedded ATF items of interest. She does also note that her sample may not have been representative of other populations and that the use of the longer Social Issues Inventory version may sometimes be appropriate.

Psychometric data regarding this instrument was produced during its construction and in later studies using the Enns version (Enns, 1987; Enns & Hackett, 1990). The ATF, as revised, consists of 32 items, 10 of which are designed to discriminate between individuals with positive or negative attitudes toward feminism and the women's movement and 22 of which inquire about the respondent's attitudes regarding current social issues (e.g. civil rights, political activism, welfare) and which serve to mask the existence of the 9-item internal ATF scale. The tenth ATF item asks respondents to indicate the degree to which they self-identify as a feminist: this item is not scored, but is used instead as an aid in classification as either feminist or traditionalist should any participants scores equal the group median, and as a single item internal consistency
check. Items are scored on a five point scale ranging from "strongly disagree" (1) to "strongly agree" (5). A total ATF score is the sum of the responses to the 9 ATF items and may range from 9 to 45. Higher scores indicate a higher Degree of Feminist Orientation (i.e. espousal of more favorable attitudes toward feminism or more feminist gender-role attitudes), while lower scores indicate the espousal of more traditional gender-role attitudes. Four of the nine ATF items were reverse-scored. The 22 SII masking items are not scored.

Fassinger (1985; in press) generated data regarding the convergent and discriminant validity of the ATF by comparison using the multi-trait, multi-method principles outlined by Campbell & Fiske (1959). Participants were administered the Attitudes Toward Women Scale (Spence & Helmreich, 1972), the Personal Attributes Questionnaire (Spence & Helmreich, 1978) and a short form of Rokeach's Dogmatism Scale (Troldahl & Powell, 1965). Additional items were constructed to establish correlations between the ATF and subjective identification with feminism and attitudes regarding the women's movement "NOW Bill of Rights" (Fassinger, in press).

Evidence of discriminant validity, as predicted, was indicated by low (.23) ATF correlations with PAQ scores and a low negative correlation with Rokeach's Dogmatism Scale scores (-.24). was produced (Fassinger, 1985; in press). In addition, Fassinger (in press) notes that the correlation between the ATF and the AWS (.36) was considered low and was taken as initial evidence that the ATF is a stronger measure of feminist attitudes than the AWS. The AWS is noted by Beere (1979; 1990) and Fassinger (in press) to be the most commonly used measure of gender-role/feminist attitudes in the literature. This
contention was also supported by the higher correlations between the ATF and "Subjective Identification with Feminism" items (.51) versus (.37) with respect to the AWS. The author noted also that while a sizeable number of participants scored at the upper end of the AWS (suggesting a ceiling effect), few individuals scored at the upper end of the ATF and none earned the maximum score possible (Fassinger, 1985; in press).

Enns (1987) first used the ATF in a pilot study to gauge the effects of masking Fassinger's instrument to reduce transparency effects and to refine the instrument if needed. Using the 32 item Social Issues Inventory and the 10 item ATF she randomly administered each to 38 undergraduate psychology students, 19 (12 female, 7 male) received the SII and 19 (12 female, 7 male) received the ATF.

Enns (1987) study yielded internal consistency correlations among the 10 items ranging from .50 to .65. The data produced was used to revise the ATF in that one item was found to not discriminate between those with favorable versus unfavorable attitudes toward feminism and was therefore dropped. As noted earlier, no difference in responding between the two forms was found for the total sample (mean for ATF=40.42/SII=39.53). The differences for men and women taking the long versus the short forms were not found to be significant either (male means: SII=36.71 / ATF=39.14, female means for both SII and ATF=41.17). To date this is the only sampling of males and given the small sample size of 14 no normative data as yet exists for males taking the ATF.

Finally Enns (1987) found, as predicted, that the ATF was related at a "low" but significant level to Spence and Helmreich's (1972) "Attitudes Toward Women Scale"
or AWS (.36, \( p < .01 \)); this finding provided additional evidence that the ATF scale measures a domain (i.e Degree of Feminist Orientation) that is distinct from liberal gender-role attitudes in general. The relationship between the ATF and the AWS is important in that Williams (1983) used the AWS as a measure of Degree of Feminist Orientation, while the ATF was used in the present study to measure the same construct.

Normative data for the ATF were obtained from 50 undergraduate women at a large western university, 23 of whom were members of an introductory course in Counseling Psychology and 27 of whom were members of an introductory psychology class (Enns, 1987). The ATF was administered twice, two weeks apart, to gather test-retest data. Test-retest data gathered over a two-week interval resulted in a correlation coefficient of (.81), which was considered adequate for research purposes and for an assessment device in development. Reliability data involving internal consistency coefficients were not reported in the draft version of the study. A group mean of 32.53 was obtained, with feminist and traditionalist groups defined by the median-split technique (median of 33) producing means of 36.46 and 28.70 respectively. See Appendix A for a complete copy of this instrument.

And finally, Enns and Hackett (1990) state that the pilot phase of their investigation demonstrated 2-week test-retest reliability of .81 for the ATF, and that the ATF correlated .68 with a 3-item subjective identification with feminism scale, .51 with interests in feminist activities, and .38 with current involvement in feminist activities.

**Occupational Self-Efficacy Scale.** Strength of career self-efficacy was assessed using the Occupational Self-Efficacy Scale (OSES) developed by Betz and Hackett
(1981). The OSES was the first attempt to measure career self-efficacy and at the time of the original study (i.e. Williams, 1983) was an experimental rather than applied measure. The OSES used in Williams (1983) was a revised form of the experimental measure used by Betz and Hackett (1981) and combined the originally separate "level" and "strength" scales of the experimental questionnaire into a single continuum.

The OSES contains 20 well-known occupational titles selected to represent a range of interest areas (defined in terms of the six Holland themes). Of the 20 occupations listed, and on the basis of 1975 U.S. Women’s Bureau data, 10 represent traditionally female occupations (i.e., 70% or more members are women) and 10 constitute nontraditionally female occupations (i.e., 70% or more of the members are men). Two measures of career self-efficacy are incorporated within the OSES: one assessing self-efficacy with regard to the educational prerequisites of career entry, and another assessing self-efficacy with regard to the occupational job duties. Participants are requested to respond to each of the 20 occupational titles on the basis of their perceived degree of competence regarding the successful performance of both the educational and career duty requirements using a 10-point scale. The self-efficacy scales of each occupation allow self-ratings of personal efficacy to range from "completely unsure" (0) to "completely sure" (9).

In the revised version of the OSES used in both the original (Williams, 1983) and present study, self-efficacy level and strength were assessed concomitantly, with the report of "0" confidence or strength interpreted as equivalent to a "no" response on the 1981 OSES version’s self-efficacy level scale. Reports of strength ranging from 1 to 9
are interpreted both as a "yes" level response and as a representation of perceived self-efficacy strength. A subject’s General Career Self-Efficacy score is the sum of her/his responses to the items presented in both the educational and job duties self-efficacy scales and combines scores for traditionality male and female occupational titles. General Career Self-Efficacy Scores may range from 0 to 360.

In addition, the sums of subject responses to traditionally female and traditionally male occupational titles (collapsing across educational and job duties scales) allowed for the calculation of traditionally male occupations’ and traditionally female occupations’ career self-efficacy scores for female and male subjects. These scores may range from 0 to 180. Refer to Appendix B for a complete copy of the OSES.

Construct validity of the OSES has been demonstrated in Betz and Hackett’s first test of the utility of the concept of career self-efficacy in the confirmation of predicted gender differences in career self-efficacy and by the relation of career self-efficacy to perceived career options. Further confirmation has been generated in later research in which the gender-differences originally predicted (Betz & Hackett, 1981; Hackett & Betz, 1981) have consistently been replicated (e.g. Layton, 1984; Rooney & Osipow, 1992; Wheeler, 1983; Williams, 1983; Zilber, 1988;). Reviewers of the literature on career self-efficacy (see previous chapter for more detailed discussion) have attested to the construct’s utility and validity (Bandura, 1986; Betz & Hackett, 1986; Lent & Hackett, 1987).

Layton (1984), using a slightly modified version of the OSES, generated reliability data on the self-efficacy scales in the form of coefficient alpha’s of .95 for the
total scale and sub-scale values of .91 and .92 for the traditional and nontraditional sub-scales respectively. Zilber (1988) reported reliability coefficients of .94 for the total scale and .92 and .89 respectively for the job and educational requirements scales. Finally, as cited in Hackett & Campbell (1987), Hackett & O’Halloran (1985-unpublished) conducted a study examining the reliability of various self-efficacy measures and found test-retest reliabilities of level and strength ratings over a one-week period to be .55 and .70 respectively.

**Task-Specific Occupational Self-Efficacy Scale** Task-specific occupational self-efficacy was assessed using the Task Specific Occupational Self-Efficacy Scale (Osipow & Rooney, 1989; Rooney & Osipow, 1992). The TSOSS is comprised of 230 skill and knowledge items selected from *The Dictionary of Occupational Titles*, Part A of *Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles* (U.S. Employment Services, 1981). Sample items are: "Show interest and desire to help others", "Use scientific and technical language", and "Use hand tools". The TSOSS is designed to assess one’s self-efficacy strength (i.e. confidence) to successfully execute specific tasks required for occupational proficiency. The TSOSS is currently undergoing revision (Osipow, Temple & Rooney; 1993) and validation in the preparation of a shorter (60 item) factor-analyzed version. However for reasons noted in the literature review (i.e. the gender-loaded items were factor-analyzed out of the shorter version), it is the 230 item TSOSS which was used and is discussed.

Participants were asked to indicate their confidence in their ability (i.e. self-efficacy strength) to perform each activity using a five-point scale with response options
ranging from "1" (No Confidence) to "5" (Absolute Certainty). Scoring involved summing item values of 1 through 5 (for No Confidence through Absolute Certainty) for each of the 230 items. Scores for Total Task-Specific Self-Efficacy strength could range from 230 to 1150. A response of "1" was interpreted as if it were a "No" response, with scores of 2 through 5 being interpreted as reflecting the relative task-specific self-efficacy strength for the item. See Appendix C for a complete copy of this measure.

In addition, an item subset score was calculated for the 41 items found to produce differential responding by gender (Rooney & Osipow, 1992) as reflective of gender-stereotypic tasks (i.e. 9 items associated with significantly stronger task-specific self-efficacy among female participants [e.g. Know grammar rules], and 32 items associated with significantly stronger self-efficacy for males [e.g. Use hand tools]). In this way traditionally female/male task-specific self-efficacy scores were calculated and associated with female/male Degree of Feminist Orientation. Traditionally male-task-specific self-efficacy scores could range from 32 to 160, and traditionally female-task-specific self-efficacy scores could range from 9 to 45. See Appendix D for a list of these gender-loaded items. A gender-neutral task-specific score was also calculated and this score (based on the 189 items which did not differentiate men and women) could range from 189 to 945.

The TSOSS is in the experimental phase of development, but studies using the TSOSS (Osipow & Rooney, 1989; Rooney, 1991; Rooney & Osipow 1992; Osipow, Temple & Rooney, 1993) have generated data supportive of both the device's potential
utility (i.e. broader range of use) and of the utility of assessing self-efficacy at the task
level in particular. Osipow, Temple & Rooney (1993) reported test-retest reliability for
the 230 items to be .77 over a two to three week period.

Demographic Information. Participants were asked to provide demographic
information; that is, age, gender, academic rank, year entered O.S.U., majors and
occupations currently being considered or selected. As an informal means of assessing
participants' experience regarding participation in this study, the subjects upon completion
of all three measures were instructed to rate the degree of interest their participation
generated. On a scale of 0 to 4, participants were asked how interesting they found this
self-assessment process with "0" being "Boring" and "4" being "Very Interesting". This
assessment was included as an informal "level of motivation or investment in task, etc." check and was not incorporated in the statistical analysis. Finally, after completing the
experiment, participants were encouraged to offer their views as to the variables under
investigation in this study to determine, informally, the degree of transparency present
in the design. To increase investment in task, subjects were informed at the beginning
that these two questions would be asked, thereby imparting the suggestion that they
should be proactive in attempting to understand the purpose of this research. The
"Demographic Information Sheet" was the first page of either the OSES or the TSOSS,
depending on the counter-balanced order of scale presentation, while the interest/motivational questions was presented last and on a separate page after the ATF.
A copy of the Demographic Information Sheet appears in Appendix D.
Procedure

Participants were requested to respond to the instrument package they received in accordance with the following instructions: 1) to complete each questionnaire in the order presented, 2) to respond in a spontaneous manner, relying on first impressions and to resist changing their initial ratings, 3) to avoid leaving items blank by answering each item to the best of their ability and knowledge, 4) to resist the temptation to return to a prior instrument with the intent of altering their answers once they had proceeded to the next questionnaire(s). Participants were informed verbally of the questions regarding "degree of interest generated" by participating in this study as well as the motivational item asking them to speculate as to the variables under investigation. Finally, the voluntary nature of their participation was clarified by stating that they could discontinue participation at any time without adverse consequence. Participants were also informed of their right to request that their responses not be used in the subsequent data analysis.

The demographic sheet was presented first and attached to either the OSES or TSOSS depending on which scale was to be presented first in counterbalanced order. The ATF was administered last because the masking of ATF items in and of itself would not eliminate the possibility of biased "response set" responding to the self-efficacy measures that might follow. The socially controversial content of the ATF might have sensitized participants to the gender-loaded items of the OSES and TSOSS, possibly leading to conscious efforts to self-present in a more ideologically or gender-stereotypically consistent manner. It was also noted by Enns (1987) that subjects spontaneously reported a "rethinking" of their attitudes about women's issues between
testing situations, which further supports exposure to the ATF after responding to the OSES and TSOSS. A copy of this handout may be found in Appendix E.

Upon completion of the entire instrument package, the instruments were collected and the participants were given a written explanation of the purpose and potential utility of the research as well as an address where they could write to request further information and/or study results when available. The researchers expressed his/her appreciation for their participation in this investigation.

**Analysis of the Data**

As described by Fassinger (in press), the ATF score was calculated in the manner used by Enns (1987) and Enns and Hackett (1990) by summing the item values for the nine ATF items. Since this was the first study to investigate males and females, it was decided to calculate ATF scores separately for females and males, with median splits performed on each gender's distribution. Female and male participants falling above their gender's median were classified as "Feminist," while those falling below the median were classified as "Traditionalist." Missing data were replaced with the mean score calculated on the summed number of ATF items the individual answered. This method resulted in integer rather than whole numbers present in the calculations which further resulted in no individuals' score being equal to his or her gender's median. So unlike Enns and Fassinger's analyses, the tenth ATF item was never used to categorize participants according to Degree of Feminist Orientation. For replication purposes, correlations between this item (i.e. subjective identification with feminism) and the ATF total scores
(i.e. Degree of Feminist Orientation) were calculated for males, females and the total sample.

For purposes of generating comparison data with regard to the Betz and Hackett (1981) and Rooney and Osipow (1992) studies, the subscores of men’s and women’s educational and job duties self-efficacy for traditionally female and male occupations were calculated for each of the 20 occupations. Self-efficacy scores for traditionally male and for traditionally female were computed in a similar manner with the exception that each of these scores were based on either the 10 traditional male or the 10 traditionally female occupation items. As specified by Betz and Hackett (1981), the OSES was scored, separately for women and men, by summing item values across the 20 occupations as well as across the educational and job duties self-efficacy scales in calculating the General Career Self-Efficacy scores.

With regard to task-specific self-efficacy score calculations, traditionally male-task-specific self-efficacy and Traditionally female-task-specific self-efficacy were calculated by summing item values of 1 through 5 for those items found to generate stronger self-efficacy for males (32 items) and for females (9 items). A Gender-neutral task-specific score was calculated by scoring item values 1 through 5 for those items found to not differentiate males and females (189 items). As specified by Rooney and Osipow (1992), scores for women’s and men’s Total Task-Specific Self-Efficacy strength involved summing item values of 1 through 5 for each of the 230 items.

Female Career Self-Efficacy Total Task-Specific Self-Efficacy, Traditionally Male Task-Specific Self-Efficacy, Traditionally Female Task-Specific Self-Efficacy, Gender-Neutral Task-Specific Self-Efficacy, and age were computed for the total sample, separately by gender, and separately for male-feminists, male-traditionalists, female-feminist and female-traditionalists. Age was included given the consistent positive correlation found between women's age and Degree of Feminist Orientation (cf. Betz, in press, b). The degree to which values of $r$ were significantly different from zero was also determined.

Means, standard deviations and a "2 X 2 X 2" MANOVA with the independent variables "Gender," "Degree of Feminist Orientation," and "Instrument Order," and dependent variables of Traditionally-Female and Traditionally-Male Career Self-Efficacy and Traditionally-Female Task-Specific, Traditionally-Male Task-Specific, and Gender-Neutral Task-Specific Self-Efficacy scores were conducted. Post-hoc univariate tests of significance differences and comparisons of means followed significant multivariate results. A second "2 X 2 X 2" MANOVA with regard to tests of significant relations between the three independent variables noted above and General Career Self-Efficacy and Total Task-Specific Self-Efficacy was also conducted followed by post-hoc univariate tests of significant MANOVA results and comparisons of means. With regard to testing Hypothesis 8 (that the item content producing significant gender-different self-efficacy magnitudes in the Betz and Hackett (1981) study would again be found to discriminate on the basis of gender 10 years later), a MANOVA with "gender" as the dependent variable and self-efficacy on the 10 traditionally female and 10 traditionally male
occupational titles as the independent variables was conducted. Appropriate univariate tests and comparisons followed.

For purposes of generating comparison data (i.e., Betz & Hackett, 1981 and Rooney & Osipow, 1992), means, standard deviations and a third "2 X 2 X 2" MANOVA were conducted to test for significant relationships between "Gender," "Degree of Feminist Orientation," and "Instrument Order," and traditionally male and traditionally female "Educational" self-efficacy and "Job Duties" self-efficacy for each occupation. And finally, replication of the data indicating significant gender differences for 41/230 TSOSS items was accomplished following the methods of Betz and Hackett (1981) and Rooney and Osipow (1992), using a series of $t$-tests of significance.
CHAPTER IV

RESULTS

MANOVA Results.

Preliminary analysis of the data generated produced significant OSES-TSOSS Order effects on several of the dependent variables. As a result, the original "2 X 2" MANOVA structure was altered to include the independent variable "Order" along with "Gender" and "Degree of Feminist Orientation" thereby making it a "2 X 2 X 2" MANOVA analysis.

Tables 1-7 contain the primary MANOVA results: MANOVA results for the OSES self-efficacy variables are to be found in Tables 1, 3 and 4 and data for the TSOSS self-efficacy variables are presented in Tables 2, 5, 6 and 7. Table 1 lists the means and standard deviations resulting from the "2 X 2 X 2" MANOVA with the independent variables "Gender," "Degree of Feminist Orientation," and "Instrument Order," and the OSES dependent variable General Career Self-Efficacy. Table 2 provides the same information regarding the TSOSS dependent variable Total Task-Specific Self-Efficacy. Tables 3-7 show the data produced by the second "2 X 2 X 2" MANOVA with regard to tests of significant relations between the three independent variables noted above and the OSES dependent variables Traditionally-Female (Table 3) and Traditionally-Male
(Table 4) Career Self-Efficacy, and the TSOSS, dependent variables: Traditionally-Female Task-Specific (Table 5), Traditionally-Male Task-Specific (Table 6), and Gender-Neutral Task-Specific (Table 7) Self-Efficacy scores.

**MANOVA ONE: General Career Self-Efficacy and Total Task-Specific Self-Efficacy**

As seen in Table 1, General Career Self-Efficacy was found to be significantly related to both Gender and Instrument Order. Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to General Career Self-Efficacy ($F = 4.1, p = .044$) with males in both order conditions generating significantly greater General Career Self-Efficacy than females (Males, $M = 227.5 \& 220.5$ to Females, $M = 222.4 \& 196.1$). *Note: mean gender differences appear much larger in the "OSES Second" condition (5.2 versus 24.4).* Instrument Order was also significant ($F = 5.1, p = .025$), with stronger self-efficacy being generated by both genders in the "OSES First" condition ($M = 224.5$ to 205.9 for Order Totals). Degree of Feminist Orientation was not significant ($F = .12, p = .733$) There were no significant interaction effects.

Data presented in Table 2 for Total Task-Specific Self-Efficacy scores reveal similar relationships to those found for General (i.e. "Total" to use Betz and Hackett's vernacular) Career Self-Efficacy. Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Total Task-Specific Self-Efficacy ($F = 6.6, p = .011$) with males in both order conditions generating significantly stronger self-efficacy (Males, $M = 887.0 \& 880.5$ to Females, $870.2 \& 827.1$) than females. *Note: again greater Gender differences appear in the OSES Second condition*
TABLE 1
General Career Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>232.1</td>
<td>45.9</td>
</tr>
<tr>
<td>Feminist</td>
<td>224.1</td>
<td>64.2</td>
</tr>
<tr>
<td>Total</td>
<td>227.6</td>
<td>56.8</td>
</tr>
<tr>
<td>OSES First</td>
<td>208.8</td>
<td>59.9</td>
</tr>
<tr>
<td>Feminist</td>
<td>233.7</td>
<td>57.0</td>
</tr>
<tr>
<td>Total</td>
<td>220.5</td>
<td>59.0</td>
</tr>
<tr>
<td>Grand Total</td>
<td>215.1</td>
<td>60.6</td>
</tr>
</tbody>
</table>

Note: Values of Wilks Lambda for the multivariate ANOVA with General Career Self-Efficacy and Total Task-Specific Self-Efficacy as dependent variables were as follows: Gender (.97, p=.033), Instrument Order (.98, p=.075), Degree of Feminist Orientation (.99, p=.26). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to General Career Self-Efficacy (F=4.1, p=.044) with males in both order conditions generating significantly greater General Career Self-Efficacy than females. Instrument Order was also significant (F=5.1, p=.025), with stronger self-efficacy being generated in the "OSES First" condition. Degree of Feminist Orientation was not significant (F=.12, p=.733) There were no significant interaction effects. Score range is 0-360.
<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>874.9</td>
</tr>
<tr>
<td>Feminist</td>
<td>899.9</td>
</tr>
<tr>
<td>Total</td>
<td>887.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditionalist</td>
</tr>
<tr>
<td>Feminist</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Grand Total 862.7 112.4 266

Note: Values of Wilks Lambda for the ANOVA with General Career Self-Efficacy and Total Task-Specific Self-Efficacy as dependent variables were as follows: Gender (.97, p = .033), Instrument Order (.98, p = .075), Degree of Feminist Orientation (.99, p = .26).

Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Total Task-Specific Self-Efficacy (F = 6.6, p = .011) with males in both order conditions generating significantly stronger self-efficacy than females. Instrument Order (F = 3.0, p = .082) approached significance, with greater magnitudes associated with the OSES First (i.e., TSOSS second) condition. Degree of Feminist Orientation was not found to be significant (F = 2.2, p = .139).

There were no significant interaction effects. Score range is 230-1150.
Instrument Order \((F = 3.0, p = .082)\) approached significance, with greater magnitudes associated with the OSES First (i.e., TSOSS second) \((877.2 \text{ to } 848.2 \text{ Order Totals})\) than in the OSES Second condition. Degree of Feminist Orientation was not found to be significant \((F = 2.2, p = .139)\). There were no significant interaction effects were produced.

**MANOVA TWO: OSES and TSOSS Sub-Scale Self-Efficacy Variables**

Tables 3 and 4 offer contrasting data patterns between the two OSES self-efficacy sub-scales. With regard to Table 3, Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was not significantly related to Traditionally Female Career Self-Efficacy \((F = 1.5, p = .224)\) with males and females in both order conditions producing equivalent \((\text{Males, } M = 116.4 \text{ & } 109.5 \text{ to Females, } 125.0 \text{ & } 111.0)\) self-efficacy scores. While not significant, the strength differences are in the direction one would predict from the literature on women's career development, with females Traditionally Female Career Self-Efficacy scores being larger than males scores. Instrument Order \((F = 6.9, p = .009)\) was significance in that stronger self-efficacy was associated for females and males with the "OSES First" condition than in the OSES second condition \((M = 121.5 \text{ to } 110.4 \text{ Order Totals})\). Degree of Feminist Orientation was not significant \((F = .01, p = .907)\). There were no significant interaction effects.

Table 4 shows the opposite pattern for Traditionally Male Career Self-Efficacy: Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that, unlike Traditionally Female Career Self-Efficacy, Gender was significantly related to Traditionally Male Career Self-Efficacy \((F = 25.5, p < .001)\) with males producing
TABLE 3

Traditionally Female Career Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
</tr>
<tr>
<td></td>
<td>MEAN  SD  N</td>
<td>MEAN  SD  N</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>119.0  25.7  23</td>
<td>128.4  26.1  35</td>
</tr>
<tr>
<td>Feminist</td>
<td>114.3  34.6  31</td>
<td>122.1  34.5  44</td>
</tr>
<tr>
<td>Total</td>
<td>116.4  30.9  54</td>
<td>125.0  31.1  79</td>
</tr>
<tr>
<td></td>
<td>104.3  38.4  29</td>
<td>109.4  36.5  37</td>
</tr>
<tr>
<td>Feminist</td>
<td>114.4  30.7  24</td>
<td>112.2  32.4  43</td>
</tr>
<tr>
<td>Total</td>
<td>109.5  35.1  54</td>
<td>111.0  34.2  80</td>
</tr>
<tr>
<td>Grand Total</td>
<td>115.8  33.3  266</td>
<td></td>
</tr>
</tbody>
</table>

Note. Values of Wilks Lambda for the multivariate ANOVA with Traditionally Female, Traditionally Male Career Self-Efficacy and Traditionally Female, Traditionally Male and Gender Neutral Task Specific Self-Efficacy as dependent variables were as follows: Gender (.54, p<.001), Instrument Order (.97, p=.143), Degree of Feminist Orientation (.99, p=.65). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was not significantly related to Traditionally Female Career Self-Efficacy (F=1.5, p=.224) with males and females producing equivalent self-efficacy scores. Instrument Order (F=6.9,p=.009) was significance in that stronger self-efficacy was associated with the "OSES First" condition. Degree of Feminist Orientation was not significant (F=.01,p=.907)

There were no significant interaction effects. Score range is 0-180.
### TABLE 4

**Traditionally Male Career Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order**

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>MALES</th>
<th>FEMALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>OSES PRESENTED FIRST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditionalist</td>
<td>113.1</td>
<td>23.0</td>
<td>23</td>
</tr>
<tr>
<td>Feminist</td>
<td>109.8</td>
<td>33.8</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>111.2</td>
<td>29.5</td>
<td>54</td>
</tr>
<tr>
<td>OSES PRESENTED SECOND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditionalist</td>
<td>104.5</td>
<td>28.1</td>
<td>29</td>
</tr>
<tr>
<td>Feminist</td>
<td>119.2</td>
<td>29.7</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>111.0</td>
<td>29.3</td>
<td>54</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>99.2</td>
<td>33.4</td>
<td>266</td>
</tr>
</tbody>
</table>

Note. Values of Wilks Lambda for the multivariate ANOVA with Traditionally Female, Traditionally Male Career Self-Efficacy and Traditionally Female, Traditionally Male and Gender Neutral Task- Specific Self-Efficacy as dependent variables were as follows: Gender (.54, p<.001), Instrument Order (.97, p=.143), Degree of Feminist Orientation (.99, p=.65). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Traditionally Male Career Self-Efficacy (F=25.5, p<.001) with males producing significantly greater self-efficacy magnitudes than females. Neither Instrument Order (F=2.2, p=.134) nor Degree of Feminist Orientation (F=.81, p=.367) were significant. There were no significant interaction effects. Score range is 0-180.
significantly greater self-efficacy magnitudes than females (Males, M = 111.2 & 111.0 to Females, 97.4 & 85.2). However, neither Instrument Order (F = 2.2, p = .134) nor Degree of Feminist Orientation (F = .81, p = .367) were significant. There were no significant interaction effects.

Tables 5, 6 and 7 produced consistency in the lack of significant Instrument Order effects. It is however noted that, except for Gender Neutral Task-Specific Self-Efficacy, the relationships between Instrument Order and the TSOSS self-efficacy subscales (as with Total Task-Specific Self-Efficacy) approached but did not reach significant levels.

Significant associations between Gender and Traditionally Female and Traditionally Male Task-Specific Self-Efficacy scores were found. With regard to the data presented in Table 5, Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Traditionally Female Task-Specific Self-Efficacy (F = 31.4, p < .001) with females producing significantly stronger self-efficacy than males (Females, M = 34.5 & 33.1 to Males, M = 30.5 & 29.6). Or stated another way, males were found to be significantly less confident in their abilities to successfully execute the traditionally female task-specific behaviors. Instrument Order approached significance (F = 3.0, p = .085) and Degree of Feminist Orientation (F = 1.8, p = .174) was not significant. There were no significant interaction effects.

Data for Traditionally Male Task-Specific Self-Efficacy is presented in Table 6. Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was
TABLE 5

Traditionally Female Task-Specific Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>29.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Feminist</td>
<td>31.9</td>
<td>5.5</td>
</tr>
<tr>
<td>Total</td>
<td>30.5</td>
<td>5.8</td>
</tr>
</tbody>
</table>

OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND

| Traditionalist                | 28.8 | 4.3 | 29 | 33.6 | 5.8 | 37 | 31.5 | 5.7 | 66 |
| Feminist                      | 30.1 | 5.1 | 24 | 32.7 | 5.4 | 43 | 31.9 | 5.4 | 68 |
| Total                         | 29.6 | 4.7 | 55 | 33.1 | 5.6 | 80 | 31.7 | 5.5 | 135 |

Grand Total                   | 32.3 | 5.7 | 266

Note. Values of Wilks Lambda for the multivariate ANOVA with Traditionally Female, Traditionally Male Career Self-Efficacy and Traditionally Female, Traditionally Male and Gender Neutral Task-Specific Self-Efficacy as dependent variables were as follows: Gender (54, p<.001), Instrument Order (97, p=.143), Degree of Feminist Orientation (.99, p=.65). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Traditionally Female Task-Specific Self-Efficacy (F=31.4, p<.001) with females producing significantly stronger self-efficacy than males. Instrument Order approached significance (F=3.0, p=.085) and Degree of Feminist Orientation (F=1.8, p=.174) was not significant. There were no significant interaction effects. Score range is 9-45.
## TABLE 6

Traditionally Male Task-Specific Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>124.6</td>
<td>17.8</td>
</tr>
<tr>
<td>Feminist</td>
<td>128.0</td>
<td>19.7</td>
</tr>
<tr>
<td>Total</td>
<td>126.9</td>
<td>18.7</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>123.0</td>
<td>16.3</td>
</tr>
<tr>
<td>Feminist</td>
<td>126.0</td>
<td>20.3</td>
</tr>
<tr>
<td>Total</td>
<td>124.6</td>
<td>17.8</td>
</tr>
</tbody>
</table>

Grand Total                  | 110.9 | 24.1| 266

Note. Values of Wilks Lambda for the multivariate ANOVA with Traditionally Female, Traditionally Male Career Self-Efficacy and Traditionally Female, Traditionally Male and Gender Neutral Task- Specific Self-Efficacy as dependent variables were as follows: Gender (.54, p<.001), Instrument Order (.97, p=.143), Degree of Feminist Orientation (.99, p=.65). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Traditionally Male Task-Specific Self-Efficacy (F=86.8, p<.001) with males producing significantly stronger self-efficacy magnitudes than females. Instrument Order approached significance (F=2.9,p=.088) and Degree of Feminist Orientation (F=1.8,p=.178) was not significant. There were no significant interaction effects. Score range is 32-160.
TABLE 7

Gender Neutral Task-Specific Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation & Instrument Order

<table>
<thead>
<tr>
<th>Degree of Feminist Orientation</th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED FIRST</th>
<th></th>
<th></th>
<th></th>
<th>OCCUPATIONAL SELF-EFFICACY SCALE PRESENTED SECOND</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
<td>TOTAL</td>
<td></td>
<td>MALES</td>
<td>FEMALES</td>
<td>TOTAL</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
<td>MEAN</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>721.2</td>
<td>68.6</td>
<td>23</td>
<td>722.9</td>
<td>87.2</td>
<td>35</td>
<td>723.2</td>
</tr>
<tr>
<td>Feminist</td>
<td>740.0</td>
<td>91.1</td>
<td>31</td>
<td>737.1</td>
<td>109.7</td>
<td>44</td>
<td>735.9</td>
</tr>
<tr>
<td>Total</td>
<td>729.6</td>
<td>84.3</td>
<td>56</td>
<td>730.9</td>
<td>100.0</td>
<td>79</td>
<td>730.4</td>
</tr>
<tr>
<td>Grand Total</td>
<td>719.5</td>
<td>90.0</td>
<td>266</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Values of Wilks Lambda for the multivariate ANOVA with Traditionally Female, Traditionally Male Career Self-Efficacy and Traditionally Female, Traditionally Male and Gender Neutral Task-Specific Self-Efficacy as dependent variables were as follows: Gender (.54, p<.001), Instrument Order (.97, p=.143), Degree of Feminist Orientation (.99, p=.65). Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that neither Gender (F=1.8, p=.185), Instrument Order (F=2.7, p=.102) nor Degree of Feminist Orientation (F=2.0, p=.156) were significantly associated with Gender Neutral Task-Specific Self-Efficacy. There were no significant interaction effects. Score range is 189-945.
significantly related to Traditionally Male Task-Specific Self-Efficacy ($F = 86.8, p < .001$) with males producing significantly stronger self-efficacy magnitudes than females (Males, $M = 126.9 \& 124.6$ to Females, $M = 104.8 \& 97.4$). Instrument Order approached significance ($F = 2.9, p = .088$) and Degree of Feminist Orientation ($F = 1.8, p = .178$) was not significant. There were no significant interaction effects.

The final data Table generated from the second MANOVA presents information for Gender Neutral Task-Specific Self-Efficacy. As postulated, significant gender differential responding to this item cluster was not produced. These results are presented in Table 7. Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that neither Gender ($F = 1.8, p = .185$), Instrument Order ($F = 2.7, p = .102$) nor Degree of Feminist Orientation ($F = 2.0, p = .156$) were significantly associated with Gender Neutral Task-Specific Self-Efficacy. There were no significant interaction effects.

Note: as with General Career S-E and Total Task-Specific S-E patterns, Gender Neutral gender-differentials, while not significant overall, look to be much larger in OSES Second condition versus OSES First. (mean differences 1.3 versus 29.8).

Of primary significance to the present study was the finding that the central independent variable, Degree of Feminist Orientation, failed to emerge as significantly related to any of the seven dependent variables when simultaneously assessed in conjunction with gender and instrument order. Instrument order had a significant effect on General Career and Traditionally Female Self-Efficacy, and approached significance on Total Task-Specific Self-Efficacy. Gender affected all dependent variables except for
Traditionally Female Career Self-Efficacy and, as predicted, Gender Neutral Task-Specific Self-Efficacy.

Given the consistent lack of effect of Degree of Feminist Orientation, Tables 8 and 9 summarize Mean and Standard Deviation data separately for Instrument Order and Gender respectively by collapsing across Degree of Feminist Orientation. Once again, Table 8 shows that Instrument Order affected the OSES' General and Traditionally Female Career Self-Efficacy scores while approaching significance for the TSOSS' Total, Traditionally Female and Traditionally Male Task-Specific Self-Efficacy scores. General Career Self-Efficacy ($F=5.1, p=0.025$) and Traditionally Female Career Self-Efficacy ($F=6.9, p=0.009$) were significantly related to Instrument Order. Significantly stronger General ($M=224.5$ to $205.9$) and Traditionally Female ($M=121.5$ to $110.4$) Career Self-Efficacy magnitudes were generated when the OSES was presented first than when the OSES was presented second.

The relationships between Instrument Order and Total ($M=877.2$ to $848.5$), Traditionally Female $M=(32.9$ to $31.7$) and Traditionally Male ($M=113.9$ to $108.5$) Task-Specific Self-Efficacy all approached significant levels ($F=3.0, p=0.082$; $F=3.0, p=0.085$; and $F=2.9, p=0.088$ respectively) with each of these TSOSS Self-Efficacy scores being greater when the OSES was presented first (i.e., when the TSOSS was presented second). Overall, it appears that the magnitudes of both OSES assessed and TSOSS assessed self-efficacy were significantly greater (or almost so) when the OSES was presented first, and conversely deflated when the TSOSS was presented first.
### TABLE 8

Summary of Order Effects Across Conditions

<table>
<thead>
<tr>
<th>Variables</th>
<th>ORDER</th>
<th>OSES FIRST</th>
<th>OSES SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td><strong>Occupational Self-Efficacy Scale (OSES)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Career S-E</td>
<td>224.5</td>
<td>55.0</td>
<td>133</td>
</tr>
<tr>
<td>Traditional Female S-E</td>
<td>121.5</td>
<td>31.2</td>
<td>133</td>
</tr>
<tr>
<td>Traditional Male S-E</td>
<td>103.0</td>
<td>30.6</td>
<td>133</td>
</tr>
<tr>
<td><strong>Task-Specific Occupational Self-Efficacy Scale (TSOSS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Task-Specific S-E</td>
<td>877.2</td>
<td>114.9</td>
<td>135</td>
</tr>
<tr>
<td>Traditional Female Task-Specific S-E</td>
<td>32.9</td>
<td>5.9</td>
<td>135</td>
</tr>
<tr>
<td>Traditional Male Task-Specific S-E</td>
<td>113.9</td>
<td>24.3</td>
<td>135</td>
</tr>
<tr>
<td>Gender Neutral Task-Specific S-E</td>
<td>730.4</td>
<td>93.5</td>
<td>135</td>
</tr>
</tbody>
</table>

Note: General Career Self-Efficacy (F=5.1, p=0.025) and Traditionally Female Career Self-Efficacy (F=6.9, p=0.009) were significantly related to Instrument Order. Significantly stronger General and Traditionally Female Career Self-Efficacy magnitudes were generated when the OSES was presented first than when the OSES was presented second. While the relationship between Instrument Order and Total, Traditionally Female and Traditionally Male Task-Specific Self-Efficacy all approached significant levels (F=3.0, p=0.082; F=3.0, p=0.085; and F=2.9, p=0.088 respectively) with each of these TSOSS Self-Efficacy scores being greater when the OSES was presented first (i.e., when the TSOSS was presented second).

Item values are 1-5, number of items are 230, 93, 92 and 189 respectively.
Table 9 provides data on significant Gender effects with regard to General and Traditionally Male Career Self-Efficacy and on Total, Traditionally Female and Traditionally Male Task-Specific Self-Efficacy scores. Significant Gender Effects with regards to males significantly stronger General Career Self-Efficacy ($F = 4.1, p = .044$; males = 224.0, females = 209.2), Traditionally Male Career Self-Efficacy ($F = 25.5, p < .001$; males = 111.1, females = 91.3), Total Task-Specific ($F = 6.6, p = .011$; males = 883.8, females = 848.5), and Traditionally Male Task-Specific Self-Efficacy ($F = 86.4, p = .000$; males = 125.7, females = 101.1) in comparison to females. Females produced significantly stronger Traditionally Female Task-Specific ($F = 31.4, p < .001$; females = 33.8, males = 30.1) than that generated by males.

**Univariate $t$ tests of specific Hypotheses**

The specific hypotheses originally stated at the end of Chapter Two were tested to determine the extent to which each generated support. OSES-based Hypotheses 1 through 8 and TSOSS-based Hypotheses 10 through 13 were tested using a series of univariate $t$ tests. Presentation of these data is organized in terms of OSES-based, TSOSS-based and OSES and TSOSS "item pattern replications" (Hypotheses 9 and 14).

**OSES-based Hypotheses**

Overall it was hypothesized that differential gender response patterns in men’s and women’s self-efficacy expectations would be dependent in part on the manner of self-efficacy assessment used. So discussion is divided into OSES and TSOSS-based sections.
### TABLE 9

**Summary of Gender Effects Across Conditions**

<table>
<thead>
<tr>
<th>Variables</th>
<th>MALES</th>
<th>FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Efficacy (S-E)</strong></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Occupational Self-Efficacy Scale (OSES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Career S-E</td>
<td>224.0</td>
<td>57.7</td>
</tr>
<tr>
<td>Traditional Female S-E</td>
<td>112.9</td>
<td>33.1</td>
</tr>
<tr>
<td>Traditional Male S-E</td>
<td>111.1</td>
<td>29.3</td>
</tr>
<tr>
<td><strong>Task-Specific Occupational Self-Efficacy Scale (TSOSS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Task-Specific S-E</td>
<td>883.8</td>
<td>101.0</td>
</tr>
<tr>
<td>Traditional Female Task-Specific S-E</td>
<td>30.1</td>
<td>5.3</td>
</tr>
<tr>
<td>Traditional Male Task-Specific S-E</td>
<td>125.7</td>
<td>18.2</td>
</tr>
<tr>
<td>Gender Neutral Task-Specific S-E</td>
<td>728.0</td>
<td>84.1</td>
</tr>
</tbody>
</table>

Note: Significant Gender Effects with regards to males significantly stronger General Career Self-Efficacy ($F=4.1, p=.044$), Traditional Male Career Self-Efficacy ($F=25.5, p<.001$), Total Task-Specific ($F=6.6, p=.011$), and Traditionally Male Task-Specific Self-Efficacy ($F=66.4, p=.000$) in comparison to females. Females produced significantly stronger Traditionally Female Task-Specific ($F=31.4, p<.001$) than that generated by males.

*Item values are 1-5, number of items are 230, 9, 32 and 189 respectively*
The following research hypotheses were tested for the purpose of the present investigation. The hypotheses and results indicative of the degree to which each was supported are now presented. Post hoc univariate $t$ tests of significance were performed in order to determine whether the following hypotheses were supported. Note: Due to the unexpected Instrument Order effect, data for both Orders were examined and presented for each hypotheses in determining whether support was generated.

**H1:** Not Supported. Women maintaining traditional gender-role attitudes would report significantly lower career-related self-efficacy expectations with regard to nontraditional career options than would women maintaining feminist gender-role attitudes. Contrary to the hypothesis, Degree of Feminist Orientation did not significantly differentiate females with regard to Traditionally Male Career Self-Efficacy (OSES First\Traditionalist: $M=9.9$, $SD=3.0$ versus Feminist: $M=9.6$, $SD=3.0$, $t$ value=.50, $p=.617$ / OSES Second\Traditionalist: $M=8.5$, $SD=3.6$ versus Feminist: $M=8.56$, $SD=3.6$, $t$ value = -.05, $p=.964$.) This finding is inconsistent with Williams (1983).

**H2:** Supported. Women maintaining traditional gender-role attitudes and women maintaining feminist attitudes would produce no significant difference in their total self-efficacy level (i.e., combining traditional and nontraditional self-efficacy scores). As postulated, equivalency between Feminist and Traditionalist females was found for both presentation orders with regard to General Career Self-Efficacy. (OSES First\Traditionalist: $M=22.8$, $SD=4.5$ versus Feminist: $M=21.8$, $SD=6.0$, $t$ value=.82, $p=.415$ / OSES Second\Traditionalist: $M=19.4$, $SD=6.9$ versus Feminist:
$M = 19.7, \text{SD} = 6.5, t\text{ value} = .21, \ p = .835.$) This finding replicates Williams (1983) results.

**HI3:** Supported. Women maintaining traditional gender-role attitudes and women maintaining feminist attitudes would produce no significant deference in traditionally female career options. Support for this hypothesis was found in that Traditionalist and Feminist females reported equivalent Traditionally Female Career Self-Efficacy for both OSES presentation orders. (OSES First/Traditionalists: $M = 128.5, \text{SD} = 26.1$ versus Feminist: $M = 122.2, \text{SD} = 34.5, t\text{ value} = .92, \ p = .361$/ OSES Second/Traditionalists: $M = 109.5, \text{SD} = 36.5$ versus Feminist: $M = 112.3, \text{SD} = 32.4, t\text{ value} = -.36, \ p = .722.$) This finding is consistent with Williams 1983.

**HI4:** Inconclusive. That regardless of gender-role attitudes, men and women will produce no significant differences in General (i.e., Total) career self-efficacy levels (i.e., no gender-effects). The Order effect makes this determination difficult. Equivalent General Career Self-Efficacy was produced by males and females in the OSES First condition but males, in general, generated significantly stronger General Career Self-Efficacy than females, in general, when the OSES was presented second. (OSES First/Males: $M = 22.7, \text{SD} = 5.7$ versus Females $M = 22.2, \text{SD} = 5.4, t\text{ value} = .53, \ p = .600$/ OSES Second/Males: $M = 22.0, \text{SD} = 5.9$ versus Females: $M = 19.6, \text{SD} = 6.7, t\text{ value} = 2.22, \ p = .028.$)

The finding for the "OSES Presented First" condition provided analogous replication of Williams’ (1983) finding that Feminist and Traditionalist females patterns mirrored the male-female patterns found by Betz and Hackett (1981) in that
gender/gender-role attitude differentiation did not occur when one collapsed across occupational traditionality. Given the number of significance tests utilized in this section it is more likely, however, that this lone finding is a spurious result attributable to elevations of the experiment-wise error rates.

**H15: Supported.** Women maintaining traditional gender-role attitudes would report significantly lower self-efficacy expectations with regard to nontraditional in comparison to traditional career options. As postulated, Traditionalist females in both order conditions produced significantly stronger Traditionally Female than Traditionally Male Career Self-Efficacy. (OSES First: $M = 12.8$, $SD = 2.6$ versus $M = 10.0$, $SD = 3.0$, $t$ value $= 5.02$, $p < .001$ / OSES Second: $M = 10.9$, $SD = 3.6$ versus $M = 8.5$, $SD = 3.6$, $t$ value $= 6.87$, $p < .001$). This finding is consistent with Williams 1983.

**H16: Supported.** Women maintaining feminist attitudes would produce no significant difference in traditionally female as compared to traditionally male career options. Support for this hypothesis was not found in that Feminist females in both order conditions produced significantly stronger Traditionally Female than Traditionally Male Career Self-Efficacy. (OSES First: $M = 12.2$, $SD = 3.4$ versus $M = 9.6$, $SD = 3.0$, $t$ value $= 7.23$, $p < .001$ / OSES Second: $M = 11.2$, $SD = 3.2$ versus $M = 8.5$, $SD = 3.6$, $t$ value $= 6.50$, $p < .001$). This finding is consistent with Williams 1983.

**H17: Supported.** Women maintaining feminist attitudes would report self-efficacy levels with regard to nontraditional career options that are significantly lower than men in general (regardless of male's gender-role attitudes). As postulated, Feminist women reported significantly lower Traditionally Male Self-Efficacy than that reported by...
Traditionalist males for either order (OSES First \ Feminist females: $M = 95.9$, $SD = 30.4$ versus Traditionalist males $M = 113.1$, $SD = 23.0$, $t$ value $= 2.59$, $p = .012$ / OSES Second \ Feminist females: $M = 85.3$, $SD = 36.3$ versus Traditionalist males $M = 104.5$, $SD = 28.1$, $t$ value $= 2.52$, $p = .014$). and than that of Feminist males when the OSES was presented second (Feminist females: $M = 8.5$, $SD = 3.6$ versus Feminist males $M = 11.9$, $SD = 3.0$, $t$ value $= 4.13$, $p < .001$). However, equivalent Traditionally Male Self-Efficacy was reported by Feminist females and males when the OSES was presented first. (Feminist females: $M = 8.5$, $SD = 3.6$ versus Feminist males $M = 11.9$, $SD = 3.0$, $t$ value $= 4.13$, $p < .001$).

**H18:** Supported. That men, regardless of gender-role attitudes, would report no significant differences in self-efficacy expectations with regard to both nontraditional and traditional career options. Support for this hypothesis was generated in that Feminist and Traditionalist males did not produce significant variation in their Career Self-Efficacy confidence ratings with regard to the occupation's traditionality. This was consistent across instrument orders. (OSES First \ Feminist males: $TFCSE = 11.4$, $SD = 3.5$ versus $TMCSE = 11.0$, $SD = 3.4$, $t$ value $= 1.08$, $p = .291$ / OSES Second \ Feminist males: $TFCSE = 11.4$, $SD = 3.1$ versus $TMCSE = 11.9$, $SD = 3.0$, $t$ value $= -1.18$, $p = .251$) (OSES First \ Traditionalist males: $TFCSE = 11.9$, $SD = 2.6$ versus $TMCSE = 11.3$, $SD = 2.3$, $t$ value $= 1.74$, $p = .097$ / OSES Second \ Traditionalist males: $TFCSE = 10.4$, $SD = 3.8$ versus $TMCSE = 10.4$, $SD = 2.8$, $t$ value $= -.04$, $p = .971$).
TSOSS-based Hypotheses

Results generated by Rooney and Osipow (1992) indicated that 18% of the TSOSS’ total 230 item content produced significant gender differential response patterns: 41 items produced significantly different self-efficacy magnitudes between men and women. These gender differences provided the rationale to divide the TSOSS into Traditionally Male, Traditionally Female and Gender Neutral Task-Specific Self-Efficacy item clusters. Incorporating Gender-role attitudes in the assessment of self-efficacy at this level of behavioral specificity, the following hypotheses were tested post hoc using univariate t tests of significance.

To maintain consistency in the results presentation, and given the nearly significant relationship between Instrument Order and TSOSS self-efficacy variables produced in the MANOVA’s, results are again presented for each order condition. However it should be noted that, overall, the TSOSS was less affected by Instrument Order effects than the OSES. More specific data regarding the influence of Instrument Order on the TSOSS were presented in Tables 5, 6, 7 and 8 on pages 120-122 and 125.

H1/10: Not Supported. Women maintaining more feminist gender-role attitudes would express equivalent task-specific magnitudes across these traditionally male/female item clusters. Support was not generated for this hypothesis in that the data indicate that Feminist women in both order conditions produced significantly weaker Traditionally Male Task-Specific Self-Efficacy than Traditionally Female. (OSES First\Traditionally Male: M=3.3, SD=.80, \Traditionally Female: M=3.8, SD=.70, t=4.41, p<.001.
HI11: Supported. Women maintaining more traditionalist gender-role attitudes would express significantly higher self-efficacy expectations with regard to the traditionally female item cluster than with regard to the traditionally male item cluster. As postulated, Traditionalist women reported significantly greater Traditionally Female Task-Specific Self-Efficacy than Traditionally Male in both order conditions. (OSES First\Traditionally Male: M = 3.2, SD = .66, Traditionally Female: M = 3.8, SD = .51, t = 6.66, p < .001. OSES Second\ Traditionally Male: M = 3.0, SD = .71,\Traditionally Female: M = 3.7, SD = .67 t = 6.39, p < .001.)

HI12: Not Supported. Men maintaining feminist gender-role attitudes would produce no significant differences in task-specific self-efficacy magnitudes across these male/female item clusters. Support for this hypothesis was not generated. Feminist Males in both order conditions produced significant differentiation in Task-Specific Self-Efficacy with stronger Traditionally Male than Traditionally Female Task-Specific Self-Efficacy. (OSES First\Traditionally Male: M = 4.0, SD = .61 \ Traditionally Female: M = 3.5, SD = .68 t = -3.86 p = .001. OSES Second \ Traditionally Male: M = 3.9 SD = .62,\Traditionally Female: M = 3.4, SD = .57 t = -3.90, p < .001.)

HI13: Supported. Men maintaining more traditional gender-role attitudes would express significantly higher task-specific self-efficacy magnitudes with regards to the traditionally male item cluster, and significantly lower self-efficacy with regards to the traditionally female item cluster. As postulated, Traditionalist males in both order
conditions expressed significantly stronger Traditionally male than Traditionally Female Task-Specific Self-Efficacy magnitudes. (OSES First \ Traditionally Male: \( M = 3.9, \ SD = .56 \) \ Traditionally Female: \( M = 3.2, \ SD = .598 \ t = -4.44 \ p < .001 \). OSES Second \ Traditionally Male: \( M = 3.8, \ SD = .51, \) Traditionally Female: \( M = 3.2, \ SD = .50 \ t = -6.43, \ p < .001 \).)

These data are supportive of the overall MANOVA findings that Degree of Feminist Orientation was not significantly associated with the traditionality of Task-Specific Self-Efficacy for women and that the results presented above could have been predicted using our existing knowledge of gender-role stereotypes alone (i.e. that females have been socialized to develop and express greater confidence in career domains dominated by women than for occupational options defined as male-dominated). For men the same lack of support emerged with regard to the supposition that categorization by Degree of Feminist Orientation would produce differential responding to gender-loaded item content (i.e. behavioral traditionality).

However an ancillary supposition tested in this investigation was supported for males that has not been previously documented in the literature: that at the behaviorally task-specific level, males were sensitive to and responded differentially to gender-loaded content.

In previous studies of Career Self-Efficacy, males expressed equivalent Overall (i.e., General), Traditionally Male and Traditionally Female Career Self-Efficacy as assessed and presented with regard to the OSES "occupational titles" data (Betz & Hackett, 1981) when the data were summed across several occupational title items.
What had not been previously noted as one aspect of these data was the apparent differential responding of males associated with the level of self-efficacy assessment (i.e., titles versus specific behaviors). At the item specific and task-specific levels in both Betz and Hackett (1981) and Rooney and Osipow (1992) females could emerge as showing significantly stronger self-efficacy expectations, and conversely males showed significant less efficaciousness regarding traditionally female domains. The significance of these findings rests with what may be a false interpretation that male’s self-efficacy evaluations do not vary in association with gender-role stereotypes. However, the fact is that no prior study has drawn attention to these data due to an almost exclusive focus on the significance of gender differences assessed for cumulative or aggregate self-efficacy magnitudes.

**Pearson Correlation Data**

Pearson product movement correlations matrices of the intercorrelations among the seven Self-Efficacy variables and Degree of Feminist Orientation produced for Gender and Instrument Order are presented in Tables 10 and 11. Table 10 compares the intercorrelations produced by males verses those produced by females. Table 11 compares correlations for the total sample when the OSES was presented first versus when it was presented second.

It is interesting to note that in both tables, all the significant correlations produced are positive. Also, a remarkably large number of significant associations among all the dependent self-efficacy variables both between OSES and TSOSS instruments and within each instrument itself were produced. In fact, only 1 of the total 84 self-efficacy variable
intercorrelation combinations (1.2%) failed to reach significance (i.e. 42 S-E combinations per table x 2 tables). This was for the relationship between the OSES scales Traditionally Female and Traditionally Male Career Self-Efficacy in the "OSES presented second" condition (Table 11).

What these tables also show is a complete lack of significant relationships between the primary independent variable "Degree of Feminist Orientation" and any of the seven dependent self-efficacy variables investigated. Correlation matrices were constructed for a variety of independent variable combinations, and five significant correlations between Degree of Feminist Orientation and Self-Efficacy were produced. But once again, the large number of univariate tests of significance required to produce these tables strongly suggests these findings to be spurious and due to inflated experiment-wise error. It is therefore concluded, for this particular population sample and contrary to the primary suppositions made in the design of this investigation, that Degree of Feminist Orientation was not found to add to our ability to explain career behavior in a manner more precise than what may be predicted on the basis of gender alone. Further discussion and elaboration of this finding is reserved for the next chapter.

Previous research on women’s gender-role attitudes as well as Degree of Feminist Orientation have found significant correlations with participants’ age (e.g. Fassinger, in press). In other words women tend to develop more non-traditional or feminist attitudes as they become older. Such an association was not produced by either males or females, regardless of Degree of Feminist Orientation or instrument order in this study’s sample.
### TABLE 10

**Intercorrelations Among Self-Efficacy (S-E) and Degree of Feminist Orientation for Males and Females**

<table>
<thead>
<tr>
<th></th>
<th>GC SE</th>
<th>TMC SE</th>
<th>TFC SE</th>
<th>TTS SE</th>
<th>TMTS SE</th>
<th>TFTS SE</th>
<th>GNTS SE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
</tr>
<tr>
<td>1. Degree of Feminist Orientation</td>
<td>.10</td>
<td>.12</td>
<td>.06</td>
<td>.18</td>
<td>.06</td>
<td>.27</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>(.325)</td>
<td>(.215)</td>
<td>(.534)</td>
<td>(.054)</td>
<td>(.520)</td>
<td>(.005)</td>
<td>(.046)</td>
</tr>
<tr>
<td>2. General Career S-E</td>
<td>- .10</td>
<td>.91*</td>
<td>.93*</td>
<td>.62*</td>
<td>.46*</td>
<td>.39*</td>
<td>.62*</td>
</tr>
<tr>
<td></td>
<td>(.193)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>3. Trad. Male Career S-E</td>
<td>- .11</td>
<td>.92*</td>
<td>.71*</td>
<td>.60*</td>
<td>.51*</td>
<td>.29</td>
<td>.59*</td>
</tr>
<tr>
<td></td>
<td>(.167)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.002)</td>
<td>(.001)</td>
</tr>
<tr>
<td>4. Trad. Female Career S-E</td>
<td>- .08</td>
<td>.92*</td>
<td>.70*</td>
<td>.56*</td>
<td>.35*</td>
<td>.42*</td>
<td>.57*</td>
</tr>
<tr>
<td></td>
<td>(.308)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>5. Total Task Specific S-E</td>
<td>- .05</td>
<td>.63*</td>
<td>.60*</td>
<td>.56*</td>
<td>.76*</td>
<td>.71*</td>
<td>.99*</td>
</tr>
<tr>
<td></td>
<td>(.564)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>6. Trad Male Task Specific S-E</td>
<td>- .01</td>
<td>.55*</td>
<td>.56*</td>
<td>.46*</td>
<td>.86*</td>
<td>.31*</td>
<td>.67*</td>
</tr>
<tr>
<td></td>
<td>(.873)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>7. Trad Female Task Specific S-E</td>
<td>- .04</td>
<td>.45*</td>
<td>.33*</td>
<td>.49*</td>
<td>.70*</td>
<td>.48*</td>
<td>.73*</td>
</tr>
<tr>
<td></td>
<td>(.653)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>8. Gender Neutral Task Specific S-E</td>
<td>- .05</td>
<td>.62*</td>
<td>.60*</td>
<td>.55*</td>
<td>.99*</td>
<td>.80*</td>
<td>.70*</td>
</tr>
<tr>
<td></td>
<td>(.515)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
</tbody>
</table>

Note: *p<0.001. Correlations above the diagonal are those for Males (N=111) and those below the diagonal are for Females (N=159). Pearson correlation coefficients are listed with significance levels indicated in parentheses below.
<table>
<thead>
<tr>
<th>TABLE 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercorrelations Among Self-Efficacy (S-E) and Degree of Feminist Orientation for Occupational Self-Efficacy Scale (OSES) Presentation Order</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>GC SE</th>
<th>TMC SE</th>
<th>TFC SE</th>
<th>TTS SE</th>
<th>TMTS SE</th>
<th>TFTS SE</th>
<th>GNT S SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Degree of Feminist Orientation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.12</td>
<td>-.13</td>
<td>-.08</td>
<td>.02</td>
<td>-.09</td>
<td>.17</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>(.157)</td>
<td>(.123)</td>
<td>(.326)</td>
<td>(.854)</td>
<td>(.302)</td>
<td>(.052)</td>
<td>(.710)</td>
</tr>
<tr>
<td>2. <strong>General Career S-E</strong></td>
<td>- .02</td>
<td>.88*</td>
<td>.89*</td>
<td>.68*</td>
<td>.47*</td>
<td>.46*</td>
<td>.69*</td>
</tr>
<tr>
<td></td>
<td>(.827)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>3. <strong>Trad. Male Career S-E</strong></td>
<td>- .10</td>
<td>.92*</td>
<td>.59*</td>
<td>.65*</td>
<td>.56*</td>
<td>.30*</td>
<td>.64*</td>
</tr>
<tr>
<td></td>
<td>(.265)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>4. <strong>Trad. Female Career S-E</strong></td>
<td>.06</td>
<td>.92*</td>
<td>.69*</td>
<td>.57*</td>
<td>.29</td>
<td>.52*</td>
<td>.59*</td>
</tr>
<tr>
<td></td>
<td>(.453)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>5. <strong>Total Task Specific S-E</strong></td>
<td>-.04</td>
<td>.58*</td>
<td>.58*</td>
<td>.49*</td>
<td>.75*</td>
<td>.67*</td>
<td>.99*</td>
</tr>
<tr>
<td></td>
<td>(.624)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
<tr>
<td>6. <strong>Trad Male Task Specific S-E</strong></td>
<td>-.16</td>
<td>.53*</td>
<td>.62*</td>
<td>.34*</td>
<td>.80*</td>
<td>.20</td>
<td>.66*</td>
</tr>
<tr>
<td></td>
<td>(.060)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.019)</td>
<td>(.001)</td>
</tr>
<tr>
<td>7. <strong>Trad Female Task Specific S-E</strong></td>
<td>.13</td>
<td>.26</td>
<td>.09</td>
<td>.39*</td>
<td>.53*</td>
<td>14</td>
<td>.71*</td>
</tr>
<tr>
<td></td>
<td>(.126)</td>
<td>(.003)</td>
<td>(.322)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.117)</td>
<td>(.001)</td>
</tr>
<tr>
<td>8. <strong>Gender Neutral Task Specific S-E</strong></td>
<td>-.02</td>
<td>.56*</td>
<td>.55*</td>
<td>.49*</td>
<td>.99*</td>
<td>.72*</td>
<td>.56*</td>
</tr>
<tr>
<td></td>
<td>(.842)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
<td>(.001)</td>
</tr>
</tbody>
</table>

Note: *p < .001. Correlations above the diagonal are those for OSES Presented First (N=135) and those below the diagonal are for OSES Presented Second (N=134). Pearson correlation coefficients are listed with significance levels indicated in parentheses below.
Finally with regard to the correlational data, previous research using the ATF (e.g. Enns, 1987, Fassinger, in press) found significant correlations between Degree of Feminist Orientation (i.e. sums of the nine ATF items) and the tenth item measure of Degree of Feminist Orientation, "I consider myself a feminist and am supportive of the women's movement." This is referred to as the "self-identification with feminism" item. Fassinger (in press) reports significant correlations for her Total sample and for males and females (r = .54, p < .001; r = .28, p = .003; and r = .61, p < .001 respectively). This item was included in additional correlational matrices to see if this association was replicated. Given the failure of Degree of Feminist Orientation to associate with the various self-efficacy variables (when defined as a sum of ATF items), it was also decided to determine if this single item would be significantly related to self-efficacy. The literature reviewed by Betz (in press, b) as well as Fassinger (in press) suggests that often this simple self-descriptive item was sufficiently capable of adequately differentiating traditionalists and feminists on the gender-role attitude continuum.

The data generated by these analyses show significant correlations for the Total sample between "self-identification with feminism" and Degree of Feminist Orientation (r = .54, p < .001), Traditionally Male Task-Specific (r = -.14, p = .02) and Traditionally Female Task-Specific Self-Efficacy (r = -.18, p = .003). When split by gender the only significant correlations remaining were between "self-identification with feminism" and Degree of Feminist Orientation (males: r = .28, p = .003/ females: r = .61, p < .001).

When broken down further by Degree of Feminist Orientation, it was found that significant correlation were produced for this single item: Traditionalist Females
produced a significant association between "self-identification with feminism" and Degree of Feminist Orientation ($r = .58$, $p < .001$), as did Feminist Females ($r = .23$, $p = .036$).

Finally significant relationships for "self-identification with feminism" and self-efficacy variables *re-emerged* when the sample was further broken down using Instrument Order. With all three Independent variables used to split the sample, only Females generated significant correlations in the "OSES First" condition: Traditionalist Females in the OSES First condition produced a significant correlation between "self-identification with feminism" and Degree of Feminist Orientation ($r = .57$, $p < .001$). Feminist Females, OSES First generated significant relationships between "self-identification with feminism" and: General Career Self-Efficacy ($r = .33$, $p = .029$), Traditionally Female Career Self-Efficacy ($r = .37$, $p = .014$) and Traditionally Female Task-Specific Self-Efficacy ($r = .31$, $p = .041$) *but not with Degree of Feminist Orientation*. Feminist Females OSES Second did produce significant only one significant relationship which was between the two gender role attitude measures ($r = .51$, $p < .001$).

Traditionalist Females in OSES Second condition generated significant relationships between "self-identification with feminism" and Degree of Feminist Orientation ($r = .58$, $p < .001$), and produced *significant negative* correlations with Total Task-Specific ($r = -.36$, $p = .030$), Traditionally Male Task-Specific ($r = -.35$, $p = .035$) and Gender-Neutral Task-Specific Self-Efficacy ($r = -.35$, $p = .035$).

Traditionalist Males in the OSES Second condition produced significant correlations between "self-identification with feminism" and Total Task-Specific ($r = .45$, $p = .014$), Traditionally Female Task-Specific ($r = .46$, $p = .012$) and Gender-Neutral Task-
Specific Self-Efficacy ($r = .47$, $p = .010$). Feminist Males in OSES Second condition generated only one significant correlation between the two attitude measures ($r = .44$, $p = .029$).

What is striking about these data is that in (as noted earlier) none of these conditions did the primary independent variable Degree of Feminist Orientation, when defined as the sum of the nine relevant ATF items, significantly correlate with any of the self-efficacy dependent variables (i.e. regardless of Gender, Degree of Feminist Orientation category or Instrument Order configuration) in a strong or consistent manner. While the complexity of these data sets is rather intimidating, it does appear that the single item "self-identification with feminism" was able to accomplish, based on predictions made earlier in this document, what the ATF could not.

These patterns of significant associations produced may suggest that the impact of Degree of Feminist Orientation, when defined using a single self-descriptive item, varies in part in terms of gender, gender-loaded stimuli and relative placement on the Degree of Feminist Orientation continuum as well as in terms of some as yet unspecified instrument "sensitization effect."

It is also true that, once again, large number of tests of significance used produced spurious findings as a result of elevated experiment-wise error rates. However the nature and number of these relationships, unlike those few produced using the ATF total scores, appear more consistent across conditions and are more congruent with what one expects based on the gender-role socialization literature. Further elaboration of these patternings is deferred to the discussion chapter.
Betz & Hackett (1981) Replication

Replications of hypothesized relationships are noted above in conjunction with this study's hypotheses. More detailed information is presented in Table 12 which lists means, standard deviations and univariate t-tests of gender differential responding, as were the data analysis procedures used by Betz and Hackett (1981) and Williams (1983). Significant gender differential response patterns replicating patterns described by Betz and Hackett were found to exist with regard to Traditionally Male Career Self-Efficacy for education and training, for job duties and Total (i.e. summed across education and job duties) Traditionally Male Career Self-Efficacy. For these self-efficacy variables, males produced significantly greater career self-efficacy magnitudes (in both studies) than those produced by the female participants. Males produced stronger Traditionally Male Career Self-Efficacy with regard to Educational Requirements (M=5.5 to 4.6), and Job Duties (M=5.5 to 4.5) and with regard to the total of these two self-efficacy scores (i.e. Traditionally Male Career Self-Efficacy, M=11.1 to 9.1). Finally, males produced significantly stronger General Career Self-Efficacy (M=22.4 to 20.9). Both studies found gender equivalent self-efficacy magnitudes for Total Educational Requirements, and Total Job Duties.

What is critically different between the two studies is the loss of significant gender differences regarding Traditionally Female Career Self-Efficacy for both education and training and job duties which summed to gender equivalent Total Traditionally Female Career Self-Efficacy. In addition, the significant gender differences found for General Career Self-Efficacy in this study is discrepant with the Betz and Hackett's data.
<table>
<thead>
<tr>
<th>Self-Efficacy Scores</th>
<th>MALES (N=101)</th>
<th>FEMALES (N=134)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Requirements</td>
<td>12.4</td>
<td>3.8</td>
<td>12.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Trad. Male Careers</td>
<td>6.2</td>
<td>2.0</td>
<td>5.1</td>
<td>2.3</td>
</tr>
<tr>
<td>Trad. Female Careers</td>
<td>6.2</td>
<td>2.2</td>
<td>7.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Job Duties</td>
<td>12.8</td>
<td>3.9</td>
<td>12.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Trad. Male Careers</td>
<td>6.5</td>
<td>2.0</td>
<td>5.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Trad. Female Careers</td>
<td>6.3</td>
<td>2.2</td>
<td>7.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Traditionally Male Careers</td>
<td>12.7</td>
<td>3.7</td>
<td>10.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Traditionally Female Careers</td>
<td>12.5</td>
<td>4.1</td>
<td>14.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>25.3</td>
<td>7.0</td>
<td>24.9</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Note: Degrees of freedom for t tests were 233. Scores from Betz & Hackett converted from 1-10 to 0-9 scale.

**Williams (1993)**

<table>
<thead>
<tr>
<th>Self-Efficacy Scores</th>
<th>MALES (N=101)</th>
<th>FEMALES (N=134)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Requirements</td>
<td>11.1</td>
<td>2.9</td>
<td>10.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Trad. Male Careers</td>
<td>5.5</td>
<td>1.5</td>
<td>4.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Trad Female Careers</td>
<td>5.6</td>
<td>1.7</td>
<td>5.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Job Duties</td>
<td>11.2</td>
<td>3.0</td>
<td>10.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Trad Male Careers</td>
<td>5.5</td>
<td>1.5</td>
<td>4.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Trad Female Careers</td>
<td>5.6</td>
<td>1.7</td>
<td>5.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Traditionally Male Careers</td>
<td>11.1</td>
<td>2.9</td>
<td>9.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Traditionally Female Careers</td>
<td>11.3</td>
<td>3.3</td>
<td>11.8</td>
<td>3.6</td>
</tr>
<tr>
<td>General Career S-E</td>
<td>22.4</td>
<td>5.8</td>
<td>20.9</td>
<td>6.2</td>
</tr>
</tbody>
</table>

*p<.001 Note: Degrees of freedom for t tests were 267. * The sum of S-E across educational requirements and job duties of the 10 Traditionally Male careers, scores range from 0-18; b summed across for Traditionally Female careers, scores range from 0-18.  e The sum of Traditionally Male and Traditionally Female self-efficacy scores, scores range from 0-36.
This discrepancy appears to have been due largely to the Instrument Order effect (see the data for Hypothesis 4, page 129) in which significant gender differences in General Career Self-Efficacy were found only in the OSES First condition.

The unexpected emergence of an Instrument Order effect in the primary MANOVA analyses coupled with this study's use of Degree of Feminist Orientation as well as Gender indicated that multivariate rather than univariate t-tests were the more appropriate method of analysis. Table 13 contains data gathered from three separate "2 X 2 X 2" MANOVAS with Gender, Instrument Order and Degree of Feminist Orientation independent variables and the nine OSES dependent self-efficacy variables just discussed in Table 12's univariate analysis.

Overall, all the significant relationships produced in the univariate analyses between the self-efficacy variables and Gender were replicated with one exception; the MANOVA analysis found a significant relationship between Gender and Educational Requirements Self-Efficacy. Of greater importance were the data showing significant relationships between six of the nine self-efficacy dependent variables and Instrument Order. As with previous data analyses, Degree of Feminist Orientation was found to not be significantly associated with any of the self-efficacy variables. No significant interactions were found.

Post-hoc univariate F-tests (with 1,258 degrees of freedom) indicated that Gender was significantly related to Educational Requirements (F=4.2, p=.041), Traditionally Male Educational Requirements S-E, (F=24.1, p<.001), Traditionally Male Job Duties
TABLE 13

OSES Self-Efficacy Scores as a Function of Gender, Degree of Feminist Orientation and Instrument Order for Males, Females and Total Sample

<table>
<thead>
<tr>
<th>Williams 1993</th>
<th>MALES OSES PRESENTED FIRST</th>
<th>MALES OSES PRESENTED SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TRADITIONALISTS</td>
<td>FEMINISTS</td>
</tr>
<tr>
<td>Self-Efficacy Scores</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Educational Requirements</td>
<td>117.4</td>
<td>19.6</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>57.2</td>
<td>10.8</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>60.1</td>
<td>11.0</td>
</tr>
<tr>
<td>Job Duties</td>
<td>114.8</td>
<td>29.6</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>55.9</td>
<td>14.3</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>58.9</td>
<td>16.6</td>
</tr>
<tr>
<td>Traditionally Male Career S-E*</td>
<td>113.1</td>
<td>23.0</td>
</tr>
<tr>
<td>Traditionally Female Career S-Eb</td>
<td>119.1</td>
<td>25.7</td>
</tr>
<tr>
<td>General Career S-Ec</td>
<td>232.2</td>
<td>46.0</td>
</tr>
</tbody>
</table>

Note: *The sum of S-E across educational requirements and job duties of the 10 Traditionally Male careers, scores range from 0-18; b summed across for Traditionally Female careers, scores range from 0-18. c The sum of Traditionally Male and Traditionally Female self-efficacy scores, scores range from 0-36.
<table>
<thead>
<tr>
<th>Self-Efficacy Scores</th>
<th>TRADITIONALISTS</th>
<th>FEMINISTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Educational Requirements</td>
<td>112.9</td>
<td>23.0</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>49.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>63.9</td>
<td>13.8</td>
</tr>
<tr>
<td>Job Duties</td>
<td>114.9</td>
<td>24.9</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>50.3</td>
<td>16.6</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>64.6</td>
<td>14.0</td>
</tr>
<tr>
<td>Traditionally Male Career S-E*</td>
<td>99.3</td>
<td>30.3</td>
</tr>
<tr>
<td>Traditionally Female Career S-E^b</td>
<td>128.5</td>
<td>26.1</td>
</tr>
<tr>
<td>General Career S-E^c</td>
<td>227.8</td>
<td>45.0</td>
</tr>
<tr>
<td><strong>OSES PRESENTED SECOND</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Requirements</td>
<td>97.7</td>
<td>35.7</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>43.3</td>
<td>18.3</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>54.4</td>
<td>19.0</td>
</tr>
<tr>
<td>Job Duties</td>
<td>96.7</td>
<td>35.6</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>41.6</td>
<td>19.0</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>55.0</td>
<td>18.3</td>
</tr>
<tr>
<td>Traditionally Male Career S-E*</td>
<td>84.9</td>
<td>36.4</td>
</tr>
<tr>
<td>Traditionally Female Career S-E^b</td>
<td>109.5</td>
<td>36.5</td>
</tr>
<tr>
<td>General Career S-E^c</td>
<td>194.4</td>
<td>69.6</td>
</tr>
</tbody>
</table>

Note: *The sum of S-E across educational requirements and job duties of the 10 Traditionally Male careers, scores range from 0-18; ^Summed across for Traditionally Female careers, scores range from 0-18. *The sum of Traditionally Male and Traditionally Female self-efficacy scores, scores range from 0-36.
### TABLE 13 CONTINUED

**ORES Self-Efficacy Scores for Total Sample**

*Williams 1993*

<table>
<thead>
<tr>
<th><strong>Self-Efficacy Scores</strong></th>
<th><strong>MEAN</strong></th>
<th><strong>SD</strong></th>
<th><strong>N</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Requirements</td>
<td>107.4</td>
<td>30.8</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>49.8</td>
<td>16.7</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>57.6</td>
<td>17.0</td>
<td>266</td>
</tr>
<tr>
<td>Job Duties</td>
<td>107.6</td>
<td>32.1</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Male S-E</td>
<td>49.5</td>
<td>18.0</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Female S-E</td>
<td>58.2</td>
<td>17.5</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Male Career S-E&lt;br/&gt;*</td>
<td>99.3</td>
<td>33.5</td>
<td>266</td>
</tr>
<tr>
<td>Traditionally Female Career S-E&lt;br/&gt;b</td>
<td>115.8</td>
<td>33.3</td>
<td>266</td>
</tr>
<tr>
<td>General Career S-E&lt;br/&gt;c</td>
<td>215.1</td>
<td>60.7</td>
<td>266</td>
</tr>
</tbody>
</table>

**Note 1:** The sum of S-E across educational requirements and job duties of the 10 Traditionally Male careers, scores range from 0-18; summed across for Traditionally Female careers, scores range from 0-18. The sum of Traditionally Male and Traditionally Female self-efficacy scores, scores range from 0-36.

**Note 2:** Values of Wilks Lambda for the four separate multivariate ANOVA with 1) Educational Requirements and Job Duties Self-Efficacy as dependent variables were as follows: Gender (.98, p=.122), Instrument Order (.98, p=.078), Degree of Feminist Orientation (.99, p=.59). 2) With Traditionally Male and Traditionally Female Educational Requirements S-E and Traditionally Male and Traditionally Female Job Duties S-E as the dependent variables: Gender (.79, p<.001), Instrument Order (.97, p=.131), Degree of Feminist Orientation (.99, p=.825). 3) With Traditionally Male and Traditionally Female Career S-E as the dependent variables: Gender (.79, p<.001), Instrument Order (.97, p=.130), Degree of Feminist Orientation (.99, p=.824).
S-E (F=23.1, p < .001), Traditionally Male Career S-E (F=25.5, p < .001) and General Career S-E (F=4.1, p = .044). In each case and across Instrument Orders (and regardless of Degree of Feminist Orientation), males produced significantly stronger self-efficacy scores than females. Instrument Order was significantly related to Educational Requirements S-E (F=5.1, p = .025) and Job Duties S-E (F=4.3, p = .039), Traditionally Male Educational Requirements S-E (F=6.7, p = .010) and Traditionally Female Job Duties S-E (F=6.1, p = .014), Traditionally Female Career S-E (F=6.9, p = .009) and General Career Self-Efficacy (F=5.1, p = .025). For both men and women (regardless of Degree of Feminist Orientation), significantly greater self-efficacy was generated for each of the self-efficacy score types when the OSES was presented first (i.e., when the TSOSS was presented second).

Betz & Hackett (1981) Item Pattern Replication

H/9: Data presented in Tables 14, 15, and 16 compares 1981 and 1993 OSES gender differential response patterns and the data reveal a remarkably high degree of consistency over 12 years. Betz and Hackett (1981) found significant gender differential responding with regard to the confidence ratings on 6 of 20 education & training items (males were significantly stronger on engineer and highway patrol officer, while females were significantly stronger on elementary school teacher, home economist, secretary and social worker) and on 9 of 20 job duties items (males were significantly stronger on accountant, drafter, engineer, highway patrol officer, and...
TABLE 14

Gender Differential Response Patterns For Occupational Self-Efficacy Scale Items Across Order Conditions and Studies

<table>
<thead>
<tr>
<th>Item</th>
<th>MALES (n=110)</th>
<th>FEMALES (n=158)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>6. Social Worker</td>
<td>5.9</td>
<td>2.4</td>
<td>7.0</td>
<td>2.1</td>
</tr>
<tr>
<td>11. Engineer</td>
<td>5.4</td>
<td>2.4</td>
<td>3.3</td>
<td>2.6</td>
</tr>
<tr>
<td>12. Secretary</td>
<td>5.5</td>
<td>2.6</td>
<td>6.8</td>
<td>2.3</td>
</tr>
<tr>
<td>19. Highway Patrol Officer</td>
<td>6.3</td>
<td>2.5</td>
<td>4.5</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JOB DUTIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Engineer</td>
<td>5.3</td>
<td>2.6</td>
<td>3.6</td>
<td>2.9</td>
</tr>
<tr>
<td>32. Secretary</td>
<td>5.3</td>
<td>2.7</td>
<td>6.6</td>
<td>2.6</td>
</tr>
<tr>
<td>39. Highway Patrol Officer</td>
<td>6.3</td>
<td>2.6</td>
<td>4.4</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note: *p<.001 Items defined as "replicated" are defined in terms of Betz & Hackett's (1981) strength or confidence ratings rather than self-efficacy level. This distinction has not been maintained in subsequent research using the OSES, including this study and Williams 1983. Replication is between Betz & Hackett (1981) and Williams (1993). Rating scale for Betz & Hackett is 1-10, for Williams it is 0-9.
TABLE 15

Gender Differential Response Patterns For Occrpntional Self-Efficacy Scale Items For Which Pattern Replication Varies by OSES Presentation Order

EDUCATION & TRAINING

<table>
<thead>
<tr>
<th>OSES PRESENTED FIRST</th>
<th>MALES (n=24)</th>
<th>FEMALES (n=32)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>15. Elementary School Teacher</td>
<td>6.7</td>
<td>2.5</td>
<td>7.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

JOB DUTIES

<table>
<thead>
<tr>
<th>OSES PRESENTED FIRST</th>
<th>MALES (35)</th>
<th>FEMALES (44)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>26. Social Worker</td>
<td>6.2</td>
<td>2.5</td>
<td>7.2</td>
<td>2.0</td>
</tr>
<tr>
<td>35. Elementary School Teacher</td>
<td>6.6</td>
<td>2.6</td>
<td>7.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSES PRESENTED SECOND</th>
<th>MALES (29)</th>
<th>FEMALES (24)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>21. Mathematician</td>
<td>4.6</td>
<td>2.6</td>
<td>3.4</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note: Items defined as "replicated" are defined in terms of Betz & Hackett's (1981) strength or confidence ratings rather than self-efficacy level. This distinction has not been maintained in subsequent research using the OSES, including this study and Williams 1983. Replication is between Betz & Hackett (1981) and Williams (1993). Rating scale for Betz & Hackett is 1-10, for Williams it is 0-9.
TABLE 16
Gender Differential Response Patterns For
Occupational Self-Efficacy Scale Items In Which
Replication Did Not Occur

<table>
<thead>
<tr>
<th>Item</th>
<th>Males (n=110)</th>
<th>Females (n=158)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Probation/Parole Officer</td>
<td>6.1 ± 2.4</td>
<td>4.8 ± 2.4</td>
<td>4.31</td>
<td>.001*</td>
</tr>
<tr>
<td>6. Social Worker</td>
<td>5.9 ± 2.4</td>
<td>6.9 ± 2.1</td>
<td>-3.55</td>
<td>.001*</td>
</tr>
</tbody>
</table>

**JOB DUTIES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Males (n=107)</th>
<th>Females (n=158)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. Drafter</td>
<td>5.2 ± 2.7</td>
<td>3.5 ± 2.6</td>
<td>5.08</td>
<td>.001*</td>
</tr>
</tbody>
</table>

Note: *p<.001. Items defined as "replicated" are defined in terms of Betz & Hackett's (1981) strength or confidence ratings rather than self-efficacy level. This distinction has not been maintained in subsequent research using the OSES, including this study and Williams 1983. Replication is between Betz & Hackett (1981) and Williams (1993). Rating scale for Betz & Hackett is 1-10, for Williams it is 0-9.
officer and mathematician, while females were significantly stronger on dental hygienist, home economist, secretary and social worker). In other words, 38% of the total OSES item content produced significant gender differences in self-efficacy scores. The present study generated, across all conditions, gender differences for 9 education and training items and 10 job duties items, or 48% of the OSES total item content.

Items which produced significant gender differences in Betz and Hackett (1981) and Williams (1993), in both Instrument Order conditions, are listed in Table 14. These items are considered the most robust in terms of their power to elicit significant gender differential response patterns. Males produced significantly greater self-efficacy expectations with regard to the Education & Training Requirements for engineer (M = 5.4 to 3.3), and highway patrol officer (M = 6.3 to 4.5) than did females, while females generated significantly greater magnitudes for the Education & Training items of social worker (M = 7.0 to 5.9) and for secretary (M = 6.8 to 5.5). For Job Duties items, the same items differentiated in the same way except for social worker which was significantly influenced by the Order effect (see Table 15).

Finally, Table 16 lists items not found by Betz and Hackett to produce significant gender differences but which did differentiate with regard to gender in both order conditions within the present study. Education and training items which apparently lost their ability to differentiate over the last 12 years are: dental hygienist, physical therapist, and home economist. Job Duties items losing discriminatory power were dental hygienist and home economist. So in the last decade the OSES item content gender-loaded patterns has been altered slightly with regard to specific items: all 5 items
losing discriminatory power were traditionally female, and the gained (Table 16) are two traditionally male and one traditionally female career options.

**Williams (1983) Replication**

Replication of comparable hypotheses between Williams 1983 and Williams 1993 was noted in the previous section. These hypotheses are H/1, H/2, H/3, H/5, H/6 and H/8 and these data are presented on pages 128-131. Only H/1 was not replicated in that, unlike Williams 1983, Feminist and Traditionalist women reported equal magnitudes regarding Traditionally Male Career Self-Efficacy. Table 17 compares Traditionalist and Feminist females across the two Williams’ studies with regard to score distribution data.

The analogous item-level replication analyses comparing feminist to traditionalists, yielded results very dissimilar to those produced in 1983. Women and men were split into Traditionalist and Feminist groups (as was done in Williams 1983). Williams 1983 compared Traditionalist and Feminist (women only) and found that significant differences between groups defined by Degree of Feminist Orientation at the item level occurred. For education and training items significant differences were found for accountant, engineer, and x-ray technician. For job training items significant differences were found for accountant, drafter, engineer, mathematician and secretary. Williams (1983) found that in both self-efficacy categories, Feminist women’s patterns were similar to those of the males in Betz and Hackett’s sample while the Traditionalist women’s patterns matched women in general (i.e., feminist women produced significantly stronger self-efficacy with regard to Traditionally male career options (M = 104.5 to 94.6) when compared to traditionalist women while Betz and Hackett found males to produce significantly greater self-efficacy for traditionally male options).
TABLE 17
Females' Occupational Self-Efficacy Scale Scores 1983 and 1993

<table>
<thead>
<tr>
<th>Williams 1983</th>
<th>TRADITIONALIST</th>
<th>FEMINIST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy Scale</td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>General</td>
<td>218.1</td>
<td>54.2</td>
<td>101</td>
</tr>
<tr>
<td>Trad. Female</td>
<td>123.5</td>
<td>27.9</td>
<td>101</td>
</tr>
<tr>
<td>Trad. Male</td>
<td>94.6</td>
<td>31.0</td>
<td>101</td>
</tr>
<tr>
<td>Williams 1993</td>
<td>MEAN</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>General</td>
<td>210.7</td>
<td>60.9</td>
<td>72</td>
</tr>
<tr>
<td>Trad. Female</td>
<td>118.7</td>
<td>33.1</td>
<td>72</td>
</tr>
<tr>
<td>Trad. Male</td>
<td>91.9</td>
<td>34.1</td>
<td>72</td>
</tr>
</tbody>
</table>

Note: Data for Total sample is directly comparable in that Self-Efficacy was assessed in an identical manner. However Degree of Feminist Orientation was assessed using the Total Attitudes Toward Women Scale in Williams 1983 and with the Attitudes Toward Feminism scale in Williams 1993 making these comparisons analogous.
The present study failed to produce any significant differences between feminist and traditionalist women. The only significant differences between traditionalist and feminists were produced by males, and the items varied with OSES order. For the OSES first condition only education and training item travel agent significantly differentiated feminist and traditionalist males with traditionalist males expressing significantly stronger self-efficacy (M = 7.5, SD = 1.4 versus M = 6.0, SD = 2.6, t = 2.88, p = .006). All other significant differences occurred for the OSES presented second condition. Feminist males in this condition expressed significantly stronger self-efficacy than traditionalist males with regard to the education and training item sales manager (M = 6.7, SD = 2.3, M = 5.2, SD = 2.6, t = -2.08, p = .042) and stronger self-efficacy with regard to the job duties items drafter (M = 5.6, SD = 2.7, M = 4.0, SD = 2.9, t = -2.06, p = .044) home economist (M = 6.5, SD = 2.1, M = 4.6, SD = 2.7, t = -2.86, p = .006) and sales manager (M = 6.9, SD = 2.1, M = 5.4, SD = 2.6, t = -2.28, p = .027).

Rooney & Osipow (1992) Item Pattern Replication

Results relevant to this global hypothesis are presented in Table 18 and Appendices F through I. As with the OSES data, these tables present items in a mutually exclusive manner such that a particular item is represented only once and in terms of the nature of its replication status. Table 18 and Appendix F address items found by Rooney and Osipow to significantly differentiate on the basis of gender. Appendices G, H and I contain information on new items not found by Rooney and Osipow, but which were found by the present investigation to differentiate Task-Specific Self-Efficacy magnitudes on the basis of gender. A careful visual inspection of these
tables reveals that as with Rooney and Osipow's investigation, gender-differential responding is, without exception, in the direction one would predict on the basis of gender-role stereotypes.

Items for which females report significantly stronger (and therefore males report significantly lower self-efficacy expectations) cluster in terms of social skills and social service and artistic item content (e.g. "Show interest and desire to help others," "Deal with all types of people" and "Devise dance routines"). Males produced significantly stronger self-efficacy for items involving physical activity, coordination and spatial judgement (e.g. "Judge the speed, distance and movement of objects," "Carry weights," and "Control a marine vessel").

Once again the TSOSS was found to be less susceptible to Instrument Order effects than the OSES but order effects on Total Task-Specific Self-Efficacy magnitudes approached significant levels ($p = .82$) and so item level analyses retained the Instrument Order factor. *(Note: analyses without order were conducted and without exception all items found to differentiate by gender were replicated. However an additional 24 previously non-significant items emerged as significant. 137/230 or 59% of the TSOSS item content.)*

Table 18 contains only items ($n=31$) which were found to significantly differentiate on the basis of gender in both the present study and Rooney and Osipow (1992) and for each presentation order. These items are considered the most robust in terms of their capacity to generate stereotypic gender differential response patterns. Of
<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>MALES (n=111)</th>
<th>FEMALES (n=159)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lift and carry items.</td>
<td>4.6 ± .70</td>
<td>3.9 ± .96</td>
<td>6.81</td>
<td>.001*</td>
</tr>
<tr>
<td>2. Use hand tools.</td>
<td>4.4 ± .77</td>
<td>3.4 ± 1.1</td>
<td>8.10</td>
<td>.001*</td>
</tr>
<tr>
<td>10. Judge the speed, distance, and movement of objects.</td>
<td>3.6 ± 1.1</td>
<td>2.8 ± 1.2</td>
<td>5.07</td>
<td>.001*</td>
</tr>
<tr>
<td>29. Follow instructions about machines operations.</td>
<td>4.4 ± .75</td>
<td>3.8 ± 1.1</td>
<td>4.92</td>
<td>.001*</td>
</tr>
<tr>
<td>40. Estimate distances for moving materials.</td>
<td>3.6 ± .98</td>
<td>2.8 ± 1.1</td>
<td>5.89</td>
<td>.001*</td>
</tr>
<tr>
<td>56. Tolerate equipment motion and noise.</td>
<td>3.9 ± 1.0</td>
<td>3.1 ± 1.2</td>
<td>6.10</td>
<td>.001*</td>
</tr>
<tr>
<td>59. Use physical coordination to control equipment.</td>
<td>4.3 ± .83</td>
<td>3.6 ± 1.1</td>
<td>5.38</td>
<td>.001*</td>
</tr>
<tr>
<td>62. Tend various machines.</td>
<td>3.9 ± .85</td>
<td>3.2 ± 1.0</td>
<td>6.86</td>
<td>.001*</td>
</tr>
<tr>
<td>83. Carry weights.</td>
<td>4.2 ± 1.0</td>
<td>3.2 ± 1.2</td>
<td>7.05</td>
<td>.001*</td>
</tr>
<tr>
<td>106. Understand blueprints, sketches, drawings, etc.</td>
<td>3.8 ± 1.0</td>
<td>3.0 ± 1.2</td>
<td>5.39</td>
<td>.001*</td>
</tr>
<tr>
<td>111. Read and interpret panel board meters, dials, and gauges.</td>
<td>3.8 ± 1.0</td>
<td>3.0 ± 1.3</td>
<td>5.74</td>
<td>.001*</td>
</tr>
<tr>
<td>114. Move heavy objects.</td>
<td>4.2 ± 1.1</td>
<td>2.9 ± 1.2</td>
<td>9.06</td>
<td>.001*</td>
</tr>
<tr>
<td>120. Coordinate or perform indoor and outdoor activities.</td>
<td>4.2 ± 1.0</td>
<td>3.4 ± 1.2</td>
<td>5.87</td>
<td>.001*</td>
</tr>
<tr>
<td>124. Have physical stamina needed to engage in manual work.</td>
<td>4.2 ± 1.1</td>
<td>3.6 ± 1.1</td>
<td>4.44</td>
<td>.001*</td>
</tr>
<tr>
<td>131. Skillfully use equipment and safety devices.</td>
<td>4.3 ± .74</td>
<td>3.9 ± 1.0</td>
<td>3.92</td>
<td>.001*</td>
</tr>
<tr>
<td>Item number and short description</td>
<td>MALES (n=111)</td>
<td>FEMALES (n=159)</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----</td>
<td>-------</td>
</tr>
<tr>
<td>133. Know how to calculate dimensions.</td>
<td>3.8 1.1</td>
<td>3.0 1.3</td>
<td>5.44</td>
<td>.001*</td>
</tr>
<tr>
<td>134. Have clerical skills like typing and shorthand.</td>
<td>2.7 1.1</td>
<td>3.4 1.2</td>
<td>-5.11</td>
<td>.001*</td>
</tr>
<tr>
<td>137. Know how to and have the ability to operate marine craft.</td>
<td>3.6 1.3</td>
<td>2.2 1.3</td>
<td>8.37</td>
<td>.001*</td>
</tr>
<tr>
<td>144. Carry objects.</td>
<td>4.3 .91</td>
<td>3.6 1.2</td>
<td>5.85</td>
<td>.001*</td>
</tr>
<tr>
<td>155. Work in hazardous conditions.</td>
<td>3.5 1.3</td>
<td>2.6 1.2</td>
<td>5.93</td>
<td>.001*</td>
</tr>
<tr>
<td>160. Use tools and machinery.</td>
<td>4.3 .77</td>
<td>3.2 1.1</td>
<td>9.62</td>
<td>.001*</td>
</tr>
<tr>
<td>164. Show interest and desire to help others.</td>
<td>4.1 .83</td>
<td>4.5 .80</td>
<td>-3.94</td>
<td>.001*</td>
</tr>
<tr>
<td>175. Lift and handle products.</td>
<td>4.4 .89</td>
<td>3.5 1.2</td>
<td>6.80</td>
<td>.001*</td>
</tr>
<tr>
<td>186. Use an assortment of tools and equipment for various jobs</td>
<td>4.1 .82</td>
<td>3.3 1.1</td>
<td>6.66</td>
<td>.001*</td>
</tr>
<tr>
<td>196. Devise dance routines.</td>
<td>2.2 1.2</td>
<td>2.8 1.4</td>
<td>-3.61</td>
<td>.001*</td>
</tr>
<tr>
<td>202. Work in a noisy or hazardous environment.</td>
<td>3.6 1.2</td>
<td>2.8 1.2</td>
<td>5.49</td>
<td>.001*</td>
</tr>
<tr>
<td>204. Physically able to lift patients.</td>
<td>4.0 1.2</td>
<td>2.9 1.2</td>
<td>7.10</td>
<td>.001*</td>
</tr>
<tr>
<td>207. Use weapons and equipment skillfully.</td>
<td>4.0 1.1</td>
<td>3.0 1.3</td>
<td>6.37</td>
<td>.001*</td>
</tr>
<tr>
<td>225. Perform dance routines.</td>
<td>2.4 1.3</td>
<td>3.0 1.4</td>
<td>-3.57</td>
<td>.001*</td>
</tr>
<tr>
<td>229. Know about hair and skin care.</td>
<td>3.0 1.2</td>
<td>3.7 1.1</td>
<td>-4.89</td>
<td>.001*</td>
</tr>
<tr>
<td>230. Control a marine vessel.</td>
<td>3.4 1.4</td>
<td>2.1 1.3</td>
<td>7.19</td>
<td>.001*</td>
</tr>
</tbody>
</table>

*p<.001
these most robust items, only 5 of the 31 items (16%) were associated with significantly greater self-efficacy expectations for women.

Appendix F contains items (n = 8) found by Rooney and Osipow to significantly differentiate on the basis of gender but which were found to do so in the present study only for a particular order. Of these items, 2 of 8 (25%) generated significantly greater self-efficacy from women. Appendix G contains information on items (n = 12) not found by Rooney and Osipow but which produced gender differential responding in both order conditions. Only one of these items was associated with significantly stronger self-efficacy for women.

And finally, Appendices H and I new items found to significantly differentiate the genders for a particular order. Appendix H contains items found to differentiate by gender only when the OSES was presented first (n = 28). In this order condition with the OSES preceding the TSOSS, 20 of the 28 items tabulated (71%) produced significantly stronger self-efficacy magnitudes for women. Appendix I when the OSES presented second (n = 36), with only 3 of the 36 items (8%) producing significantly stronger self-efficacy for women. It is considered that the items in Appendices H and I (which emerged under rather unique conditions specific to this investigation) are the least robust in terms of their power to elicit gender differential responding (with the exception of the 115 items listed in Appendix J which did not produce such effects in either investigation).

Comparing on gender-loaded item balance in the TSOSS it appears that much more gender-loadedness may be present that originally noted, which also makes the present study' categorizations of items as "Traditional Female, Male and Gender-
Neutral" suspect given the present findings. In particular the cluster of Items labeled Gender-Neutral may need revision given that a large percentage of these "neutral" items produced significant gender-differential responding.

Summing across all the conditions and categories presented above one sees that while Rooney and Osipow (1992) found what they considered modest gender effects for the TSOSS item content (only 18%, 41/230 items) the present study found that 50% (115/230) of the TSOSS item content may be described as gender-loaded, in that males and females, under various conditions, responded in significantly different ways in terms of their Task-Specific Self-Efficacy expectations.

Given the present studies finding that fully 50% of the TSOSS content was gender-loaded under some circumstances, the relative balance between "traditionally male" and "traditionally female" items would seem important in that differential self-efficacy may in part reflect a disproportionate number of traditionally male or female items. In fact, for the present study it was found that of the gender-loaded items there were 2.7 times as many traditionally male (84) than traditionally female (31) items. If one looks only at the most robust items the relative difference is much greater: there were 5.2 times as many traditionally male (26) as traditionally female (5) items.

This lack of balance between male and female gender-loadedness would likely have implications regarding this instrument's psychometric qualities in terms of the validity of comparisons on males and females relative "efficaciousness" thereby leading to erroneous conclusions about the utility of the self-efficacy construct in the male versus female career behavior.
Attitudes Toward Feminism Scale Data

A "2 X 2" MANOVA was conducted with independent variables Gender and Instrument Order for the dependent variable Degree of Feminist Orientation (defined by ATF score totals). Instrument Order was found to not be significantly associated with Degree of Feminist Orientation. However, it was found that Females produced significantly stronger or more pro-feminist attitudes than males (M=30.4 and 24.5/F=20.26, p<.001). Gender by Instrument Order did not interact in a significant manner.

The failure of the present study to result in the predicted relationship between Degree of Feminist Orientation and Career Self-Efficacy was thought to be partially attributable to this sample's ATF score distribution characteristics. Comparisons to other samples, in terms of their means, standard deviations, score range and medians, were made in an effort to determine whether this particular sample produced an unusual score distribution pattern as a whole, by gender, Degree Of Feminist Orientation, Instrument Order and/or various Independent Variable configurations. Table 19 presents data from all studies known to have used the ATF for categorization purposes or as the object of study during its development. While limited to some degree in that category correspondence does not exist across all studies, sufficient correspondence exists for general comparisons. Except for the Enns (1987) data portion based on graduate students (who would be both older and were more feminist in their attitudes as well) each study
<table>
<thead>
<tr>
<th>Source of Normative Data</th>
<th>MALES</th>
<th>FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>Traditionalists</td>
<td>24.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Feminist</td>
<td>30.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Gender Only</td>
<td>27.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Total Sample</td>
<td>29.2</td>
<td>5.3</td>
</tr>
</tbody>
</table>

| Enns (1987)*           |       |         |      |       |
| Graduate Sample        |       |         |      |       |
| Traditionalists        | 28.7  | 3.9     | na   | 14-33 |
| Feminist               | 36.5  | 3.0     | na   | 33-44 |
| Total Sample           | 36.7  | na      | 7    | 14-44 |

| Fassinger (in press)*  |       |         |      |       |
| Gender Only            | 32.0  | 6.7     | 30   | na    |
| Total Sample           | 35.2  | 6.6     | 117  | na    |

| Enns & Hackett (1990)* |       |         |      |       |
| Female Sample          | 31.6  | 5.2     | 150  | 12-45 |

| Hackett, Enns & Zetzer (1992)* |       |         |      |       |
| Female Sample           | 31.6  | 5.2     | 211  | 12-45 |

| Enns & Hackett (in press)* |       |         |      |       |
| Traditionalists         | 25.8  | 3.2     | na   | 14-30 |
| Feminist                | 32.9  | 2.5     | na   | 33-39 |
| Gender Only             | 29.4  | 4.6     | 123  | 14-39 |

Note: *Denotes data supplied by the authors through personal communication and correspondence. *R.E. Fassinger (personal communication, March 31, 1993)*G. Hackett (personal communication, March 29, 1993)*C.Z. Enns (personal communication, April 6, 1993)
utilized an undergraduate participant pool. Comparisons on the basis of total samples, and broken down on the basis of gender, and on the basis of Degree of Feminist Orientation as well as gender, indicate for each comparison that this study’s sample was more conservative than any of the other samples. A comparison to Fassinger’s (in press) sample also shows the present study’s sample as clustering more closely to the group mean as reflected in smaller standard deviations.

Visual inspection of the male and female ATF means in Table 19 indicates that, of all known studies using the ATF, the present study’s sample was the most conservative, particularly the male segment of the sample. The question of whether the differences noted are statistically significant cannot be answered in that the appropriate analyses were not conducted. It does appear, based solely on visual inspection, that the present study’s sample does differ appreciably from these other population samples.

The "2 X 2 X 2" MANOVA produces eight possible configurations or "cells" which may be compared in terms of the ATF distribution characteristics within a particular cell (e.g., Traditionalist Males in OSES First condition). Visual inspection of the distribution characteristics for each of these cells suggested that significant differences might exist with regards to each cells ATF score variability. Appendix K contains a breakdown of the ATF score means and standard deviations for the total sample, and for each combination of Gender, Degree of Feminist Orientation and Instrument Order. This appendix also has an identical breakdown on the scores produced for the single item referred to as "self-identification with feminism" for comparison of the distribution characteristics of these two independent measures of Degree of Feminist Orientation.
To test this, a post-hoc Bartlett’s F test for homogeneity of variances was conducted for the entire sample to determine whether significant differences in variance existed across all cell combinations. Results indicated that significant differences existed between the cells in terms of their standard deviations. In other words, the test disconfirmed the assumption of homogeneity of variances when portions of the total, normal score distribution were compared. These data indicate that the score range of males were more restricted (i.e., relatively low standard deviations) than the score ranges of females, phenomena found previously in the use of the ATF (i.e. Enns & Hackett, in press; Fassinger, in press). Although not subjected to specific cell by cell significance tests, it also appears that males’ ATF variances co-varied with Degree of Feminist Orientation and Instrument Order (i.e., between cells) in a potentially significant way. Specifically, standard deviations for males ranged from 2.0 to 4.1 for Traditionalist males when instrument order varied. It appears that males produced a more restricted range of ATF scores, regardless of Degree of Feminist Orientation, only when the OSES was presented first (i.e., after the TSOSS), while the men’s variability in ATF scores in the "OSES First" condition is comparable to those of females. Females, on the other hand, produced standard deviation ranges between 3.2 and 3.7 for Feminist and Traditionalist groupings and comparable standard deviations across Instrument Order conditions.

The implications of these data are significant in that they call into question the validity of the primary data analyses used. Distributions containing segments or portions of scores which differ significantly in variance characteristics and particularly which also...
contain segments which have relatively small standard deviations violate the primary assumptions requiring *homogeneity of variance* throughout the score distribution. In addition, standard deviations of the size noted above (e.g., 2.0) indicate a severely *restricted score range*; the effect of such restricted ranges results in a reduction in the possible magnitudes of any of the correlations examined. Therefore, there is evidence for the statement that the lack of a significant relationship between Degree of Feminist Orientation and Career Self-Efficacy could well be due in part to restricted range of ATF scores.

Based solely on visual inspection, the "self-identification with feminism" item did not appear to generate such variability in standard deviations, and thereby may have been less susceptible to Instrument Order Effects as well possessing the characteristic of homogeneity throughout the entire range of the Degree of Feminist Orientation continuum. However, as with the ATF data, the largest single standard deviation span for the men in this sample was across instrument order conditions. Unlike the ATF data however, the largest standard deviation for the entire sample was produced in the Feminist Females (across Instrument Order) conditions (1.1 and .85) and, as with the male's ATF scores, a more restricted range was produced when the TSOSS was presented before the OSES.
The present study was designed to investigate, replicate and extend an earlier investigation (Williams, 1983) of the extent to which gender-role attitudes (i.e., Degree of Feminist Orientation) moderate the relationship of gender to traditional and nontraditional career self-efficacy expectations. In this way it represents a further test of the theoretical explanation, proposed and receiving initial support in Williams (1983), of a process by which women's gender-role socialization may be manifested in career behavior, that is, by the indirect influence of gender-role attitudes upon the development and maintenance of career self-efficacy expectations.

More specifically, the study was designed to examine the hypothesis that the gender differences in career self-efficacy consistently reported in the literature are, at least in part, a function of predominantly traditional gender-role attitudes among female college students. In that the literature also consistently reports that males in general do not vary in self-efficacy strength with regard to occupational traditionality, it was stipulated that men's gender-role attitudes would not be associated strongly with self-efficacy regardless of the career option's traditionality. It was further hypothesized that, as in Williams (1983), differences in self-efficacy would be minimized among feminist
females in comparison to traditionalist female students. It was expected that males would
evidence the least variability in self-efficacy, with feminist females evidencing a level of
variability falling between males and traditional females at the occupational level of
specificity.

As in the original 1983 study, which was designed to expand on Betz and Hackett
(1981), it was hypothesized that the career self-efficacy expectations of feminist women
would parallel those of the male participants investigated in the Betz and Hackett (1981)
sample. It was further hypothesized that the responses of women espousing more
traditional gender-role attitudes would parallel the self-efficacy response pattern evidenced
by the women in general in the Betz and Hackett (1981) sample.

At the task level this study was both exploratory and a replication of Rooney and
Osipow (1992), with the addition of the variable "Degree of Feminist Orientation." Few
predictions were made beyond a speculation that unlike self-efficacy reports in response
to occupational titles, males would likely produce lower task-specific self-efficacy levels
for traditionally female behaviors/skill sets (e.g. Matsui & Tsukamoto, 1991; Rooney &

Summary of Primary Findings

The overall findings regarding the relationship between Degree of Feminist
Orientation and Career Self-Efficacy Expectations indicate that there is no such
relationship. Regardless of the level of Self-Efficacy assessment (i.e., occupational titles
or behaviors) Gender, Instrument Order or categorization as Feminist or Traditionalist,
no significant association was found for the primary independent variable under
investigation. As noted earlier, the few significant correlations produced between Degree of Feminist Orientation and Career Self-Efficacy were most likely due to the large number of significance tests conducted, that is, to a high probability of experiment-wise Type I error.

Reasons for the failure of the present study to replicate the significant associations between career self-efficacy and Degree of Feminist Orientation found by Williams (1983) may be divided into four interdependent categories which differentiate these two studies: 1) the present study's sample characteristics including age, relative gender-role attitude conservatism and degree of efficaciousness, 2) the use of a new measure of gender-role attitudes in defining Degree of Feminist Orientation, and 3) the incorporation of two measures of career self-efficacy and the resultant unexpected Instrument Order effect, and 4) significant Attitude Toward Feminism (ATF) score variance heterogeneity.

The Williams 1983 sample was composed of 215 undergraduate females who participated in the winter quarter of 1982; 92% were in their first (68%) or second (24%) year in college, with an average age of 19.4 years and a range of 17-47 years. The 1993 sample participated in the first two weeks of the fall quarter of 1992, which for 62% was the first two weeks of their college experience. The modal age of the 270 males and females studied herein was 18 (which was the age of 47% of the sample) with a mean of 20.12 years and a range of 17-57.

It is reasonable to assume that nearly half of this sample had graduated from high school only four months prior to their participation in this investigation, but looking
at the mean alone one might assume a slightly older group. As noted previously, age has been consistently shown to be positively and significantly associated with gender-role attitudes with more liberal, pro-feminist attitudes emerging for women at later ages (e.g. Beere, 1979; 1990; Betz, b). Such an association was not produced in the present study.

The ATF distribution's restricted score range (discussed earlier with regard to the lack of significant relationships between Degree of Feminist Orientation and Career Self-Efficacy) characteristic may once again, in part, explain this inconsistent finding. Restricted ATF ranges would reduce the possible magnitudes of any correlations examined. In addition, such a restricted or non-normal age distribution may exist given the fact that the modal age (accounting for 50% of the total sample) of this sample was 18. The result would once again be to limit possible correlation magnitudes.

Age and attitudes appear to be linked in terms of one's general development and maturation. In discussion of the failure of the present study to produce significant associations between Degree of Feminist Orientation and Career Self-Efficacy, Gail Hackett (personal communication, March 29, 1993) indicated that the age factor in the development of feminist attitudes has been presented as an explanation of the lack of replication of certain patterns in her most recent study of Degree of Feminist Orientation (Enns & Hackett, in press). The model of "Feminist Identity Development for Women" proposed by Downing and Roush (1985) describes a developmental progression from the rigid belief system associated with "passive acceptance " to one offering greater flexibility and self-definition that of "active commitment" in the formation of a feminist
identity. Women may move from accepting the status quo of gender-appropriate definitions toward what the authors call *sex-role transcendence*.

It is this later stage, in which gender-loaded aspects of the environment are noted but not necessarily utilized in selection, decision and action, that constitutes the present investigation's definition and conceptualization of *feminist attitudes* presented earlier in Chapter Two. These feminist individuals, in other words, could not be predicted on information defined as gender-appropriate alone. This definition formed the basis of the primary research hypotheses tested. If most of the participants were in what Downing and Roush define as "Stage I: passive acceptance," then splitting such a young sample into "Traditionalist" and "Feminist" is not likely to produce the degree of differentiation needed to produce the significant associations found in previous investigations.

As noted earlier, of all studies known to have used the ATF the present study's sample was the least feminist in its gender-role attitudes (Table 19). In comparison to the Williams (1983) sample it is also true that the female portion of this sample produced lower career self-efficacy magnitudes with regards to General, Traditionally Female, and Traditionally Male Career Self-Efficacy as indicated in Table 17, whether the comparison occurs for the total sample or within Traditionalist, Feminist sectors of the samples. So it appears that, in comparison to previous samples, the present sample was conservative, young, and less confident in their career-related abilities.

A second aspect of the current study's design which may have unknown effects involves the use of a new and experimental measure of gender-role attitudes. As noted
earlier, the Attitudes Toward Women Scale (Spence & Helmreich, 1972) was considered dated in that liberal 1972 attitudes had become more mainstream and incorporated into notions of individual human rather than individual women's rights (Beere, 1990). The AWS was also noted to be unable to offer adequate "ceiling" or upper-level score range on the feminist end of the continuum (Beere, 1990; Fassinger, in press; Lenny, 1991). However the AWS content assessed attitudes involving a broad range of roles, rights and activities in both vocational and nonvocational areas of women's lives and does not focus exclusively on the feminist movement as is the focus of the ATF.

Such variance in content, focus and intent makes greater specificity as to how changing the instrument used to assess gender-role attitudes may have influenced these relationships difficult if not impossible. It does, however, need to be mentioned as one possible factor. The significance of the manner of assessing Degree of Feminist Orientation was even revealed within the present study in terms of the post hoc analysis of the ATF's "self-identification with feminism" item and the resultant larger number, magnitude and theoretically consistent relationships produced between Self-Efficacy and Degree of Feminist Orientation measured in this manner.

This serendipitous order or treatment effect will be discussed in greater detail later in this chapter. However, its emergence would seem relevant with regard to the failure of the investigation to produce significant relationships between self-efficacy and Degree of Feminist Orientation. The proportion of variance accounted for by this unexpected and theoretically extraneous factor may have masked an already modest relationship. This contention may find support from correlational findings generated in Williams (1983) in
that they were similar in relative magnitude, overall (.18-.25), to those of the present study (.19-.27). So the relationships found in 1983 and 1993 are both of modest size and accounted for only a small portion of the variance in Self-Efficacy. Additional significant factors such as Instrument Order (unexpected) and Gender (not relevant to the all female 1983 sample) would likely overwhelm such modest relationships in the overall MANOVA analysis.

Finally the lack of significant relationship between Career Self-Efficacy and Degree of Feminist Orientation may be due in part to ATF score distribution characteristics which violate assumptions of homogeneity of variance across the score distribution. As discussed earlier, significant differences among the standard deviations produced within the MANOVA cells suggest non-normality within the ATF distribution. A violation of such assumptions may call into question the validity of the results produced due to the necessity of normal distributions and linear relationships. The subtle and complex involvement of the factor Degree of Feminist Orientation has been stated as possibly being nonlinear (e.g., Fassinger, 1985; Betz, in press b; Betz, Fitzgerald & Fassinger, 1989) in that its influence may be seen for those on the conservative end of the gender-role attitude continuum but which is no longer present at the profeminist end. The differential effects at various points within the attitude continuum, which what is being described, would suggest just such a nonlinear relationship between Degree of Feminist Orientation and behavior.

One final point regarding the failure of the present study to generate further support for the existence of a relationship between women’s career self-efficacy and
Degree of Feminist Orientation is that these findings are discrepant with the developing literature reviewed in Chapter 2 which derived from sophisticated structural modeling techniques (e.g. Farmer, 1985; Fassinger, 1989). Combined with these data and the four potential sources of confounding factors just discussed, it seems prudent to view these results with caution and to proceed with further efforts at replication and design refinements to be discussed later. If, on the other hand, Downing and Roush (1985) are correct, and if the majority of the present sample (female and male) were too young to have encountered sufficiently frequent and powerful "revelation" experiences, then insufficient or "non-normal" dispersion or differentiation within the ATF score distribution could explain the lack of significant findings. A sample composed of individuals maintaining primarily traditional gender-role attitudes as well as individuals lacking a coherent gender-role identity (i.e., stay near mid-range score and/or accommodate conflictual attitudes across the traditionalist-feminist boundary) could produce the non-significant relationship between gender-role attitudes and self-efficacy.

If this were true, then present results would be a valid reflection of a sample not being truly differentiated into Traditionalist and Feminist categories. When one considers the results of the Bartlett's tests described earlier, this sample's age and the fact that this sample produced the most conservative ATF score distribution present in the literature it seems reasonable to conclude that these results are valid for the present sample and that the lack of a significant relationship between Degree of Feminist Orientation and Career Self-Efficacy was due in part to a conservative group, the relative lack of gender-
role attitude identity differentiation as well as "non-normal" segments within the total ATF score distribution.

If fact, the studies of Enns and Hackett (1990), Hackett, Enns and Zetzer (1992) and Enns and Hackett (in press) all used female samples of comparable age (i.e. entering freshpersons or first year as well as upper classmen) with designs capable of comparing differences in ATF scores by age segment. These authors note similar patterns which indicate a lack of gender-role attitude (subsuming gender-role identity) differentiation within the younger samples. Within the younger segments it was noted by Hackett (personal communication, March 29, 1993) that a similar failure to produce significant relationships between Degree of Feminist Orientation and the primary dependent variables under investigation occurred in her investigations. The degree to which the age groups differ in the strength of the relationships between Degree of Feminist Orientation and the dependent variables has not yet been subjected to empirical test.

This inability on the part of these researchers to get a true split (as conceptually defined) for women into Traditionalist and Feminist categories resulted in Enns and Hackett (in press) adding a "buffer" score region to the median split method of category definition between feminist and traditionalist groups to more fully differentiate the groups (Enns & Hackett, in press). Unfortunately, they also failed to sample any upperclass participants as they had done in the two previous studies, and the result produced the youngest sample of women (based on means of 19.3 years) upon which ATF data has been collected. This may explain why the "buffer" did not successfully differentiate traditionalist and feminist females (Enns & Hackett, in press).
The primary significance of these findings may involve a consistent failure within the gender-role attitude literature to adequately assess and/or control for age effects, particularly for women in that the data indicates its pervasive influence. For all practical purposes, little attention has been paid to the influence of men's gender-role attitudes, let alone attention to investigations of whether or not men's age is associated with such attitudes. However, it is being suggested that the failure to take into account a women's "stage" of feminist identity development (as inferred from relative age) has perhaps been one crucial reason within the "gender-related individual differences" (Betz, in press a; in press b) for conflictual findings and variability in whether relationships between various independent and dependent variables emerge as significant. The possible insidious influence of age in this area of the literature will be discussed in terms of the primary ATF and self-efficacy investigations in a later portion of this chapter.

**Gender and Order Effects with regard to Self-Efficacy Expectations**

The incorporation of self-efficacy measurement at both the global (OSES) and behaviorally specific (TSOSS) level had a more directly interpretable effect on the data produced. The consistent and persistent Instrument Order effect influenced both relative self-efficacy magnitudes for both the OSES and TSOSS self-efficacy scales as well as appearing to relate to the degree to which males and females differed in self-efficacy under certain conditions. To summarize the overall patterns; whenever the OSES (traditionally male and traditionally female occupational titles) preceded the TSOSS (traditionally male, female and gender-neutral behaviors), the OSES (General & Traditionally Female) self-efficacy magnitudes produced were significantly greater than
magnitudes produced for the same OSES scales than when the TSOSS was presented first. The Order effect for the TSOSS (Total, Traditionally Female and Male Task-Specific) approached significance, and they too were greater in magnitude in the "OSES First" condition.

Conversely, the presentation of the TSOSS before the OSES appears to be associated with enhanced gender differences in self-efficacy magnitudes for General, Total Task-Specific and Traditionally Female Career Self-Efficacy and lower overall self-efficacy for all types of self-efficacy measured. It must be noted that this implies an interaction effect between Gender and Instrument order but no significant interaction effect was found to be significant. However visual inspection of the data, as noted earlier, shows a consistent pattern of results that are not truly interactions in that both effects combined are associated with differential changes in the same direction. In other words, the TSOSS deflated the self-efficacy magnitudes for both genders, but not equally. Women suffered a disproportionate reduction in self-efficacy strength relative to men. For example, gender differences in General Career Self-Efficacy (Table 12) which barely reached significance (.047) can be seen to be due largely to greater gender differentiation in the "OSES Second" condition. Table 1 provides data where for the "OSES First" males and females differed by 5.2 compared to a difference between males and females of 24.4 in the OSES Second condition. However, if one compares General Career Self-Efficacy magnitudes between women in the OSES First condition with males in the OSES Second condition, one finds the genders to be equal in General Career Self-Efficacy strengths.
Significant differences in self-efficacy were found to be consistently associated with Gender and Instrument Order, with differences produced for gender in accordance with prior studies and with what would be expected from gender-role socialization literature. Differences in Career and Task-Specific Self-Efficacy as a result of Instrument Order involve treatment effects suggesting differential reactions to occupational titles in comparison to task-specific occupational behavior. These order effects affected the scores produced for each instrument and for self-efficacy subscale scores, and in addition for the "TSOSS First" order condition a differential and "depressing" effect on women’s Traditionally Male Career and Task-Specific Self-Efficacy scores occurred.

These treatment effects, as they will be called, produced patterns whereby the TSOSS when presented first led to enhanced gender differences in self-efficacy magnitudes, and the differences for each type of self-efficacy seemed to reflect exaggerated gender-stereotypic responding whereby women's confidence consistently dropped (for those receiving the TSOSS first) in relation to the magnitudes produced by women receiving the OSES first for General Career, Total and Gender-Neutral Task-Specific Self-Efficacy.

This effect did not appear to occur for any of the Traditionally Female content (i.e. Traditionally Female Career, Traditionally Female Task-Specific Self-Efficacy). but instead is associated only for male gender-loaded content and the aggregate measures of which these subscales were a part. (i.e. General, Total Task-Specific and Gender-Neutral Task-Specific). With regards to Traditionally female item content the order effect seems to affect both genders the same way in that both genders evidence what seems to be a
comparable reduction in traditionally female self-efficacy magnitudes when the TSOSS was administered first.

One possible explanation for these patterns would be that the TSOSS sensitized both genders to look at occupational titles in a way that was perhaps more accurately reflective of the complex behavioral skill sets which underlie occupational stereotypes. Looking at the Instrument Order effect both in terms of gender (as well as in isolation from gender) one sees that the presentation of the OSES first was associated with significantly stronger self-efficacy magnitudes for both self-efficacy instruments. So moving from global ratings of self-efficacy to behaviorally specific (i.e., exposure to occupational titles and then to task-specific behaviors) was associated both with stronger Career (OSES) and Task-Specific Self-Efficacy (TSOSS) expectations. The direction or presentation order emphasized appears crucial in constructing possible explanations for these treatment effects. The implications for intervention and treatment change in terms of whether we look at these effects as produced by the "OSES First" or "TSOSS First" conditions. If the "OSES First" perspective is taken we are left with the implications that exposure to occupational titles can have dramatic effects on self-confidence. If we assume that, based on the literature (cf, Osipow, 1983), that college students often conform both their preferences and behaviors to occupational stereotypes and are in need of more specific career-relevant information (about themselves and the world of work), it may be reasonable to treat the OSES First self-efficacy data as reflecting unrealistically strong expectations based on limited information.
Perhaps the more cogent explanation emerges when looking at this pattern in reverse: that exposure to the TSOSS first (and therefore exposed to complex behavioral skill sets) is associated with reduced confidence ratings at both the behaviorally specific and global levels. Exposure to career-relevant information could then be considered as educational and helpful for the participant’s generating more realistic or accurate self-appraisals of personal efficacy. In certain respects it may be said that the TSOSS acted as a career intervention by possibly educating participants about actual occupational tasks. This may in turn have encouraged them to look more closely at the OSES occupational titles and think in terms of the specific behaviors and tasks each occupation represented. It perhaps can be assumed that these appraisals are in some way more accurate, and that a less optimistic (or perhaps a more realistic) self-appraisal of successful career performance was generated. It also may unfortunately differentially affect the confidence of women in a negative way, relative to males, due to sensitization to gender-loaded content defining appropriateness. Such speculation could not be tested given the present design, but it speaks to the potential utility of the TSOSS as a career assessment and possibly as a career intervention tool. It also provides additional support to Rooney and Osipow (1992) and Matsui and Tsukamoto’s (1991) conclusions that assessing Career Self-Efficacy at both the global and task-specific levels has merit. Such findings indicate the possible differential utility in terms of the future use of both the OSES and TSOSS together in research and treatment as a means to assess the relative influence of gender-role attitudes and occupational stereotypes on the self-efficacy appraisal process.
Although not a significant interaction, it also seems that in addition to this order effect, women were also sensitized to the gender-loadedness (i.e. defining appropriate behaviors) of the traditionally male behaviors and occupational titles when the TSOSS was presented first. It is important to acknowledge that the OSES may be seen to have presented equal numbers of potentially gender-loaded items (defined in terms of labor participation statistics) to the participants and that the TSOSS (Rooney & Osipow, 1992) presented a higher proportion of male-loaded items as evidenced in the much larger number of items eliciting significantly stronger self-efficacy magnitudes for males (39) than items generating significantly stronger self-efficacy expectations for females (9). This larger proportion of "male loaded" items was found to be even larger for the present sample due to re-classification of much of the gender-neutral item content as gender-loaded.

The large group (189 items) of items classified as Gender Neutral which comprise 82% of the total TSOSS item content were in fact, for the present sample, not gender neutral. This classification was made solely on the lack of gender-differential responding for Rooney and Osipow's sample. It appears that wide variability exists in the degree to which behaviorally specific items are defined as gender-loaded. This also suggests what may be a significant methodological limitation in the use of a concept such as gender-loadedness at the behaviorally specific level. That is, what is the degree of consistency one may assume across samples as to the evocative potential items retain across samples. Differences in sample characteristics will be discussed shortly in the summary section.
It is not possible, given the design of the present study, to determine the degree to which such an imbalance in gender-loaded content could have influenced the results. Not offering equal numbers of traditionally "female" and traditionally "male" items would result in artificially low Total Task-Specific Self-Efficacy magnitudes and could lead to possibly erroneous interpretations of women being "less efficacious" or that career self-efficacy expectations are less important in the career behavior of women as compared to that of men. On the other hand, one must wonder, given the lower status and value placed on traditionally female behaviors (e.g., skills in nurturance, social adroitness, empathy), if simply increasing the number of such "female-loaded" behaviors would reflect an accurate representation of the proportion and demand for such skills in the labor market. In other words, elevation in overall Task-Specific Self-Efficacy due to opportunities to indicate confidence in behaviors not valued by society and not demanded by employers would, while reflecting reality, not seem to add to our abilities to understand and intervene in women's career development. This would simply be another way of stating what Betz and Hackett (1981) stated originally: women are primarily socialized to develop self-efficacy sufficient for the pursuit of traditionally female career options but insufficient for the pursuit of traditionally male options. Changes in what society values, whereby traditionally male and female behavioral skill sets are equally valued, would be needed in order for a concept of balance in male-female gender-loaded content to make sense conceptually.
Hypotheses

Extensive data and some discussion regarding the support or lack thereof for the 13 hypotheses tested (9 for OSES-based item content and 4 for TSOSS-based item content) were presented in the previous chapter. To summarize across both the OSES-based and TSOSS-based hypotheses, it can be said that whether a hypothesis received support or not could have been predicted solely on gender classification (i.e. male or female) or could have been predicted in relationship to gender by occupational or task gender-traditionality comparisons. In other words, the data present in the literature would have predicted that males would generate significantly stronger self-efficacy for traditionally male occupations and tasks than females, while females would generate significantly stronger self-efficacy expectations for traditionally female career options and behaviors.

The predictions of male-female equivalency with regard to traditionally male self-efficacy for feminist women were not supported (Hypotheses 4 and 7) and this lack of support may be due to the factors discussed earlier (i.e. the sample was conservative and young and because of the order effect). The data produced for Hypotheses 7 (i.e. that women maintaining feminist attitudes would report self-efficacy levels with regard to nontraditional career options that were significantly lower than males in general), was not conclusively supported due to the order effect. However the inconclusive support does provide some limited support for the notion that Degree of Feminist Orientation may have had a modest effect which was masked by the superordinate and extraneous Instrument Order Effect. It was found that only feminist (not traditionalist) women
reported General Career Self-Efficacy equivalent to men in general but only in the "OSES First" order condition. In the "OSES Second" condition the hypothesis of significantly lower self-efficacy was supported. This inconclusive outcome is, however, the only significant finding supportive of the primary suppositions upon which this investigation was based.

Overall the predictions that" as Degree of Feminist Orientation increases, so to would self-efficacy toward Traditionally Male careers and behaviors" were not supported either in terms of significant correlations between gender-role attitudes and career self-efficacy nor in terms of significant mean differences between types of self-efficacy. This is true when Degree of Feminist Orientation was defined on the basis of ATF score distributions. When post-hoc analyses of these same correlational relationships were conducted using the single "self-identification with feminism" item, significant magnitudes and differential correlational values consistent with the theoretical predictions made in Chapter 2 were produced. It must be noted that the correlations were both modest in size and therefore account for a small proportion of the variance to be explained, but they are of magnitudes equal to those produced previously within the literature (i.e., Beere, 1990; Betz, in press b; Lenny, 1991; Williams, 1983). It again appears that the manner in which Degree of Feminist Orientation is defined, operationalized and assessed is of crucial importance in terms of the nature and magnitudes of results produced.

Betz and Hackett (1981) and Williams (1983) Replications
Focusing on the gender-differential and gender-role attitude differential response patterns across these three studies, it may be said that in general there exists a high degree of consistency over 13 years in gender-differential response patterns. Comparisons of these two studies can occur at the aggregate self-efficacy level (i.e., sums of items into groups on the basis of gender-traditionality as well as across traditionality for General Career Self-Efficacy) and at the item specific level.

Aggregate self-efficacy data reveal that it is male-loaded items which have retained discriminative power across studies and 13 years. As was true for Betz and Hackett in 1981, it was women's variability in response to traditionally male career option items which accounted for the significant gender-differences in aggregate self-efficacy (Table 12). Additional consistency exists when looking at summing across item traditionality for "Educational Requirements Self-Efficacy" and for "Job Duties Self-Efficacy" in that neither study produced significant gender differences for these self-efficacy aggregates.

Major differences at the aggregate level involve the loss of significant gender-differentiation for aggregate measures of Traditionally Female item content. As can also be seen in Table 12, no significant differences emerged for the Traditionally Female Educational Requirements, Traditionally Female Job Duties or for their aggregate measure Traditionally Female Career Self-Efficacy. This appears to be due primarily to the differential effect that Instrument Order had on women's self-efficacy strengths as compared to its effect on men's self-efficacy is also seen to have contributed such pattern changes by exacerbating gender-differentiation for Traditionally Male, but to a lesser
extent for Traditionally Female item content. There was also a slight re-classification of items in that seven items found by Betz and Hackett (1981) to differentiate on gender were altered in terms of statistical significance. Five items that Betz and Hackett found to produce significantly stronger self-efficacy for females were not found to significantly differentiate in the present sample, while 2 nonsignificant Betz and Hackett items emerged in the present investigation as differentiating on gender with significantly stronger self-efficacy for males.

The order effect makes direct comparison difficult, but it appears that this slight re-classification of OSES items may have altered the gender-loaded balance between the two studies by allowing (for this sample) females fewer strength items relative to men. In other words, if the gender-loaded content shifts so that the item content is primarily gender-loaded by the sample as "male" or "female" the aggregate measures will reflect the cumulative effect as a more global gender-difference in self-efficacy. In this way the OSES may have in part changed in its gender-loaded item balance in a way similar to that discussed regarding the TSOSS earlier. The combination of these factors seem to be the primary reasons for the changes in gender-differential response patterns at the Career Self-Efficacy aggregate score level.

The present study’s replication of Betz and Hackett (1981) provides further evidence of the high degree of stability in gender-role/occupational stereotypes over long periods of time (e.g., Getty & Cahn, 1981; Shepard & Hess, 1975; Shinar, 1975; White, Kruczek, Brown & White, 1989). At the item level (i.e., traditionally male and traditionally female occupational titles), these patterns appear remarkably resilient and
suggest the continuity of traditional gender-role socialization processes within society (and therefore within the career development process). On the one hand, they are quite resistant to change, while at the same time the comparisons of these two studies indicate they have also changed in an interesting way. As just noted, the OSES items which no longer differentiated on the basis of gender were five items (for both education and job duties: dental hygienist & home economist and for education alone-physical therapist) which were all items for which females in Betz and Hackett produced significantly stronger self-efficacy magnitudes than those generated by males. In addition, items gaining discriminatory power were two traditionally male and one traditionally female item (see Table 16). The significance of such changes relates primarily to the possibility of a slight redefinition of occupational stereotypes which may or may not reflect actual demographic changes in the gender compositions of these career options or which may simply be specific to this particular sample.

Regarding the Williams (1983) to Williams (1993) replication data regarding gender-role differential responding (i.e., Degree of Feminist Orientation classifications), it may be said that little in the way of replication occurred. Comparisons of the two samples of females categorized as Traditionalist or Feminist provides little in the way of consistency in results and, as noted earlier, may have more to do with differences in the present sample’s characteristics, psychometric differences in how Degree of Feminist Orientation was defined, and with the unexpected Instrument Order Effect.

Limitations, Research Considerations and Implications
Although Bandura states that expectations of personal efficacy are the primary, functional, mediators of behavior and behavior change, he also has indicated that self-efficacy expectations are not the sole determinants of action or inaction. While the results of the present study have indicated a lack of a relationship between gender-role attitudes and career self-efficacy, other factors such as sufficiently strong incentives, or the lack of disincentives and sufficiently strong and accurate self-appraisals of one's abilities would both be required before behavior is attempted. Even if such a relationship had been supported, it is important to acknowledge that feminist attitudes without the benefit of previous successful performance accomplishments, facilitative vicarious learning and/or persuasive encouragement would not likely result in behavior attempts or change.

Self-efficacy theory would predict that even if such attempts were made, they would likely be short-lived and would generate information destructive to rather than facilitative of the development of stronger self-efficacy expectations (i.e., a failure experience). The pursuit of an atypical major or career, in the face of such external barriers as gender discrimination, harassment and a lack of encouragement and support (Freeman, 1975) would still suggest that feminist beliefs without the benefit of strong self-efficacy expectations to be an exercise in futility.

This caution may also be stated conversely in terms of self-efficacy and male career behavior. While the males in the present study indicated confidence equal to women in performing traditionally female occupations at a global level, one would not attempt to predict their occupational choices on the basis of self-efficacy expectations alone. For
males in this society, it seems that insufficient incentives exist for the pursuit of a traditionally female career option given that such options offer lower status and lower renumeration. Of greater significance, and as indicated by the data produced by males in the present study regarding task-specific behaviors, one may also conclude that such options may be avoided by males in that they involve tasks and behaviors more taxing with regard to social competencies and skills. In other words, when discrete behaviors are rated instead of occupational titles and the two types of self-efficacy are compared, discrepancies emerge that suggest males may be using social definitions of "occupational difficulty" that confound occupational level and prestige factors (Lent & Hackett, 1987) with ability and which do not adequately reflect the difficulty of the actual behaviors required.

As noted by Williams (1983) the data comparing Traditionalist women and Feminist females called into question the validity of the notion of a "difficulty hierarchy" between traditionally male and female career options. In that study it was a traditionally female job (i.e., art teacher) which was found to be considered the most difficult option, and not a traditionally male option. When one's confidence is being assessed, the issue of perceived difficulty becomes salient and in terms of male versus female definitions of difficulty males may be inaccurately perceiving male jobs and female jobs as equal in difficulty (in general) at the occupational title level of assessment. It may also be that instead of rating self-efficacy expectations that males rate the social value of prestige across traditionally male-female categories.
While feminist attitudes have been consistently associated with women’s pursuit of nontraditional career options and their higher status, prestige, pay and opportunities for application of unique individual talents, (Betz, in press a;b; Crawford, 1978; Fassinger, 1985; Fitzgerald & Betz, 1983; 1987; Harren, Kass, Tinsley & Moreland, 1979; Zuckerman, 1977; 1980; 1981) it seems unlikely that feminist attitudes alone would have much influence on a man’s pursuit of low status, low pay jobs. It is interesting to note that in comparison to all other sample segments, Feminist males, in both order conditions, appear to have generated the greatest degree of ATF score variability. Feminist males as a group also appear to have generated General and Total Task-Specific Self-Efficacy magnitudes which exceeded the magnitudes produced by all other "Gender by Degree of Feminist Orientation by Instrument Order" combinations. Interpretation of these findings is not currently possible in that the additional analyses were not conducted. Given the fact that this pattern failed to emerge as significant in the MANOVAs, it is was considered an interesting line for future inquiry but not central to the present investigation.

Another limitation of the present study was the lack of information regarding the Degree of Feminist Orientation and/or the strength of self-efficacy expectations associated with the actual choice of a nontraditional career or major as well as actual participation in a nontraditional major or career. With nearly 50% of the present study’s sample being first quarter freshpersons (as was similar for Williams, 1983), it is unlikely that these participants were actively involved in a particular major at the time of their participation in this research. Research on an older sample of students near completion of their
college career, as well as samples of women and men actually involved in atypical careers, would be needed to generate such data. Such data would however be invaluable in clarifying the nature of gender-role attitudes and self-efficacy in career related behavior.

As noted earlier, there is a potential limitation regarding the operationalization of the concept of gender-loadedness in research as well as an explanatory construct given the degree of variability (as inferred from significant gender differential responding on the TSOSS) between the present study and Rooney and Osipow's (1992) investigation. The issue involves, to some extent, whether researchers attempt to make their instruments gender-neutral a priori, as did Hackett and Campbell (1987), or if researchers assess the degree of gender-loadedness after the fact (i.e., Campbell & Hackett, 1986). Given the greater evidence of gender-differential response patterns evidenced for the TSOSS item content (for this sample), it would seem prudent in the future when developing career assessment instruments to assume the item content to be gender-loaded. In addition, research designs should allow for analyses which reveal the extent to which such loadings exist.

While the Rooney and Osipow (1992) investigation produced only modest gender differential responding (18% if total item content), the present investigation produced significant differences (across all conditions) for 50% of the TSOSS item content. Such differences may be approached from two different perspectives, neither of which may be stated as definitive given the design of the present study. One perspective would consider this degree of variability sufficient to discredit the concept of gender-loadedness as a
useful theoretical construct. However, there exist data and research precedent to suggest an alternative explanation for such variability.

**Developmental Perspective with regards to the Findings**

This alternative perspective focuses on what appears to be significant differences in each sample's exposure to the university environment as reflected (partially) in differences in *age*. The literature on gender-related variables and gender-role attitude assessment consistently reveal the significance relationship of age in terms of various gender-related individual differences variables (Betz, in press b) including ones' Degree of Feminist Orientation (i.e., defined earlier to be inclusive of such constructs as gender-role attitudes, gender schemas, gender-identity, feminist identity etc.).

As discussed earlier in this chapter, we frequently infer that age may be taken as a general indicator of maturation and development in a variety of career-related areas, or as the degree of exposure to the university environment and therefore to exposure to stimulating and conflictual ideas (such as feminist theory). Such a developmental perspective is implicit within all developmental theories (e.g., Perry, 1970; Levinson, 1978; Sheehy, 1974) and so is implicitly a part of Downing and Roush's "Feminist Identity Development Model" (1985). The earlier discussion of a development perspective focused exclusively on the development of a Feminist identity (or lack thereof) and how this could relate to the ATF score distributions. What follows is intended to expand this conceptual framework to address a pattern of results in the literature (including the present study) involving what Betz (in press b) refers to as *gender-related individual*
differences variables and the emergent or non-emergent gender-differential response patterns.

As implied by Downing and Rousch as well as stated by Hackett (personal communication, March 29, 1993) the "passive acceptance" stage is characterized by an over-reliance on the "simple judgement rules" defining gender-appropriate behavior rather than a reliance on an integrated individual, feminist identity. If a woman's age/stage, in part, determines the extent to which she relies on such gender-stereotypic "simple judgement rules" then the career behavior of women in the "passive acceptance stage (who are younger) will be predictable on traditionally female stereotypes alone. It should also in turn be reflected in predominantly gender-stereotypic attitudes as well.

The patterns of results in the literature seem to indicate that young female samples produce predictable gender-typed responding in terms of a variety of dependent measures more so than samples only a few months or years older. These young samples also concomitantly are difficult to categorize as Feminist or Traditionalist due to the lack of score variability and predominance of more conservative, traditional attitudes.

For example, the samples of Williams 1983 and 1993 were shown earlier to differ in important respects on age. The same age differences may be found between Enns and Hackett (1990), Hackett, Enns and Zetzer (1992) and Enns and Hackett (in press) studies. Each of these investigations studied differential rating of feminist and nonfeminist therapists on a variety of measures depending on the Degree of Feminist Orientation of the client. The patterns described above were found when the sample was young (Enns and Hacket, in press; and Williams, 1993) and both found a lack of
significant relationships between Degree of Feminist Orientation and the primary
dependent variables when such relationships had been produced in previous studies using
samples only slightly older (i.e. six months to a year).

With a predominately young sample of college age women it may therefore be
that the lack of a sufficiently large proportion of real feminists (as conceptually defined
earlier) and will also not be truly differentiated into Traditionalist or Feminist groups
because, as a group too few women will have developed a congruent feminist identity.
So as with Williams (1983), it is being stated that, although the predicted relationship
did not emerge, this is likely due in part, to sample characteristic reflecting the
predominance of more traditional gender-role attitudes among women at this stage or age.

Further support for these assertions may be seen when one looks at the sample
characteristics (i.e., age) in the investigations considered integral to the present
investigation. As noted earlier, the present study’s sample was primarily composed of
18 year olds who were in their first or second week of the college career; this sample
may be stated to have in general to responded in predominantly gender-stereotypical
ways to both the OSES and TSOSS content which resulted in the percentage of the
gender-loaded content of the TSOSS increasing from 18 to 50%. This sample’s female
segment responded in an even more gender-stereotypic manner in association with the
presentation order effect. This supposed "stage effect" would seem to possess potential
heuristic utility but is in need of empirical testing given that it is derived from a limited
number of investigations.
Finally, in comparison to the ATF distributions produced in other investigations using the ATF, the sample herein was found to be the most conservative of any of the samples. So relatively speaking it seems reasonable to conclude that the present sample in comparison to any other existing samples is the most likely to contain a significantly larger proportion of females in the "passive acceptance" stage of feminist identity development.

Because of this, (as well as the non-normal ATF distribution segments which appear largely generated by males) the lack of a significant relationship between Degree of Feminist Orientation and Career Self-Efficacy may be due to it having been a predominantly conservative sample which was artificially forced into Traditionalist and Feminist categories. It is this phenomenon that Hackett (personal communication, March 29, 1993) postulates explains why the predicted associations between Degree of Feminist Orientation and various dependent variables do not emerge in younger samples but which do emerge more strongly when sufficient and normally distributed variability in age is incorporated into the design. It may well be that Degree of Feminist Orientation as a factor important to women's career development and behavior becomes significant only after a certain age or developmental stage has been reached. As the proportion of females in a sample entering the revelation stage where gender-role attitudes are initially challenged increases one would expect to see decreasing gender-typical responding and increased differentiation into true Feminist and Traditionalist categories. To make matters even more complex but in keeping with Downing and Rousch's (1985) model that the significance of this factor may later disappear when the individual's feminist identity
becomes more fluid and idiosyncratic as proposed in the Stage IV or synthesis or Stage V active commitment stages.

One additional point relevant to this developmental stage perspective involves how models and instruments are designed and initially tested. There appears to be a tendency to use older, graduate level students in the initial development stage and important decisions regarding "gender-effects" are made on the basis of these data. The TSOSS and ATF were both constructed in this manner, and it was this older sample that produced the modest gender-differential response patterns noted by Rooney and Osipow (1992). The dramatic increases in the proportion of gender-loaded TSOSS item content between this investigation and Rooney and Osipow may reflect a developmental stage effect. The initial test of the TSOSS short form (derived from factor analytic structure assumed to be gender-neutral, Osipow, Temple & Rooney, 1993) produced unexpected gender effects which may in part be again due to age/stage differences between samples in that the Osipow et. al (1993) sample was younger (mean age of 19.8) with the females being younger than the males (mean age of 19.6 compared to 19.9 years) (Rick Temple, personal communication, April 24, 1993).

Fassinger's 1985 causal model of college women's career development used a sample consisting of juniors and seniors, (with a mean age of 21.4), and it was this investigation which found Feminist Orientation to be among the most powerful predictive components of the model in terms of women's career-related behavior (i.e., career orientation, prestige and nontraditionality of career choice). When Fassinger (1990) attempted to replicate these findings using two underclass samples (mean age of each
19.1 and 19.5 years) she found that the nature of the relationship had changed such that the influential power of Feminist Orientation had been reduced. While this is not to suggest that variability of results in this area of the literature is due primarily to age/stage effects, it is being stated that the incorporation of a developmental perspective in the study of Degree of Feminist Orientation would likely improve our understanding of it's role in career development and behavior, particularly for women.

**Degree of Feminist Orientation and Men’s Career Development**

The relationship of men’s gender-role attitudes to their career development has not received much research attention given that men stereotypically have never had the option to not work (Arnold, 1989) or to have to chose between home and career (Betz, in press a), and because the theories of career development have worked sufficiently well without the incorporation of such variables (Arnold, 1989; Tyler, 1978). However behaviors do not need be exclusively limited to career pursuits and efforts to increase men’s self-efficacy expectations regarding traditionally female behavior such as social skills, empathy and nurturance are sorely needed. One aspect noted by Arlie Hochschild (1989) regarding women with children, which keeps women from fully applying themselves in their careers, is their male partner’s difficulties in assuming traditionally female roles involving house and child care. Men’s socialized insulation from Matthew’s and Tiedman’s (1964) home-career conflict denies men access to the requisite traditionally female self-efficacy information needed to develop these skills, while concomitantly adding to women’s difficulties in creating both career and family.

The overvaluation of traditionally male behavior to the exclusion of traditionally
female behavior and the *advantages* of male career related behaviors reflects societal definitions of value. This exclusive focus on the advantages of "male" behavior and the genuine greater value and prestige of such behaviors and career options creates a false impression that males do not operate in terms of gender stereotypes.

In fact Fassinger notes (Fassinger, personal communication, March 31, 1993) that men, not women, generated significant correlations between Degree of Feminist Orientation and a measure of *social desirability* indicating that men, as well as women, operate at times in terms of socially definitions of appropriateness and that being gender-appropriate is likely to be important to males as well as females. As such, constrictive notions of male-appropriate behavior and options may in part restrict men's range of acceptable options. The needs to produce in one's career and to provide income for one's family have long been seen to reflect the core of stereotypical male gender ideology. As with any pursuit one sets as a priority, opportunities to develop divergent sets of skills are deferred or rejected. So as women have moved to incorporate positive aspects of both male and female stereotypes, the data presented here indicates males have areas of potential growth that involve emotional sensitivity, nurturance, and social adroitness that form the basis of human relationships.

**Summary**

The present study failed to support the proposed relationship between women's Degree of Feminist Orientation (i.e., gender-role attitudes) and Career Self-Efficacy. However consistent gender as well as instrument order effects were found and were consistent with gender-stereotypic response patterns within the literature. While
additional support for the existence of a relationship between Degree of Feminist Orientation and Career Self-efficacy was not generated, several possible aspects involving the design and characteristics of this investigation were proposed to explain these data. In addition, comparison to other investigations which generated similar patterns were conducted in an effort to address methodological and conceptual shortcomings in the study of Degree of Feminist Orientation.

In particular it was noted that future research on this factor should assess age/stage of development factors in that this variable appears to potentially exert influence on the degree of gender-differential responding. Age was also suggested to be a potentially important factor in the degree to which researchers can truly differentiate, in a conceptually meaningful way, Feminists and Traditionalists. It was also found that whether the predicted significant relationships were generated or not depends to a large extent on the method and manner of gender-role attitude assessment.

As noted earlier, the applied and heuristic utility of Betz and Hackett’s (1981) application of Bandura’s (1986) self-efficacy theory has not been tested sufficiently on students and professionals who are actively engaged in the major and/or career of their choice. In that such research participants will be older than first quarter college students, investigations of this portion of the population and comparisons to younger samples would clarify the extent to which age and developmental stage affect the relationship between gender-role attitudes and career self-efficacy. More specifically, such research could clarify the nature of this relationship as to its degree of linearity.
Further investigation of men’s gender-role attitudes, perhaps as they relate to non-career behavior (i.e., relationships, creativity, patenting or therapeutic skills) may offer a more balanced and inclusive understanding of the role of gender-role attitudes in men’s overall development. The present investigation provides a different perspective on men’s awareness of skill deficits when specific behaviors that are stereotypically female are used rather than occupational titles.

Further study of the relationship between Degree of Feminist Orientation and Career Self-Efficacy is needed given the emerging significance of gender-role attitudes in contemporary models of women’s career behavior is needed (cf., Betz, in press, b; Farmer, 1985; Fassinger, 1985; 1990). The data produced provide further support for the utility of the self-efficacy construct in career development theory as well as for its eventual application in career intervention. One study producing non-significance where several studies found significance suggests design and methodological weakness and sample differences but is insufficient to allow the conclusion that such a relationship does not exist.
REFERENCES


Bem, S.L., & Bem, D.J. (1976) Training the woman to know her place: The power of a nonconscious ideology. In S. Cox (Ed.), *Female Psychology*. Chicago: SRA.


Betz, N.E. (in press, c) Basic issues and concepts in career counseling for women.


PLEASE NOTE

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

219-230

University Microfilms International
APPENDIX D

Demographic Information Sheet

Instructions to participants

We are interested in your honest reactions to series of questions about career options regarding educational requirements, job duties and specific tasks. Please read the instructions for each of the three instruments presented carefully before proceeding and please respond to all the items listed. The instruments need to be taken in the order presented to you. As you complete a page simply go on to the next. Each instrument has its own machine scorable answer sheets upon which you will record your answers [one of the three instruments requires two answer sheets]. Please do not mark on the instruments themselves in that they will be used by other participants later. Number "two" pencils must be used and are provided for you. Extras are available from the researcher.

Do not go back to alter your responses once you have completed a page or section. Answer spontaneously and enjoy yourselves. If you must change a response, please erase completely the response you wish to change. There are no right or wrong answers; we simply what to know what you believe. Some of the items and activities may be unfamiliar to you: answer in terms of what you think the item means to the best of your knowledge.

When you have finished responding to each of the three instruments, the last page will contain four final questions we would like you to answer. 1) Please tell us how interesting you found participating in this investigation to be, 2) What questions do you think this study is attempting to answer? 3) Indicate your opinions as to the variables under investigation (in other words, be thinking as you participate about what questions are being asked and what concepts are being used in this investigation), and finally, 4) Would you like to hazard a guess as to what we will find? Thank you for your participation in this investigation.
1) Gender (circle):  MALE  FEMALE

2) Age (years) _______________________

3) Year in School (circle):
   FRESHMAN  SOPHOMORE  JUNIOR  SENIOR  GRAD

4) Year and Quarter entered Ohio State University: 19___________ (circle)
   Autumn  Winter  Spring  Summer

5) If you have chosen a major, please list it here:

6) If you have not decided on a major, please list the majors you are currently considering:

PARTICIPANT EVALUATION/SPECULATIONS

On the following scale please indicate how interesting you found participating in this investigation to be (circle):
Boring  Slightly Interesting  Neutral  Interesting  Very Interesting

   0  1  2  3  4

What questions do you think this study is attempting to answer?

Please list the variables you believe are being studied.

Would you like to hazard a guess as to what we will find?
APPENDIX E

EXPLANATION TO PARTICIPANTS

The study in which you have just participated is designed to study the relationship between what we believe we are capable of and what we believe is appropriate when it comes to career development. The literature in the psychology of career development indicates that men and women tend to cluster into traditionally male and traditionally female career options and that often for women, the choices made do not allow the full utilization of unique talents and potential, while men choose options more commensurate with their abilities.

In an effort to determine which attributes allow certain women to pursue more nontraditional options [and to explain why women in general gravitate toward female dominated careers] the concept of self-efficacy has been used to compare men's and women's beliefs about their capabilities to successfully pursue various careers and engage in certain requisite activities. Previous studies have found that, even when objectively measured abilities are equal, women as a group under-rate their capabilities in comparison to men. This is not however true of all women.

One aspect of women who do not under-rate their capability appears to involve the nature of their gender-role attitudes regarding the rights and roles of women in contemporary society. More liberal attitudes have been consistently associated with women's nontraditional career options. The present study was designed to directly assess the extent to which self-efficacy and gender-role attitudes are related, and whether the patterns of these relationships exist for men as well. If so, we want to know what the nature of these relationships are, and how they compare with the patterns produced by women.

For those interested in the results of this investigation, the data will be analyzed and presented in written form by early Spring of 1993. Questions regarding this investigation may be directed to:

Theodore W. Williams, M.A.
(Faculty Advisor: Nancy E. Betz, Ph.D.)
104 Townshend Hall
phone: 292-4166 or 863-6631
APPENDIX F

Gender Differential Response Patterns For Task-Specific Occupational Self-Efficacy Scale Item Content In Which Pattern Replication Varies by OSES Presentation Order

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>OSES PRESENTED FIRST</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES (n=56)</td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
<td>t</td>
</tr>
<tr>
<td>39. Control an aircraft.</td>
<td>3.8</td>
<td>1.2</td>
<td>2.8</td>
<td>1.3</td>
<td>3.94</td>
<td>.001*</td>
</tr>
<tr>
<td>49. Deal with all types of people.</td>
<td>3.9</td>
<td>1.2</td>
<td>4.4</td>
<td>.80</td>
<td>-2.81</td>
<td>.006</td>
</tr>
<tr>
<td>72. Speak accurately.</td>
<td>3.8</td>
<td>.93</td>
<td>4.2</td>
<td>.95</td>
<td>-2.34</td>
<td>.021</td>
</tr>
<tr>
<td>143. Interpret and report technical and scientific data.</td>
<td>3.6</td>
<td>.95</td>
<td>3.1</td>
<td>1.1</td>
<td>2.51</td>
<td>.013</td>
</tr>
<tr>
<td>170. Estimate the value of real estate and other property.</td>
<td>3.5</td>
<td>1.1</td>
<td>3.1</td>
<td>1.2</td>
<td>2.22</td>
<td>.028</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>OSES PRESENTED SECOND</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALES (N=55)</td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
<td>t</td>
</tr>
<tr>
<td>33. Apply logic to investigate situations</td>
<td>4.0</td>
<td>.83</td>
<td>3.6</td>
<td>.91</td>
<td>2.39</td>
<td>.018</td>
</tr>
<tr>
<td>110. Write technical reports</td>
<td>3.3</td>
<td>1.2</td>
<td>2.9</td>
<td>.93</td>
<td>2.29</td>
<td>.024</td>
</tr>
<tr>
<td>176. Physically able to endure long periods of driving time.</td>
<td>4.3</td>
<td>.92</td>
<td>3.6</td>
<td>1.2</td>
<td>3.83</td>
<td>.001*</td>
</tr>
</tbody>
</table>

*p<.001
## APPENDIX G

**Gender Differential Response Patterns For Task-Specific Occupational Self-Efficacy Scale Item Content Evidenced for Both Presentation Orders but In Which Replication of Patterns Did not Occur**

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>MALES</th>
<th>FEMales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=111)</td>
<td>(n=159)</td>
</tr>
<tr>
<td>8. Apply mathematical and engineering properties...</td>
<td>3.5 1.2</td>
<td>2.9 1.2</td>
</tr>
<tr>
<td>9. Use math to measure and estimate quantities.</td>
<td>3.9 1.1</td>
<td>3.3 1.3</td>
</tr>
<tr>
<td>15. Use scientific and technical language.</td>
<td>3.6 1.0</td>
<td>3.2 1.1</td>
</tr>
<tr>
<td>16. Use my eye, hand, and feet coordination to steer craft.</td>
<td>4.3 .88</td>
<td>3.8 .92</td>
</tr>
<tr>
<td>24. Care for sick or handicapped people.</td>
<td>3.6 1.1</td>
<td>4.0 1.1</td>
</tr>
<tr>
<td>76. Render ideas to accurate drawings.</td>
<td>3.6 1.1</td>
<td>2.9 1.2</td>
</tr>
<tr>
<td>156. Understand symbolic language in statistical data.</td>
<td>3.3 1.0</td>
<td>2.8 1.2</td>
</tr>
<tr>
<td>181. Operate equipment while under instruction.</td>
<td>4.3 .85</td>
<td>3.8 1.0</td>
</tr>
<tr>
<td>193. Interpret mathematical information.</td>
<td>3.7 1.1</td>
<td>3.0 1.3</td>
</tr>
<tr>
<td>194. Climb and balance on poles and ladders</td>
<td>4.0 1.1</td>
<td>3.1 1.3</td>
</tr>
<tr>
<td>198. Judge distance, judge speed, and read traffic signs from afar.</td>
<td>3.9 1.1</td>
<td>2.3 1.1</td>
</tr>
<tr>
<td>201. Use fine motor coordination.</td>
<td>4.1 .88</td>
<td>3.6 1.0</td>
</tr>
</tbody>
</table>

*p<.001*
## APPENDIX H

**Gender Differential Response Patterns For Task-Specific Occupational Self-Efficacy Scale Item Content**

Evidenced for 'OSES FIRST' Presentation Order Only And In Which Replication of Patterns Did not Occur

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>MALES (n=56)</th>
<th>FEMALES (n=79)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Maintain a positive rapport with students.</td>
<td>3.9 .80</td>
<td>4.3 .91</td>
<td>-2.34</td>
<td>.021</td>
</tr>
<tr>
<td>5. Move with poise and self-confidence.</td>
<td>3.9 .87</td>
<td>4.3 .83</td>
<td>-2.34</td>
<td>.021</td>
</tr>
<tr>
<td>6. Memorize theatrical dialogue.</td>
<td>3.1 1.1</td>
<td>3.7 1.2</td>
<td>-2.73</td>
<td>.007</td>
</tr>
<tr>
<td>11. Gain the trust and confidence of people.</td>
<td>4.2 85</td>
<td>4.6 .70</td>
<td>-2.44</td>
<td>.016</td>
</tr>
<tr>
<td>14. Follow instructions.</td>
<td>4.4 71</td>
<td>4.8 .48</td>
<td>-3.28</td>
<td>.001</td>
</tr>
<tr>
<td>23. Record figures and apply basic record-keeping methods.</td>
<td>3.8 .97</td>
<td>4.2 1.0</td>
<td>-2.33</td>
<td>.021</td>
</tr>
<tr>
<td>25. Know how to operate a motor vehicle.</td>
<td>4.8 .46</td>
<td>4.5 .84</td>
<td>2.47</td>
<td>.015</td>
</tr>
<tr>
<td>31. Speak clearly.</td>
<td>4.0 .97</td>
<td>4.3 .89</td>
<td>-2.38</td>
<td>.019</td>
</tr>
<tr>
<td>41. Verify completeness of articles with math \ visual skills.</td>
<td>3.8 87</td>
<td>3.3 1.3</td>
<td>2.53</td>
<td>.013</td>
</tr>
<tr>
<td>50. Be firm and courteous.</td>
<td>4.0 98</td>
<td>4.5 .66</td>
<td>-3.38</td>
<td>.001</td>
</tr>
<tr>
<td>58. Distinguish between hair textures.</td>
<td>3.2 1.1</td>
<td>3.6 1.1</td>
<td>-2.54</td>
<td>.012</td>
</tr>
<tr>
<td>75. Operate a vehicle.</td>
<td>4.7 60</td>
<td>4.4 .91</td>
<td>2.04</td>
<td>.044</td>
</tr>
<tr>
<td>76. Render ideas to accurate drawings.</td>
<td>3.5 1.1</td>
<td>3.0 1.2</td>
<td>2.49</td>
<td>.014</td>
</tr>
<tr>
<td>82. Solve complex problems logically.</td>
<td>3.9 .89</td>
<td>3.4 1.2</td>
<td>2.58</td>
<td>.011</td>
</tr>
<tr>
<td>97. Be tactful and courteous to others.</td>
<td>4.1 .86</td>
<td>4.5 .78</td>
<td>-2.63</td>
<td>.010</td>
</tr>
<tr>
<td>Item number and short description</td>
<td>MALES (n=56)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>108. Apply basic teaching skills.</td>
<td>4.0</td>
<td>.80</td>
<td>4.3</td>
<td>.87</td>
</tr>
<tr>
<td>109. Speak sincerely.</td>
<td>4.0</td>
<td>.92</td>
<td>4.6</td>
<td>.68</td>
</tr>
<tr>
<td>117. Note differences in a person's facial and hair features.</td>
<td>3.7</td>
<td>1.1</td>
<td>4.2</td>
<td>.96</td>
</tr>
<tr>
<td>123. Walk for long periods.</td>
<td>3.9</td>
<td>1.1</td>
<td>4.3</td>
<td>1.0</td>
</tr>
<tr>
<td>129. Deal with the public appropriately.</td>
<td>3.9</td>
<td>.98</td>
<td>4.2</td>
<td>.91</td>
</tr>
<tr>
<td>140. Write clearly.</td>
<td>3.7</td>
<td>1.1</td>
<td>4.1</td>
<td>1.0</td>
</tr>
<tr>
<td>167. Use my creativity to enhance my appearance.</td>
<td>3.6</td>
<td>1.1</td>
<td>3.9</td>
<td>1.1</td>
</tr>
<tr>
<td>178. Cooperate with others.</td>
<td>4.1</td>
<td>.85</td>
<td>4.5</td>
<td>.71</td>
</tr>
<tr>
<td>182. Communicate information to students.</td>
<td>3.9</td>
<td>.86</td>
<td>4.3</td>
<td>.83</td>
</tr>
<tr>
<td>185. Identify variations across objects.</td>
<td>3.8</td>
<td>.89</td>
<td>3.5</td>
<td>.98</td>
</tr>
<tr>
<td>214. Counsel or assist individuals with their problems.</td>
<td>3.8</td>
<td>1.1</td>
<td>4.5</td>
<td>81</td>
</tr>
<tr>
<td>217. Apply logic to identifying problems.</td>
<td>4.1</td>
<td>.78</td>
<td>3.7</td>
<td>1.2</td>
</tr>
<tr>
<td>226. Use logic to solve problems.</td>
<td>4.2</td>
<td>.73</td>
<td>3.7</td>
<td>1.2</td>
</tr>
</tbody>
</table>

*p<.001
APPENDIX I

Gender Differential Response Patterns For Task-Specific Occupational Self-Efficacy Scale Item Content
Evidenced for 'OSES SECOND' Presentation Order Only And In Which Replication of Patterns Did not Occur

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>MALES (n=55)</th>
<th>FEMALES (n=79)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Apply knowledge, logic, and scientific methods to study...</td>
<td>3.6 1.0</td>
<td>3.1 .90</td>
<td>3.18 .002</td>
<td></td>
</tr>
<tr>
<td>18. Render drawings, designs, and layout of items.</td>
<td>3.4 1.1</td>
<td>2.8 1.0</td>
<td>3.00 .003</td>
<td></td>
</tr>
<tr>
<td>20. Work under pressure or extreme circumstances.</td>
<td>4.0 .87</td>
<td>3.6 1.0</td>
<td>2.86 .005</td>
<td></td>
</tr>
<tr>
<td>22. Compute profit margins.</td>
<td>3.3 1.2</td>
<td>2.7 1.1</td>
<td>2.16 .033</td>
<td></td>
</tr>
<tr>
<td>37. Adapt to job changes and emergencies.</td>
<td>4.2 .75</td>
<td>3.9 .103</td>
<td>2.16 .033</td>
<td></td>
</tr>
<tr>
<td>47. Maintain good physical shape.</td>
<td>4.2 .80</td>
<td>3.9 .85</td>
<td>2.20 .029</td>
<td></td>
</tr>
<tr>
<td>57. Remain calm during emergencies.</td>
<td>4.2 .80</td>
<td>3.7 1.0</td>
<td>3.08 .003</td>
<td></td>
</tr>
<tr>
<td>60. Apply math skills to interpret reports.</td>
<td>3.5 1.2</td>
<td>2.9 1.2</td>
<td>2.89 .005</td>
<td></td>
</tr>
<tr>
<td>61. Apply mathematical knowledge.</td>
<td>3.7 1.2</td>
<td>3.1 1.1</td>
<td>2.61 .010</td>
<td></td>
</tr>
<tr>
<td>63. Use reasoning and judgement in job performance.</td>
<td>4.4 .60</td>
<td>4.2 .71</td>
<td>2.12 .036</td>
<td></td>
</tr>
<tr>
<td>68. Do active physical work.</td>
<td>4.3 .95</td>
<td>3.8 1.0</td>
<td>3.23 .002</td>
<td></td>
</tr>
<tr>
<td>69. Talk easily with people.</td>
<td>4.0 .95</td>
<td>4.4 .72</td>
<td>-2.30 .024</td>
<td></td>
</tr>
<tr>
<td>71. Make on-the-spot decisions in emergency situations.</td>
<td>4.1 .84</td>
<td>3.7 .93</td>
<td>2.20 .030</td>
<td></td>
</tr>
<tr>
<td>73. Work to precise measurements.</td>
<td>4.0 .85</td>
<td>4.5 .95</td>
<td>3.12 .002</td>
<td></td>
</tr>
<tr>
<td>Item number and short description</td>
<td>MALES (n=55)</td>
<td>FEMALES (n=79)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MEAN</td>
<td>SD</td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
<td>74. Use mathematical abilities.</td>
<td>3.9</td>
<td>1.1</td>
<td>3.3</td>
<td>1.1</td>
</tr>
<tr>
<td>79. Maintain a high degree of speed and accuracy.</td>
<td>4.0</td>
<td>.69</td>
<td>3.6</td>
<td>.86</td>
</tr>
<tr>
<td>85. Direct the work of others.</td>
<td>4.2</td>
<td>.86</td>
<td>3.9</td>
<td>.90</td>
</tr>
<tr>
<td>90. Use basic math skills for computations.</td>
<td>4.4</td>
<td>.88</td>
<td>3.8</td>
<td>1.0</td>
</tr>
<tr>
<td>95. Use math skills to count and keep records.</td>
<td>4.0</td>
<td>1.0</td>
<td>3.7</td>
<td>1.0</td>
</tr>
<tr>
<td>107. Coordinate body motions skillfully.</td>
<td>4.4</td>
<td>.97</td>
<td>4.0</td>
<td>.87</td>
</tr>
<tr>
<td>121. Use testing and measuring instruments.</td>
<td>3.9</td>
<td>.93</td>
<td>3.3</td>
<td>1.2</td>
</tr>
<tr>
<td>126. Adapt to physical and mental pressures.</td>
<td>4.1</td>
<td>.73</td>
<td>3.8</td>
<td>.98</td>
</tr>
<tr>
<td>128. Possess eye/hand coordination.</td>
<td>4.6</td>
<td>.60</td>
<td>4.3</td>
<td>.66</td>
</tr>
<tr>
<td>151. Prepare contracts and purchase orders.</td>
<td>3.4</td>
<td>.98</td>
<td>3.0</td>
<td>1.2</td>
</tr>
<tr>
<td>152. Compute costs.</td>
<td>3.8</td>
<td>1.0</td>
<td>3.5</td>
<td>1.2</td>
</tr>
<tr>
<td>163. Familiar with colors and tones.</td>
<td>3.3</td>
<td>1.2</td>
<td>3.7</td>
<td>.99</td>
</tr>
<tr>
<td>171. Keep physically fit.</td>
<td>4.4</td>
<td>.83</td>
<td>3.9</td>
<td>.96</td>
</tr>
<tr>
<td>174. Assign duties to other people.</td>
<td>4.2</td>
<td>.79</td>
<td>3.8</td>
<td>.95</td>
</tr>
<tr>
<td>180. Move my hands and fingers skillfully.</td>
<td>4.3</td>
<td>.92</td>
<td>3.9</td>
<td>.90</td>
</tr>
</tbody>
</table>

*p<.001
## APPENDIX I CONTINUED

<table>
<thead>
<tr>
<th>Item number and short description</th>
<th>MALES (n=111)</th>
<th>FEMALES (n=159)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be physically active and alert.</td>
<td>4.4 (.69)</td>
<td>4.0 (.89)</td>
<td>2.78</td>
<td>.006</td>
</tr>
<tr>
<td>Use my eyes, hands, and fingers together in handling...</td>
<td>3.9 (.97)</td>
<td>3.5 (1.1)</td>
<td>2.16</td>
<td>.032</td>
</tr>
<tr>
<td>Adapt quickly to emergencies.</td>
<td>4.2 (.79)</td>
<td>3.8 (.88)</td>
<td>2.58</td>
<td>.011</td>
</tr>
<tr>
<td>Operate calculating instruments.</td>
<td>4.0 (.92)</td>
<td>3.5 (1.2)</td>
<td>2.92</td>
<td>.004</td>
</tr>
<tr>
<td>Make decisions regarding business reports.</td>
<td>3.4 (.96)</td>
<td>3.0 (.95)</td>
<td>2.56</td>
<td>.012</td>
</tr>
<tr>
<td>Receive money and make change accurately.</td>
<td>4.7 (.51)</td>
<td>4.3 (.83)</td>
<td>2.80</td>
<td>.006</td>
</tr>
<tr>
<td>Follow physical directions with poise and self-confidence.</td>
<td>4.2 (.80)</td>
<td>3.9 (1.0)</td>
<td>2.23</td>
<td>.027</td>
</tr>
</tbody>
</table>
APPENDIX J

TASK-SPECIFIC OCCUPATIONAL SELF-EFFICACY SCALE
ITEMS PRODUCING GENDER NEUTRAL RESPONSE
 PATTERNS ACROSS CONDITIONS OF ORDER AND STUDIES

7. Adapt to routine work.
12. Visualize final art projects in three-dimensional forms.
13. Perceive three-dimensional forms.
17. Stay within prescribed guidelines for production work.
19. Form mental images of objects or structures.
26. Adjust to routine work.
27. Know habits and needs of various animals.
28. Physically able to care for, train and ride animals.
30. Negotiate with people in different work settings.
32. Work with financial and statistical data.
34. Pack and sort articles.
35. Draw sketches.
36. Speak convincingly.
38. Separate out work which does not meet standards.
42. Make decisions based on personal experience.
43. Organize research logically.
44. Stand for long periods.
45. Interpret information.
46. Keep confidentiality in administration of work.
48. Determine and measure differences in objects’ shape, color and texture.
51. Process numerical data and remain aware of details.
52. Adjust to prolonged routine work.
53. Use verifiable information to make decisions and judgements.
54. Attract and maintain others’ attention.
55. Work outdoors.
64. Apply logic and scientific information to diagnose human problems.
65. Make critical decisions and judgements.
66. Write intelligible reports to communicate ideas.
67. Possess scientific information.
77. Organize information accurately.
78. Apply special techniques to plan and direct activities dealing with plants and animals.
81. Deal with a wide range of matters.
84. Act out a role with pose and confidence.
86. Edit materials.
87. Create ideas for promotional campaigns.
88. Write to express ideas.
89. Use judgment to make decisions.
90. Use basic math skills for computations.
91. Follow simple instructions while performing routine work.
92. Be exposed to a variety of environmental conditions.
93. Compute mark-ups.
94. Review work for accuracy.
96. Make work activity and cost decisions.
98. Visualize objects and prints.
99. Write convincingly.
100. Keep accurate records.
101. Think logically to analyze information quickly.
102. Communicate effectively with others.
103. Use a personal computer.
104. Operate data processing equipment.
112. Write accurately.
113. Budget.
115. Read information without errors.
116. Compute costs.
118. Score music.
119. Interpret statistical information.
122. Record test findings.
125. Specialized clerical tasks.
127. Do routine work.
130. Adhere to objective specifications or standards
132. Evaluate product qualities.
135. Count money.
136. Draw conclusions.
138. Supervise others.
139. Demonstrate and sell products.
141. Distinguish between skin tones.
142. Interpret theatrical roles.
APPENDIX J CONTINUED

145. Plan and direct the work of others.
146. Proofread accurately.
147. Organize assorted materials.
148. Be influential.
149. Use my hands to draw, sculpt, or paint.
150. Direct performers in theatrical productions.
153. Observe animals for change in their health and physical condition.
154. Exercise patience in training animals to perform or obey commands.
157. Arrange shapes, forms, and colors artistically.
158. Possess a large vocabulary.
159. Use basic language skills.
161. Knowledge of music, tonal qualities, symbols, and scoring.
162. Operate switchboards or keyboards.
165. Use brushes, pens, tools, etc. to follow designs.
166. Produce attractive crafts.
168. Organize and direct the work of others while using tact and courtesy.
169. Perform repetitious work.
172. Sit, stand, pose, or walk before audiences, artists, and photographers with style.
173. Develop training materials.
177. Move my eyes, hands, feet, and body gracefully to express emotion or convey impressions.
179. Change tasks frequently.
184. Be persuasive.
187. React properly in emergency situations.
188. Keep my concentration during repetitive work.
189. Know symbolic language.
190. Understand detailed information.
191. Use common sense.
195. Apply my skills toward specialized social service programs.
197. Interpret instructions.
205. Use judgement and facts to make decisions.
206. Apply knowledge while informing people.
208. Analyze policy.
210. Participate in social activities.
211. Make judgements based on gathered information.
212. Record information accurately.
213. Compute costs of items purchased.
215. Know music theory.
216. Interpret policy.
APPENDIX J CONTINUED

218. Establish facts.
221. Apply logic toward specialized social service program.
222. Analyze and interpret materials.
223. Know art principles and techniques.
224. Display poise and concentration in entertaining.
226. Use logic to solve problems.
227. Keep records and reports.

Note: The studies involved were the present study and Rooney and Osipow (1992).
**APPENDIX K**

ATF Totals and Self-Identification with Feminism Item Scores as a Function of Gender, Degree of Feminist Orientation and Instrument Order

<table>
<thead>
<tr>
<th></th>
<th>MALES</th>
<th></th>
<th></th>
<th></th>
<th>FEMALES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATF Totals</td>
<td>OSES FIRST</td>
<td>OSES SECOND</td>
<td>OSES FIRST</td>
<td>OSES SECOND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Traditionalists</td>
<td>23.3</td>
<td>4.1</td>
<td>24</td>
<td>25.1</td>
<td>2.0</td>
<td>29</td>
<td>25.9</td>
<td>3.7</td>
</tr>
<tr>
<td>Feminists</td>
<td>30.5</td>
<td>3.4</td>
<td>32</td>
<td>30.6</td>
<td>2.7</td>
<td>35</td>
<td>33.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Gender Only</td>
<td>27.5</td>
<td>4.5</td>
<td>110</td>
<td>30.4</td>
<td>5.5</td>
<td>158</td>
<td>Total Sample</td>
<td>29.2</td>
</tr>
</tbody>
</table>

Self-Identification with Feminism Item

<table>
<thead>
<tr>
<th></th>
<th>MALES</th>
<th></th>
<th></th>
<th></th>
<th>FEMALES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSES FIRST</td>
<td>OSES SECOND</td>
<td>OSES FIRST</td>
<td>OSES SECOND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditionalist</td>
<td>2.1</td>
<td>.90</td>
<td>24</td>
<td>2.8</td>
<td>.80</td>
<td>29</td>
<td>2.6</td>
<td>.81</td>
</tr>
<tr>
<td>Feminist</td>
<td>2.8</td>
<td>.90</td>
<td>32</td>
<td>2.6</td>
<td>.96</td>
<td>35</td>
<td>3.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Gender Only</td>
<td>2.5</td>
<td>.9</td>
<td>110</td>
<td>3.2</td>
<td>1.0</td>
<td>158</td>
<td>Total Sample</td>
<td>2.9</td>
</tr>
</tbody>
</table>