THE ROLE ENACTMENT QUESTIONNAIRE: RELIABILITY AND VALIDITY TESTING

by

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Abstract

In dual-earner research, there is a dearth of psychometrically sound instruments that measure role quality. The author examined the reliability and validity of a new instrument, the Role Enactment Questionnaire (REQ). The REQ measures two role stressors: role intensity and role disparity, in the paid-work, spouse, parent, and individual roles. Reliability was assessed by calculating the REQ's internal consistency and test-retest reliability. Construct validity was evaluated through confirmatory factor analysis (CFA) and hypothesis testing.

The REQ was administered to 165 dual-earner parents with children six years or younger. The sample was very homogeneous with respect to age, education, and income levels. With the exception of two subscales that captured the intensity dimension in the paid-work and individual roles, Cronbach's alphas were high. Test-retest calculations indicated that the REQ was stable. Ten hypotheses were developed from demographic predictors of role intensity and role disparity. Seven of the hypotheses were confirmed by statistically significant results. CFA was somewhat supportive of construct validity but also demonstrated some lack of consistency in capturing the construct being measured by the instrument.

Hypothesis testing identified the continuing influence
of gender role norms on the dual-earner lifestyle, in this sample. A traditional division of labour dominated the allocation of domestic duties and work-role involvement.

Nurses who work with dual-earner parents can use demographic predictors to identify individuals vulnerable to role stress as measured by role intensity and role disparity. Similarly, administrators and nurse educators can use these predictors to address issues affecting personnel and students, respectively.

Although the study recommends some refinement of the REQ based on reliability and validity results, the instrument shows promise for use in the field of dual-earner research.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>viii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>ix</td>
</tr>
<tr>
<td><strong>CHAPTER ONE: INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>Problem Statement</td>
<td>7</td>
</tr>
<tr>
<td>Purpose</td>
<td>7</td>
</tr>
<tr>
<td>Research Questions</td>
<td>7</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>Conceptual Framework</td>
<td>9</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>10</td>
</tr>
<tr>
<td>- Role Intensity</td>
<td>10</td>
</tr>
<tr>
<td>- Role Disparity</td>
<td>12</td>
</tr>
<tr>
<td>Conclusion</td>
<td>13</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>13</td>
</tr>
<tr>
<td><strong>CHAPTER TWO: REVIEW OF THE LITERATURE</strong></td>
<td>15</td>
</tr>
<tr>
<td>The Nature and Impact of Roles</td>
<td>16</td>
</tr>
<tr>
<td>Aspects of Role Quality</td>
<td>20</td>
</tr>
<tr>
<td>Role Issues Associated with Dual-earner Families</td>
<td>24</td>
</tr>
<tr>
<td>with Young Children</td>
<td>24</td>
</tr>
<tr>
<td>- Demands of the Parent Role</td>
<td>24</td>
</tr>
<tr>
<td>- Demands of the Spouse Role</td>
<td>26</td>
</tr>
<tr>
<td>- Demands of the Paid-work Role</td>
<td>28</td>
</tr>
<tr>
<td>- Demands of the Individual Role</td>
<td>30</td>
</tr>
<tr>
<td>The Interaction of Role Demands and Attitudes</td>
<td>32</td>
</tr>
<tr>
<td>- Control</td>
<td>33</td>
</tr>
<tr>
<td>- Acceptability</td>
<td>35</td>
</tr>
<tr>
<td>The Importance of Contextualization in Dual-earner Research</td>
<td>38</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>41</td>
</tr>
<tr>
<td>- Description of the REQ</td>
<td>44</td>
</tr>
<tr>
<td>- Psychometric Properties of the REQ</td>
<td>44</td>
</tr>
<tr>
<td>- Reliability</td>
<td>45</td>
</tr>
<tr>
<td>- Validity</td>
<td>46</td>
</tr>
<tr>
<td>Critique of the REQ</td>
<td>47</td>
</tr>
</tbody>
</table>
### Method of Supporting Construct Validity

**Conclusion** 51

**Chapter Summary** 52

### CHAPTER THREE: METHOD

**Sample**
- Sample Recruitment 53
- Sample Criteria 54
  - Inclusion Criteria 54
  - Exclusion Criteria 55

**Study Procedures**
- Reliability Testing 55
- Validity Testing 56
  - Hypothesis Testing 56
  - Confirmatory Factor Analysis 57

**Data Analysis** 57

**Assumptions** 58

**Limitations** 59

**Ethical Considerations** 60

**Benefits of Participation**
- Risks from Participation 61

**Conclusion** 61

**Chapter Summary** 62

### CHAPTER FOUR: PRESENTATION AND DISCUSSION OF FINDINGS

**Sample Characteristics** 63

**Reliability**
- Internal Consistency 68
- Test-retest Reliability 73

**Construct Validity**
- Hypothesis Testing 77
- Role Intensity 78
- Role Disparity 93

**Confirmatory Factor Analysis**
- Analysis one (intensity and disparity) 102
- Analysis two (intensity in four roles) 106
- Analysis three (disparity in four roles) 110

**Chapter Summary** 113
# CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusions from Tool Testing</td>
<td>115</td>
</tr>
<tr>
<td>Reliability and Validity of the REQ</td>
<td>115</td>
</tr>
<tr>
<td>Implications for Tool Development</td>
<td>118</td>
</tr>
<tr>
<td>Tool Revision</td>
<td>118</td>
</tr>
<tr>
<td>The Paid-work Role</td>
<td>118</td>
</tr>
<tr>
<td>The Spouse Role</td>
<td>120</td>
</tr>
<tr>
<td>The Parent Role</td>
<td>121</td>
</tr>
<tr>
<td>The Individual Role</td>
<td>121</td>
</tr>
<tr>
<td>Future Psychometric Testing of the REQ</td>
<td>122</td>
</tr>
<tr>
<td>Utility of the REQ for Nursing</td>
<td>123</td>
</tr>
<tr>
<td>Conclusions from Hypothesis Testing</td>
<td>124</td>
</tr>
<tr>
<td>Implications for Nursing</td>
<td>125</td>
</tr>
<tr>
<td>Clinical Practice</td>
<td>127</td>
</tr>
<tr>
<td>Nursing Education</td>
<td>127</td>
</tr>
<tr>
<td>Nursing Administration</td>
<td>128</td>
</tr>
<tr>
<td>Nursing Research</td>
<td>130</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>131</td>
</tr>
<tr>
<td>Concluding Comments</td>
<td>131</td>
</tr>
<tr>
<td>Thesis Summary</td>
<td>132</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>134</td>
</tr>
<tr>
<td>APPENDIX A: The Role Enactment Questionnaire</td>
<td>156</td>
</tr>
<tr>
<td>APPENDIX B: Cover Letter</td>
<td>165</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1.</td>
<td>Number and ages of children</td>
<td>64</td>
</tr>
<tr>
<td>Table 2.</td>
<td>Dual-earners' hours of work</td>
<td>66</td>
</tr>
<tr>
<td>Table 3.</td>
<td>Internal consistency: Comparison of findings for role dimensions</td>
<td>69</td>
</tr>
<tr>
<td>Table 4.</td>
<td>Internal consistency: Comparison of findings for role components</td>
<td>70</td>
</tr>
<tr>
<td>Table 5.</td>
<td>Test-retest reliability: Comparison of findings for role dimensions</td>
<td>74</td>
</tr>
<tr>
<td>Table 6.</td>
<td>Test-retest reliability: Comparison of findings for role components</td>
<td>75</td>
</tr>
<tr>
<td>Table 7.</td>
<td>Test scores for dual-earner men and women</td>
<td>78</td>
</tr>
<tr>
<td>Table 8.</td>
<td>Intensity scores for dual-earner women</td>
<td>84</td>
</tr>
<tr>
<td>Table 9.</td>
<td>Intensity scores for dual-earners</td>
<td>85</td>
</tr>
<tr>
<td>Table 10.</td>
<td>Test scores in the paid-work role for dual-earners</td>
<td>89</td>
</tr>
<tr>
<td>Table 11.</td>
<td>Number of working hours for men and women</td>
<td>92</td>
</tr>
<tr>
<td>Table 12.</td>
<td>Disparity scores for dual-earners</td>
<td>93</td>
</tr>
</tbody>
</table>
List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1. The antecedents of role strain</td>
<td>10</td>
</tr>
</tbody>
</table>
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CHAPTER ONE
Background

One of the most dramatic social changes that has occurred is the influx of women into the labour force (Ghalam, 1993). Statistics reveal that in 1991, 45% of the labour force consisted of women, compared with 36% in 1975 (Ghalam, 1993). A significant feature of this trend is the increased number of married women participating in paid employment. In 1991, 56% of married Canadian women were employed outside the home (Ghalam, 1993). By virtue of this labour force participation the number of dual-earner families has increased to 62%, making this model of Canadian life the norm (Ghalam, 1993).

Of note is the number of married women who are remaining in paid-work positions during their child rearing years. Within this group, women with preschool children have shown the greatest increase (Cowan & Cowan, 1992; Googins & Burden, 1987; Levanthal-Belfer, Matthews, & Rodin, 1989; Presser, 1988). Since 1981 the proportion of employed Canadian mothers with preschoolers rose from 42% to 57% (Ghalam, 1993).

The dual-earner occupies the social roles of worker, spouse, parent, and individual (Hall, 1987). This multiple role pattern leads to a complex lifestyle involving numerous obligations (Anderson-Kulman & Paludi, 1986). A concern
that the obligations associated with multiple roles may prove challenging to individuals has increasingly permeated the research literature (Bolger, Delongis, Kessler, & Wethington, 1989; Hirsch & Rapkin, 1986; Verbrugge, 1986).

Researchers examining multiple roles have been guided by one of two theoretical perspectives: the scarcity hypothesis or the expansion hypothesis (Froberg, Gjerdingen, & Preston, 1986; Marks, 1977). Both perspectives are based on the concept of human energy. However, the outcomes of multiple role involvement predicted by the two hypotheses are diametrically opposed. The scarcity hypothesis predicts role strain for multiple role incumbents, while the expansion hypothesis predicts role gratification (Goode, 1960; Marks, 1977). The presence of findings supportive of both perspectives suggests multiple roles can result in both harmful and beneficial outcomes (Hall, 1993; Marshall & Barnett, 1993).

Of the two hypotheses, the expansion hypothesis has received the most empirical support (Barnett, Biener, & Baruch, 1987; Froberg et al., 1986; Repetti, Matthews, & Waldron, 1989). However, both the expansion hypothesis and the scarcity hypothesis are limited because they focus on the number of roles an individual performs (Piechowski, 1992; Pietromonaco, Manis, & Frohardt-Lane, 1986). Froberg et al. (1986) argue that "the consequence of role
accumulation should depend not only on the number of roles occupied but on types of roles and their characteristics" (p. 84). Variations in the quality of roles allow for considerable individual differences in the outcomes associated with roles.

Study findings that affirm the benign effect of multiple roles but fail to consider role quality may mask the risks of role strain (Froberg et al., 1986; Hirsch & Rapkin, 1986; Marshall & Barnett, 1993). The dual-earner couple with young children represents a population subgroup that experiences intense and frequently non-negotiable role demands. Such role demands may attenuate the beneficial effects of multiple roles and result in role strain (Kessler & McRae, 1982; Waldron & Jacobs, 1989).

To address these issues, Hirsch and Rapkin (1986) suggest researchers identify the conditions which account for such divergent outcomes as role strain and role gratification. Unfortunately, this line of research has not been systematically investigated (Burke & McKeen, 1988; Guelzow, Bird, & Koball, 1991). Currently, no empirical model is consistently used to explain the relationship of role antecedents to role outcomes. This results in considerable difficulty interpreting and synthesizing extant study findings.
In order to determine the effects of role antecedents on role outcomes it is important to develop and test comprehensive models. Pearlin (1989) suggests researchers use a sociological model of the stress process to investigate role phenomena. Ward (1986) has developed a theoretical framework which describes the antecedents and consequences of role stress. Ward's (1986) framework proposes role stress antecedents which "do not always lead to role strain, but in fact may produce the opposite, desirable" outcome of role gratification (Ward, 1986, p. 44). Mediating conditions determine the role outcome.

Integral to operationalizing and testing the antecedent components of Ward's (1986) model is reliable and valid instrumentation. In order to be useful an instrument must be consistent with Ward's (1986) framework, relate to theoretically clear constructs, and be capable of simultaneously measuring role stress antecedents which arise from the work and family domains (Frone, Russell & Cooper, 1991; Parry & Warr, 1980). Furthermore, the tool should be suitable for both genders.

Unfortunately, current published instruments fail to meet these criteria. Some tools are not structured to capture antecedents of role strain without the assumption of inherent negative outcomes. The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) precludes the
possibility of a positive role outcome for respondents with high scores. The Perceived Work-Family Conflict Scale (Loerch, Russell, & Rush, 1989) also implies role strain is an inevitable outcome of role stress. The Stress Index (Reifman, Biernat, & Lang, 1991) muddies the conceptual waters by combining items that measure role stressors with items that measure role strain.

Other instruments have been developed atheoretically and are tailor-made for use in a single study (Amatea & Fong, 1991; Hibbard & Pope, 1985; Kandel, Davies, & Raveis, 1985; Sears & Galambos, 1992; Voydanoff, 1988). Such tools do not accurately reflect role strain antecedents. Moreover, critics lament the use of "one-shot" investigator-designed instruments because psychometric evaluation is seldom available (Johnson, 1989; Pietromonaco et al., 1986).

Many instruments fail to measure the combined effects of family and work roles. The Stress Diagnostic Survey (Ivancevich & Matteson, 1980) and Burke's (1988) Work Stressors tool measure work stress, only. Similarly, the Parenting Stress Index (Abidin, 1980) and the Parenting Daily Hassles Scale used by Crnic and Booth (1991) both tap solely into the family role domain.

Other instruments are unsuitable for men. Parry and Warr (1980) developed the HERS attitude scales for working
class women with young children. The Lengacher Role Strain Inventory (Lengacher, 1993) measures role strain in female nursing students. Hall's Everyday Stressors Index (1990) is used exclusively in research that studies mothers.

Baruch and Barnett's (1986) rewards and concerns scales are theory driven and assess the parental, occupational, and marital roles for both genders. However, the instruments do not isolate and quantify discrete role antecedents that may impact on role outcomes. Moreover, rewarding characteristics of each role are subtracted from distressing role characteristics which produces a balance score (Baruch & Barnett, 1986). This method of scoring masks the role aspects that contribute to outcomes.

Hall's (1993) Role Enactment Questionnaire (REQ) is an instrument that may not be subject to the limitations associated with other tools. The REQ (Appendix A) measures two role stress antecedents proposed in Ward's (1986) framework, role intensity and role disparity. The tool is capable of measuring work and non-work stress in both genders. Preliminary testing suggests the REQ is reliable and valid (Hall, 1993). But, before this tool can be used by researchers or clinicians to measure role stress antecedents inherent in the dual-earner lifestyle, in-depth psychometric testing must be conducted.
Problem Statement

Progress towards understanding role strain in the dual-earner population is hampered because current instruments do not focus on role stress or antecedents to strain. The recently developed REQ (Hall, 1993) is a tool that measures role intensity and role disparity in the paid-work, spouse, parent, and individual roles. Furthermore, role intensity and role disparity are concepts that are not ubiquitously associated with role strain. These concepts also have the potential to result in role gratification. Thus the REQ may be utilized in research examining the positive and negative outcomes of role quality. Although preliminary testing supports the reliability and validity of the tool, more extensive psychometric testing is warranted. Therefore, the reliability and validity of the REQ require assessment.

Purpose

The purpose of this study is to assess the reliability and validity of the REQ which measures two antecedents of role strain: role intensity and role disparity.

Research Questions

1. What is the internal consistency of the Role Enactment Questionnaire?

2. What is the test-retest reliability of the Role Enactment Questionnaire?
3. What is the construct validity of the Role Enactment Questionnaire?

Definition of Terms

1. Internal consistency: Internal consistency evaluates the homogeneity of an instrument and is defined as the "consistency of performance of a group of individuals across the items on a single test" (Waltz & Bausell, 1981, p. 62).

2. Test-retest reliability: Test-retest reliability measures the stability of an instrument and is defined as "the consistency of performance one measure elicits from one group of subjects on two separate measurement occasions" (Waltz, Strickland, & Lenz, 1984, p. 135).

3. Construct validity: A "tool's construct validity is based on the extent that a test measures a theoretical construct or trait" (LoBiondo-Wood & Haber, 1986, p. 187).

Conceptual Framework

Hall's (1993) role antecedent framework is used to support hypotheses that test the construct validity of the REQ. The framework proposes that strain and gratification result from role stress antecedents for individuals engaged in the paid-work, spouse, parent, and individual roles. Two antecedents are identified, role intensity and role disparity. Role intensity describes the amount of time and effort an individual devotes to the four role components.
Role disparity represents the discrepancy an individual experiences between role "expectations, existing attitudes, and actual behaviours" (Hall, 1993, p. 59).

Because the literature demonstrates that role stress antecedents and demographic resources are correlated, Hall (1993) suggests researchers may predict role intensity and role disparity by assessing demographic resources. Thus, in the conceptual framework, demographic variables such as number of children, number of paid-work hours, education, income, gender, and age are depicted as affecting the degree of role intensity and disparity that individuals experience (see Figure 1).
Figure 1.
The antecedents of role strain


Hypotheses

The following hypotheses predict the relationships between demographic variables and the indicators of role stress: role intensity and role disparity.

Role Intensity

1. Women are primarily responsible for child care (Crompton, 1991; Marshall & Barnett, 1993). Thus, dual-earner mothers will score higher on the role intensity dimension of the parenting role than dual-earner fathers.
2. Both genders tend to overperform in one primary role: Women focus on the family role and men focus on the work role (Barnett et al., 1987; Froberg et al., 1986). Therefore, dual-earner fathers will have higher role intensity scores in the paid-work role than dual-earner mothers.

3. Greater numbers of children will result in increased domestic responsibilities for women (Cleary & Mechanic, 1983; Schnitger & Bird, 1990; Verbrugge, 1986). It is hypothesized that dual-earner mothers with more than one child will have higher scores on the role intensity dimension of the parent and spouse roles than dual-earner mothers with one child.

4. Individuals who earn high incomes probably experience greater occupational role demands and responsibilities. Therefore, dual-earners with high incomes will have higher role intensity scores in the paid-work role than dual-earners with low incomes.

5. An increase in the number of paid-work hours increases an individual's work role demands. Thus, dual-earners who work full-time will have higher role intensity scores in the paid-work role than dual-earners who work part-time.
Role Disparity

6. Dual-earners with more than one child will experience greater disparity in the spouse and individual roles than dual-earners with one child.

7. Dual-earners who work full-time (over 30 hours a week) will experience greater disparity in the paid-work role than dual-earners who work part-time (30 hours a week or less).

8. Some men experience difficulty creating a satisfying fatherhood role (Barnett et al., 1987; Hanson & Bozett, 1987; Rotundo, 1985; Scott & Alwin, 1989). Barriers to parenting for fathers include: heavy work demands, ambiguous role expectations, and the reluctance of mothers to yield child care turf (Baruch & Barnett, 1986; Cowan & Cowan, 1988; Hanson, 1985). It is expected that dual-earner fathers will have higher role disparity scores in the parent role than dual-earner women.

9. Women are less likely than men to engage in activities that are self-related (Hall, 1992; Schnittger & Bird, 1990). Thus, dual-earner mothers will have higher role disparity scores in the individual role than dual-earner fathers.

10. The literature reports that women with more education experience greater congruence between their employment status and their conception of appropriate female
behaviour (Kessler & McRae, 1982). Therefore, dual-earner mothers working full-time who have college or professional preparation will have lower role disparity scores in the paid-work role than dual-earner mothers working full-time who have a high school diploma or less.

Conclusion

Dual-earner parents of preschoolers experience unique role conditions that may lead to role strain or gratification. The challenge for researchers is to determine how role conditions influence outcomes. Hall's (1993) REQ may be an instrument ideally suited to meet this challenge. The REQ is suitable for both genders and quantifies two indicators of role stress: intensity and disparity, in the paid-work, spouse, parent, and individual roles. Preliminary psychometric testing of the REQ has yielded promising results. However, additional testing must be performed before the REQ can be used by researchers or clinical practitioners. This study proposes to address this problem by testing the reliability and validity of the REQ.

Chapter Summary

In the first chapter, the background issues associated with dual-earner research were introduced. The problem statement, purpose, and research questions were presented. In addition, the reader was provided with a definition of the terms used in the study. Finally, the conceptual
framework and the hypotheses derived from it were detailed.

In order to contribute to the knowledge base, the study "must be placed in the context of what scientific work has gone before" (Wilson, 1987, p. 95). Therefore, in the second chapter, the reader is offered a comprehensive and critical review of the literature.
CHAPTER TWO

Review of the Literature

Due to increases in job opportunities, changes in sex-role attitudes, and a steady decline in families' spending power, women have increased their participation in the labour force (Smith, 1979). The most startling aspect of this trend is the number of mothers who work during their children's preschool years. In addition to the financial necessity to continue working while children are very young, mothers are unwilling to interrupt their career plans (Power & Parke, 1984).

Women's labour force participation has resulted in a significant increase in the number of dual-earner families with young children. Unfortunately, the literature reflects a disturbing lack of consensus regarding the effects of combining the paid-work, spouse, parent, and individual roles (Hall, 1993; Johnson & Johnson, 1980). The following review of the literature addresses a number of areas associated with this issue including: (a) the nature and impact of roles, (b) aspects of role quality, (c) role issues associated with dual-earner families with young children, (d) the importance of contextualization in dual-earner research and, (e) instrumentation.
The Nature and Impact of Roles

Two dominant theoretical perspectives in the literature propose conflicting outcomes associated with multiple role involvement: the scarcity hypothesis and the expansion hypothesis (Froberg et al., 1986). The scarcity hypothesis posits that multiple roles are harmful because they act as a drain on the individual's energy resources (Goode, 1960). Energy is utilized when individuals meet role demands; as roles accumulate, demands increase, and obligations mount. Attempts to fulfill total role obligations rapidly deplete the individual's finite energy reserves. Energy supplies become exhausted and the individual is overwhelmed. The result is role strain, "the felt difficulty in fulfilling role obligations" (Goode, 1960, p. 483).

Although some role strain is inevitable, high levels may prove deleterious (Goode, 1960). Therefore, the individual attempts to reduce the level of strain experienced. The individual makes role decisions and bargains which are designed to diminish role demands (Barnett et al., 1987; Goode, 1960; Pietromonaco et al., 1986). If role strain is not reduced to manageable levels the individual may experience mental and/or physical distress (Goode, 1960; Scott & Alwin, 1989).

Researchers have used a variety of outcome variables to measure role strain. Strain is reflected in negative
affective states and may manifest as: fatigue, exhaustion, embarrassment, worry, dissatisfaction, somatization, discomfort, depression, anxiety, obsessive compulsiveness, and anger/hostility (McBride, 1990; Ward, 1986). Indices of job dissatisfaction, such as absenteeism and turnover, are also used to operationalize role strain (Ward, 1986). Hall (1991) identifies marital conflict, family dissatisfaction, and illness as empirical referents of role strain.

In contrast to the scarcity hypothesis, proponents of the expansion hypothesis argue that social involvements vitalize individuals (Marks, 1977). Marks (1977) proposes activity stimulates the body to produce energy and that human beings have perpetually renewing energy resources. Conditions determine whether or not energy is available for role activities (Marks, 1977). "Persons construct their response to the demands of others" (Marks, 1977, p. 927). Thus, energy can be "found for anything to which we are highly committed" (Marks, 1977, p. 927). Roles in which an individual is committed "may even create energy for use in that role or in other role performances" (Marks, 1977, p. 926).

Multiple role lifestyles can also be extremely gratifying. Society provides "both monetary and non-monetary rewards for role performance" (Hirsch & Rapkin, 1986, p. 1237). Privileges, status, security, self-esteem,
personality enrichment, and social relationships are associated with multiple role enactment (Froberg et al., 1986; Pugliesi, 1989; Thoits, 1983). In addition, multiple role incumbents who experience gratification in one role may be protected from negative experiences in other roles (Barnett, Marshall, & Sayer, 1992).

The expansion hypothesis also acknowledges the existence of role strain, but strain is attributed to an imbalance in commitment levels among various roles in the set (Marks, 1977). When one role is preferred over others, the individual spends more time performing activities associated with it (Marks, 1977). Over time, the preferred role usurps time and energy previously allotted to other roles. When the individual neglects role activities associated with the undercommitted roles, role strain occurs.

Findings in the literature support both the scarcity and the expansion hypotheses. However, studies have consistently shown that individuals occupying the greatest number of roles report the lowest levels of strain (Amatea & Fong, 1991; Barnett, Marshall, & Singer, 1992; Hibbard & Pope, 1985; Pietromonaco et al., 1986; Thoits, 1983; Waldron & Jacobs, 1989).

The contention that there is a simple relationship between role quantity and role strain has not been supported
in the literature. Theorists surmise that role strain and role gratification may result from the mediation of stressors associated with multiple role involvement (McBride, 1990; Piechowski, 1992; Rice, Frone, & McFarlin, 1992). However, confirmation of this hypothesis awaits the testing of comprehensive models which include the antecedents and consequences of role stress (Burke, 1988).

Ward (1986) provides a clear conceptual framework that links antecedent stressors to consequences (role strain or role gratification) through mediating conditions. In this framework, the following stressors precede role outcomes: role conflict, role accumulation, role rigidities, role ambiguity, role incompetence, role overqualification, role incongruity, role uncertainty, role incompatibility, role tedium, role disparity, and role intensity. Intervening conditions determine whether these stressors result in role strain or role gratification. The difficulty with Ward's (1986) conceptual framework is that none of the antecedent stressors are well defined.

Theorists emphasize the importance of clearly defining and contextualizing antecedent stressors. Campbell and Moen (1992) believe that understanding these stressors may lead to solutions to role strain. Moreover, Pearlin (1989) insists the antecedents to strain:
need to be understood in terms of process, whereby broad structured and institutional forces [and] constellations ... converge ... to affect peoples' well-being. We must guide our efforts not simply by identifying and adding together all factors that might contribute to the variance of an outcome but also by asking how and why these contributions came about (p. 249).

Failure to understand this process limits researchers' abilities to implicate specific role attributes as aspects of role stress which potentially lead to role strain. Furthermore, without a clear understanding of the interaction among role stress and mediators, clinicians are hampered from developing research-based strategies that may prevent or reduce role strain (Wethington & Kessler, 1986).

Aspects of Role Quality

Most researchers have shifted their attention from role quantity to role quality. Froberg et al., (1986) suggest role quality be considered because "the same role can be experienced differently depending on the person and the circumstances" (p. 87). "Both gender-socialized individual characteristics and the broader sociocultural context may play a role" in determining individuals' responses (Piechowski, 1992, p. 134). Thus, "the perceived quality of the role appears to be a better predictor of well-being than
the mere occupancy of that position" (Hirsch & Rapkin, 1986, p. 1238).

Part of the examination of role quality includes a closer look at role conditions. The following conditions have been identified as sources of strain: role incongruity, role incompatibility, role conflict, role ambiguity, and role overload (Burr, 1976; Goode, 1960; Ward, 1986). However, only a few of these constructs have been tested empirically.

Researchers have examined the effects that role ambiguity, role conflict, and role overload exert on outcomes (Avant, 1988; Elman & Gilbert, 1984; Pleck, 1985; Rudd & McKenry, 1986; Shehan, 1984). Some investigators find that these constructs have negative effects. For instance, Bacharach and Bamberger (1992) demonstrate role ambiguity, conflict, and overload are related to burn-out and turn-over intentions. Barling and Macewen (1992) report role conflict and ambiguity are associated with impaired concentration and depression. Role conflict is linked to low levels of marital adjustment (Greenhaus, Bedeian, & Mossholder, 1987) and depression, anxiety, and somatization in men and women (Greenglass, Pantony, & Burke, 1988).

In contrast, other researchers conclude role ambiguity, role overload, and role conflict have no effect on outcomes (Coverman, 1989; Voydanoff, 1988). Voydanoff (1988) reports
role ambiguity and conflict are not related to work/family conflict—a construct the author describes as being "similar to, but narrower than, role strain" (p. 749). Similarly, Amatea and Fong (1991) find "neither reported role demand level nor internal role conflict are positively correlated with strain at a significant level" (p. 427). Verbrugge (1986) notes role overload (denoted by long work hours) is not correlated with poor health.

Role conflict and role overload have also been associated with positive outcomes. Baruch and Barnett (1986) conclude minimal levels of role conflict are a stimulus to performance. In an ethnography, Jones (1993) reports administrators experienced an "energizing effect resulting from the ongoing challenge of dealing with conflict" (p. 136). Kandel et al. (1985) find subjects with high workload levels report less role-related stress.

Methodological shortcomings may account for contradictory findings. In their meta-analysis of role conflict and ambiguity, Fisher and Gitelson (1983) conclude some variability in correlational results across samples may be due to statistical artifacts and the confounding effect of moderators. Coverman (1989) insists discrepancies may also be related to researchers' tendency to use role ambiguity, conflict, and overload interchangeably, even though each construct represents a distinct conceptual
domain. Moreover inconsistent findings may result from variations in the definitions and operationalizations of the constructs (Johnson, 1989). Furthermore many instruments utilized to measure the key constructs possess only moderate degrees of validity and reliability (Johnson, 1989).

Finally, researchers disagree on how to model the constructs' theoretical relationships with role strain. Anderson-Kulman and Paludi (1986) hypothesize role conflict functions as a precursor to role strain. Pearlin (1989) and Repetti et al. (1989) treat role conflict and overload as two types of role strain, rather than precursors to role strain. Several theorists conceptualize role conflict and overload as the primary ingredients of role strain (Guelzow, et al., 1991; Ross & Mirowsky, 1988).

Researchers must clearly define and operationalize role stress constructs. "The manner in which [man] formulates concepts influences his understanding ... and becomes a source of difficulty when the meanings of concepts are diverse and the referents poorly specified" (Berthold, 1964, p. 406). The lack of clarity in the conceptualization and operationalization of role constructs limits the usefulness of extant study findings.

In order to operationalize constructs salient to role outcomes, theorists must first develop more rigorous ways of conceptualizing role qualities (Amatea & Fong, 1991).
Voydanoff (1988) suggests looking at role demands, the structural characteristics of roles.

**Role Demands Associated with Dual-earner Families with Young Children**

The literature indicates dual-earner parents experience intense role demands during their children's preschool years. These demands are numerous and frequently non-negotiable. Dual-earners are challenged by the accumulation of role demands associated with the parent, paid-work, spouse, and individual roles (Greenhaus, 1988; Kelly & Voydanoff, 1986).

**Demands of the Parent Role**

Researchers have long suspected that younger children are associated with higher parental role demands (Gove & Geerkin, 1977; Umberson & Gove, 1989). Pearlin and Schooler (1978) insist that "as children grow older time demands decline in a jagged curve from the near continuous demands of newborn children to the relatively complete autonomy of young adults" (p. 110). Moen and Dempster-McClain (1987) report "parents spend more time with their children if the youngest child is under six than if the youngest is of school age" (p. 585). Scarr, Phillips, and McCartney (1989) indicate women who are mothers of babies and young children spend more hours on their family roles than do mothers with older children.
Due to their high dependency level, young children create greater workloads (Walker & Best, 1991). Moreover young children are less able than older children to assist with household chores (Gove & Geerkin, 1977; Schnittger & Bird, 1990).

Parents with large families experience even greater role demands (Greenhaus & Beutell, 1985; Moen & Dempster-McClain, 1987). The number of children is positively related to the number of hours parents spend performing child care and housekeeping tasks (Voydanoff, 1988).

Responsibility for parenting also functions as a heavy role demand (Pearlin & Schooler, 1978). Numerous studies suggest primary responsibility for child care continues to be the province of women (Hibbard & Pope, 1985; Kach & McGhee, 1982; Marshall & Barnett, 1993; Michelson, 1985; Pearlin & Schooler, 1978; Scarr et al., 1989; Scott & Alwin, 1989; Suitor, 1991; Verbrugge, 1983). Although men are becoming increasingly involved with their children, they are "not actually responsible for the child care in the way that their wives" are (Olds, Schwartz, Eisen, Betcher, & Van Niel, 1993, p. 11). Even when parents share child care "it is the women who most often implement the sharing--remembering when tasks need to be done, assigning tasks, and checking on task progress" (Schnittger & Bird, 1990, p. 201).
Mothers are also primarily responsible for ensuring their children's health and happiness (Marshall & Barnett, 1993; McBride, 1990; Michelson, 1985; Pearlin & Schooler, 1978). Changes in ideology concerning human nature add to parental responsibility. In contrast with an earlier view in which the child was considered a bundle of impulses requiring parental control, the current view is that there is rich potential in every child. Mothers are responsible for developing the potential into a well-adjusted adult (Johnson & Johnson, 1980).

**Demands of the Spouse Role**

A significant demand for the dual-career couple is creating and sustaining a harmonious spousal relationship (Crouter, Perry-Jenkins, Huston, & McHale, 1987; Vannoy & Philliber, 1992). Towards this end couples must devise a mutually satisfying division of household labour. Hall's (1987) sample of working mothers felt that negotiating domestic responsibilities with their husbands was "a way of maintaining their marital relationships" (p. 192).

The literature suggests household chores are not evenly divided between men and women (Benin & Agostinelli, 1988; Crouter et al., 1987; Fish, New, & Van Cleave, 1992). Women accept greater responsibility for domestic chores than men (Darling-Fisher & Tiedje, 1990; Geerken & Gove, 1983). Women in dual-earner families are more likely to retain sole
responsibility for grocery shopping and cooking (Marat & Finlay, 1984). Gunter and Gunter (1991) remark "women's motivation for the performance of household tasks ... likely represents the belief that it [is] their responsibility, while men [are] more likely to feel that these tasks [are] not their job, and when they do them, it [is] merely to help out" (p. 562).

An additional role demand for dual-earners is finding time to spend together. The pressing nature of couples' work schedules can mean a loss in togetherness (Hall, 1992). The presence of young children also limits the time spouses can spend together, except, perhaps in child-care roles (Kingston & Nock, 1987). Furthermore, by the time couples have finished work, tidied the house, and put the children to bed, they are exhausted. There may be "little emotional or physical energy left to relate in a meaningful way to a spouse" (Googins, 1991, p. 166).

Kingston and Nock (1987) report dual-earner couples try hard to share time. Compared to single-earners, dual-earners spend only 30 minutes a day less with their spouses. However, although the amount of time together is related to marital quality, Kingston and Nock (1987) conclude "the kind of time together also matters. The more time together in activities such as eating, playing, and conversing the more satisfying the marriage" (p. 399).
Meleis and Stevens (1992) state that the most frequently cited sources of marital satisfaction for clerical women are companionship and reciprocity of affection.

Some research suggests certain spousal role demands may be neglected by dual-earner parents with young children (Chassin, Zeiss, Cooper, & Reaven, 1985; Hughes, Galinsky, & Morris, 1992). Some couples with children under five report a decrease in intimacy and an increase in conflict (Olds et al., 1993). After analyzing 27 studies, Smith (1985) concludes that, compared to single-earner couples, dual-earners have a less rewarding sex life and obtain lower scores on communication measures.

Demands of the Paid-work Role

Combining the parent role with the paid-work role increases overall role demands. Often young parents are establishing a career which may require a significant degree of commitment to work-related tasks (Schnittger & Bird, 1990). Performing well in the work role can demand more time and effort than individuals expect (Greenhaus et al., 1987). Moen and Dempster-McClain (1987) report that, for their sample of dual-earners, the demands of the job were greater than either spouse preferred.

An increase in the number of paid-work hours increases work-role demands (Rosenfield, 1989). Employment
characteristics such as job-related travel and commuting contribute to the amount of time parents spend in the paid-work role (Burke & McKeen, 1988). Moreover, working overtime and moonlighting create time shortages among employed parents (Voydanoff, 1988). For one sample of employed parents, "overtime worked and the degree of dissatisfaction with work hours and scheduling" acted as significant predictors of job tension (Kelly & Voydanoff, 1985, p. 373).

The literature indicates men experience heavier paid-work demands than women. Sekaran (1985) reports family interests superseded career concerns for some professional women who perceived their careers as being highly salient. Men of all marital and parental status categories generally work more hours a week than women (Googins, 1991). In Canada, women devote "an average of 6.0 hours per day to paid work and education compared with 7.2 hours for men" (Ghalam, 1993). Evidence suggests that in order to cope with the dual-earner lifestyle, families limit the job involvement of mothers (Froberg et al., 1986).

Theorists attribute differences in paid-work commitments to both genders' tendency to overperform in their core roles: Men focus on the work role and women focus on the family role (Barnett et al., 1987; Cleary & Mechanic, 1983). Bielby (1992) believes women are less
committed to the occupational role due to gender differences in the workplace. The majority of employed women "occupy jobs traditionally assigned to females and characterized by low power, prestige, and pay" (Pittman & Orthner, 1988, p. 227). Women's limited access to occupational rewards and opportunities may reduce their attachment to the work role (Bielby, 1992).

Demands of the Individual Role

Both experts and the general public are becoming increasingly aware of the important benefits associated with self-nurturance. It is no longer considered selfish for adults to devote time to exercise, social interactions, and hobbies (Googins, 1991). However, parent, paid-work, and spouse role demands limit the amount of time a dual-earner can spend in the individual role (Geerken & Gove, 1983; Michelson, 1985; Schnittger & Bird, 1990).

Women are at risk of neglecting self-related activities. Researchers believe that when women are confronted with multiple role demands they often place their own needs last on the list of priorities (McLaughlin, Cormier, & Cormier, 1988; Walker & Best, 1991). Time for self is viewed "as one more thing to schedule into an already hectic routine" (McLaughlin et al., 1988, p. 192).

Walker and Best (1991) suggest one way employed mothers manage parenting within the context of time constraints is
by adapting their lifestyle to these constraints. Women diminish their attention to personal health, self-actualization, exercise, nutrition, interpersonal support, and stress management (Walker & Best). The authors conclude full-time employed mothers of infants manage parenting responsibilities in ways that "do not damage their image of themselves as mothers, but ... they may do so in part at the expense of their own well-being" (p. 85).

Other studies lend credence to this analysis. Anderson-Kulman and Paludi (1986) state the majority of working mothers in their sample experienced a shortage of time for nearly everything and that this time shortage was most accentuated in self-related areas (e.g., community activities, hobbies, reading, and physical fitness). Reifman et al. (1991) suggest full-time employed women spend less time engaged in self-related activities such as personal care, sleep, and leisure than part-time and nonemployed women. Verhoef, Love, and Rose (1992) note young mothers are the least likely to engage in regular exercise.

Women are more likely than men to ignore demands associated with the individual role (Meleis & Stevens, 1992; Schnittger & Bird, 1990). Hall (1992) confirms these findings. Unlike their wives who put all other needs first, dual-earner husbands indicated that they refuse to "put
their needs last" (Hall, 1992, p. 36). Furthermore, Hall (1992) reports that mothers who pursue "involvement in family work to the detriment of their own needs" experience feelings of exhaustion, resentment, and anger (p. 37).

In summary, it is clear the parental, paid-work, spousal, and individual roles generate intense demands for dual-earner parents with young children (McBride, 1990). Demographic findings suggest each role domain has different salience for, and exerts different role pressures on men and women. Men experience heavy work-role demands, whereas women experience heavy family role demands. However, Voydanoff (1988) insists the combination of work and family structural characteristics "contribute independently and additively" to parents' role demands. Thus the stressors in the work and family domains can easily accumulate and may result in negative role outcomes (Greenhaus & Parasuraman, 1987).

The Interaction of Role Demands and Attitudes

Notwithstanding the considerable demands made on dual-earner parents with young children, inconsistencies still exist in the literature regarding the relationship of role demands to outcomes (Rosenfield, 1989; Voydanoff, 1988). Knowledge of role demands, in isolation, does not predict role strain (Amatea & Fong, 1991; Greenhaus & Parasuraman, 1987; Hibbard & Pope, 1985; Voydanoff, 1988). To predict
strain, researchers must understand the role incumbent's cognitive interpretations of role demands (Bacharach & Bamberger, 1992; Crnic & Booth, 1991; Jacobson, 1989; Verbrugge, 1986).

Verbrugge (1986) insists role "burdens are not inherent in the objective activities and responsibilities adults have ... Instead, burdens reside in subjective reactions to one's activities" (Verbrugge, 1986, p. 74). At present, the interaction between an individual's feelings of control and acceptability of role demands is thought to determine role strain (Biener et al., 1987; McBride, 1990; Pugliesi, 1988; Rosenfield, 1989; Verbrugge, 1986).

Control

Control is an integral part of role quality. According to transactional models of stress, perceptions of overload and uncontrollability are the key components of a stressful experience (Reifman et al., 1991). If one's roles combine "psychologically demanding tasks with a low level of control over the tasks, this combination exacts a major toll by simultaneously creating arousal and frustration" (Barnett et al., 1987, p. 131).

Studies examining the effects of role demands on women support this perspective. In Piechowski's (1992) review of the literature on multiple role women, the author reports "variables of both role demands and control emerge as
significant factors predicting mental health outcome" (p. 137). Rosenfield (1989) concludes that full-time employed women with children experience more anxiety and depression because the high demands of their combined roles lead to perceptions of low personal control.

However, the educational level of women may affect their perceptions of control. Kelly and Voydanoff (1986) speculate women with some college education experience greater control over work role demands because they have "jobs with relatively high levels of flexibility and autonomy" (p. 372). Similarly, Hall (1990) suggests "the greater knowledge and skills associated with better education may increase ... [women's] feelings of competence, mastery, and control" (p. 76).

Like women, men experience fewer negative outcomes in the paid-work and parent roles when they control demands. In an all-male sample, Karasek (1979) reports "the most stressful set of job conditions combines having little control over pacing of tasks or the allocation of resources--and having highly psychologically demanding tasks" (Barnett et al., 1987, p. 131). Pleck (1985) identifies control as an important factor influencing a man's adaptation to fatherhood. Remarking on the positive effect of child care on dual-earner fathers, Pleck (1985) writes, "in the context of the time demands faced by the
dual-earner family, actively participating in family work may provide the husband with a sense of control, a feeling there is something he can do to respond to these pressures" (p. 116).

Control is associated with improved adjustment of the dual-earner couple to the paid-work and spousal roles. Parents, as well as married couples who work non-standard hours, experience greater job and family satisfaction when they control their work schedules (Burke & McKeen, 1988; Hughes et al., 1992; Staines & Pleck, 1986).

As the study of multiple roles is refined, Piechowski (1992) predicts "making distinctions between the demands and stresses of roles and the level of control over those demands may prove important .... Research should be designed to examine the possible interactive effects of these factors" (p. 137). A valuable asset to future research with the dual-earner population would be a tool that measures respondents' perception of control over some role demands.

Acceptability

The acceptability of role demands also contributes to role quality. Many researchers have observed that individuals develop subjective predispositions towards role demands (Brett & Yogev, 1988; Chassin et al., 1985). Acceptability of a role demand contributes to an individual's positive evaluation of a role (Campbell & Moen,

However, the acceptability of role demands is likely to vary in the dual-earner population. Even though the daily realities of the dual-earner lifestyle obligate men and women to share family and work role demands, prevailing societal norms and families of origin may influence how acceptable a demand is to the individual (Cowan & Cowan, 1988). This is due to the personal expression of gender role expectations (Burr, 1976; Woods, 1985).

Gender role expectations are "a set of preferences, rewards, tastes, and goals that a person learns because he or she happens to be male or female" (Scanzoni, 1978, p. 6). Gender role expectations prescribe the traditional division of labour; household tasks are women's work while employment-related tasks are men's work (Gunter & Gunter, 1991). Segregation of tasks by gender also operates within the context of housework. Gender appropriate chores for women include meal preparation and cleaning. Men's chores include outdoor tasks, maintaining the car, and paying bills (Blair & Johnson, 1992).

Traditional roles, as determined by gender norms, seem extremely tenacious (Schroeder, Blood, & Maluso, 1992).
Although "women have become relatively liberated with respect to demanding equal rights at work, ... they find it harder to relinquish deeply held beliefs concerning the woman's proper role in the home" (Scott & Alwin, 1989, p. 498). An employed wife may request her husband's assistance in performing "female" tasks but she may do so amid ambivalence over changing her traditional role. Similarly, men may express discomfort at being asked to do women's work and resist adopting feminine chores like changing diapers or cleaning the bathroom (Googins & Burden, 1987).

Researchers note individual differences in role acceptability among various demographic groups of dual-earners (Smith, 1985). For example, women with advanced educational preparation are likely to find extensive paid-work role demands more acceptable than women with less extensive formal training. Theorists offer a cogent explanation for this finding. Education is positively correlated with an androgynous sex role orientation (Kessler & McRae, 1982). Women with androgynous orientations may express them through congruence between their employment demands and their conception of appropriate female behaviour (Repetti et al., 1989).
The Importance of Contextualization in Dual-earner Research

In addition to examining the interaction of role demands and attitudes, Johnson (1989) suggests dual-earners be studied as they function in the work and non-work domains. Several studies document the interactional effects of marital, parental, and occupational characteristics on role outcomes (Barnett & Marshall, 1992; Barnett, Marshall, & Sayer, 1992; Marshall & Barnett, 1991). Theorists encourage investigators to use a broad ecological perspective that includes the work and family domains in addition to the intersection of the two domains (Frone et al., 1991; Parasuraman, Greenhaus, & Granrose, 1992).

As well, research should study both genders in both domains. "Most studies of job stress have focused on male samples, while most studies of family stress have focused on female samples" (Hughes et al., 1992, p. 32). However, the roles of dual-earner men and women are becoming more undifferentiated and both genders are increasingly being exposed to similar role demands (Higgins, Duxbury, & Lee, 1994; Spitze, 1988).

Researchers should monitor this trend because it has significant implications for dual-earner men. As role patterns of men and women converge, additional burdens may be visited upon men (Googins & Burden, 1987). They may be
expected to participate more actively in child rearing and housework. Men may find it taxing to fulfil the demands of the family role in addition to the demands of the work role (Hanson & Bozett, 1987).

Pleck (1976) predicts that if men expand the scope of their family roles but fail to reduce their commitment to the occupational role they will likely experience difficulties meeting the cumulative role demands. Some studies support Pleck's claim (Crouter et al., 1987; Greenberger & O'Neil, 1993; Presser, 1988). Men are increasing their family work which may be contributing to their experience of stress.

Presser (1988) identifies a preponderance of father care in young dual-earner households when mothers work evening and night shifts. Other researchers note fathers in dual-earner families perform twice as many child care activities alone as their counterparts in single-earner families (Crourter et al., 1987). Baruch and Barnett (1986) report fathers in their study perceive that participation in child care interferes with their careers. Ventura (1987) confirms this observation and states fathers who are engaged in child care and household tasks experience stress meeting the family's financial needs. For men participating in Greenberger and O'Neil's (1993) study, absorption in
work-related activities was associated with conflict among work, parental, and marital roles.

In addition to providing a basis for monitoring men's responses to increased family role participation, studies which include both spouses permit greater contextualization of the dual-earner experience. Grossman (1988) contends "a convincing study of a parent or of a child cannot be made in isolation, but must be examined in the context of at least the immediate family" (p. 100). Pearlin (1989) explains context-sensitive studies are important because "one does not act alone as an incumbent of a role. Instead, one role is part of a larger role set or of a constellation of complementary roles around which important interpersonal relations are structured" (p. 242). Meleis and Stevens (1992) caution investigators that unless the quality of the experiences in each role are contextually understood "the development of resources to deal with these experiences [will] proceed slowly" (p. 24). Instrumentation that is appropriate for both genders would make context-sensitive studies methodologically feasible.

As this discussion demonstrates, the prevalence of dual-earner families in contemporary society makes it imperative that researchers gain a clearer understanding of the role dynamics characterizing this lifestyle (Greenhaus, 1988). Although role strain has been identified as a
significant problem, researchers have yet to identify the determinants of strain for dual-earners with young children (Kelly & Voydanoff, 1985). Mounting evidence suggests the interaction of role demands and responsibility in addition to the role incumbent's perceptions of control and acceptability may contribute to either role gratification or role strain. Theorists urge researchers to assess both genders as they function in the work and non-work domains, especially in the context of the high demands associated with rearing young children.

**Instrumentation**

In order to extend dual-earner research more attention must be given to the development of operational definitions and empirical measures (Campbell & Moen, 1992). McBride (1990) suggests that researchers "operationalize concepts with full regard for how complicated the phenomena are [and] ... develop instruments that address the problems of existing scales" (p. 382).

Many researchers have relied upon qualitative evidence of subjective state or unvalidated measures with unknown psychometric properties (Parry & Warr, 1985). Moreover researchers have utilized open-ended questions and one- or two-item scales which are associated with reliability problems (Greenhaus & Beutell, 1985). Greenhaus (1988) urges researchers to pay close attention to the measures
used to assess key concepts. Empirical research is limited by the reliability and validity associated with the measures.

Available instruments are not suitable for determining the influence that role demands and attitudes exert on strain and gratification for multiple role incumbents. Some tools predict role strain, only (Cohen et al., 1983; Loerch et al., 1989). Other instruments tap into single role domains and are incapable of assessing the combined effects of family and paid-work role demands (Abidin, 1980; Burke, 1988; Crnic & Booth, 1991; Johnson, 1989). With the exception of Baruch and Barnett's (1986) rewards and concerns scales, no instrument quantifies men's experiences in the family role. Unfortunately, the scoring of the rewards and concerns scales does not permit the identification of discrete role antecedents that may lead to strain or gratification.

The REQ is an instrument that may not be subject to the limitations associated with current tools. The REQ is a 126 item questionnaire that objectively measures a multidimensional construct. However, before the REQ can be recommended for use, researchers must have a clear understanding of the tool's purpose, target population, variables of interest, format, and psychometric properties (Waltz et al., 1984).
The REQ was developed in order to quantify the role quality of dual-earner parents with young children. The REQ is a norm-referenced tool that taps into four major roles including: paid-work, spouse, parent, and individual. Hall (1993) contends the quality of the individual's enactment of these roles is a critical factor influencing role outcomes.

Role enactment consists of two dimensions, role intensity and role disparity. Role intensity is "defined as the amount of time (preemptiveness) and effort (organismic involvement) devoted to specific role components ... [This dimension consists] of personal perceptions of the amount of time, effort, and responsibility ... associated with the four major roles" (Hall, 1993, p. 59).

Role disparity is defined as:

discrepancy between expectations, existing attitudes, and actual behaviours. It captures the individuals' perceptions of their abilities to control their role intensities as paid worker, individual, and spouse and their attitudes about the level of intensity they experience in the four roles (Hall, 1993, p. 59).
Description of the Role Enactment Questionnaire

The REQ is divided into four sections which examine the paid-work, spouse, parent, and individual roles. The questionnaire includes a total of 42 statements about role demands. Each statement is comprised of three items. The first item describes a role demand and measures the respondent's time or energy expenditure in meeting this demand. The second item assesses the respondent's perception of the role demand's acceptability. The third item captures either the degree of responsibility or control the respondent associates with the demand. Responses are quantified using a five step Likert scale. For example:

None    A great deal

The amount you dress your children 1 2 3 4 5
A. How acceptable is this to you? 1 2 3 4 5
B. How much responsibility do you take for this? (Hall, 1993)

Psychometric Properties of the REQ

Wilson (1987) insists before an instrument can be used in research, minimal levels of reliability and validity must be established. The reliability of measurement "refers to the consistency, accuracy, and precision of the measures taken" (Wilson, 1987, p. 192). Waltz et al. (1984) recommend estimating the reliability of the norm-referenced instrument by determining its internal consistency and
reliability.

Reliability is a necessary but not a sufficient condition for validity (Waltz et al., 1984). To be valid an instrument must reliably measure "what it is supposed to measure" (Wilson, 1987, p. 184). An instrument should demonstrate content validity which "is the extent to which the items included on a test are a representative sample of the important and relevant elements of a well-specified content or behavioral universe" (Brown, 1970, p. 155).

To date, Hall has presented the REQ to two groups. The author pilot tested the instrument on a ten couple sample. The volunteers were asked to indicate the length of time it took to complete the REQ. They also evaluated the instrument's format and clarity of instructions. "After pilot testing, revisions were made to correct any items considered ambiguous, irrelevant, or unacceptable" (Hall, 1993, p. 61). Reliability and validity testing were then conducted using a 55 couple sample (Hall, 1993).

**Reliability.** From the 55 couple convenience sample, Hall (1993) gathered data to test the REQ's reliability. Obtaining a 71% response rate, Hall (1993) calculated internal consistency and test-retest reliability for the two dimensions of the REQ and the four role categories. Using Cronbach's alpha, Hall (1993) calculated high internal consistencies on the two role dimensions---0.89 for intensity
and 0.90 for disparity. However, for the role categories, alpha coefficients ranged from 0.39 to 0.93.

For test-retest reliability Hall (1993) determined the Pearson's $r$ at 0.73 for the disparity dimension and 0.80 for the intensity dimension. Pearson's $r$ ranged from 0.62 to 0.87 for each of the four role categories.

Validity. The process of evaluating content validity is "rational and judgmental, and attempts to rate the adequacy of sampling" (Brown, 1970, p. 155). Since "content validity is largely a function of how an instrument is developed," researchers can infer the REQ's content validity from the systematic method Hall used to develop the tool (Waltz et al., 1984, p. 142). To derive the intensity and disparity dimensions Hall considered classical role theorists (Burr, 1976; Sarbin & Allen, 1968) in addition to Ward's (1986) model of role strain. Furthermore, the REQ's item pool was generated from parents' descriptions of relevant role components, obtained by Hall (1987, 1991) from qualitative studies investigating the dual-earner experience. Finally, Hall supplemented these findings with information acquired from an extensive review of the literature.

Hall also supports content validity by respecting the principle of representative sampling which requires items to be chosen from the universe of possible content "in due
proportion or frequency" (Brown, 1970, p. 136). Hall (1993) reports that "parents with preschool children emphasized parenting and spousal roles to a greater extent than work and individual roles" (p. 60). Therefore, Hall chose a greater number of items to measure the parent and spouse roles.

A review of the instrument by experts in family nursing and work and family research provides additional support for the content validity of the REQ (Polit & Hungler, 1991). The experts were asked to assess whether the items on the instrument satisfactorily represent the behaviours in the specified domains. In accordance with the experts' recommendations, Hall (1993) revised the item pool.

Critique of the Role Enactment Questionnaire

The REQ is a newly developed instrument that shows great promise for measuring the antecedents of role strain in dual-earners with young children. The literature supports the notion that the construct, role enactment, plays a significant part in the role strain process. Pilot testing of the REQ suggests that the tool is objective, efficient, and acceptable to research subjects (Hall, 1993). High internal consistency and test-retest reliability estimates were obtained in a convenience sample of 55 couples (Hall, 1993). Hall (1993) also demonstrates substantial content validity for the instrument.
Additional psychometric testing is required. The test-retest estimates may be suspect. Hall reports a delay of one month before respondents returned the second set of questionnaires. Thus, the second questionnaire "may have been completed from 3 to 6 weeks after the first one" (Hall, 1993, p. 62). Wilson (1987) suggests that it is important to consider the time intervals between the first and second administration of questionnaires. Ideally the time interval should be "long enough to avoid carryover effects and short enough to avoid changes in the construct being measured" (Wilson, 1987, p. 193). Since the stability of the construct is unknown, variations in the time intervals among subjects may have confounded the test-retest calculations.

Hall's small sample size may account for internal consistency measurements that vary widely for the four roles. Hall (1993) contends that "because alpha is dependent on the total test variance and the length of the test, it is not unusual to have lower alphas with a short test and a small sample size" (p. 62). However, it would be instructive to identify roles which demonstrate unacceptably low alphas. The REQ may require revision in order to ensure that all the items within the instrument are consistent with each other.

More comprehensive testing of the REQ's validity must be conducted before the tool can be recommended for use.
Wilson (1987) notes that "content validity, although necessary, is not a sufficient indication that the instrument measures what it is intended to measure, because it is based on subjective judgment" (p. 194). In order to demonstrate the validity of the REQ, an examination of the tool's construct validity must be undertaken.

Methods of Supporting Construct Validity

Crocker and Algina (1986) state that construct validity may be supported by establishing correlational evidence of a relationship between a new instrument and a criterion. The criterion may be a mature instrument which is known to accurately measure a similar construct. However, criterion-related validation is unsuitable for this study because no instrument measures a construct similar to role enactment.

An alternative method recommended by Crocker and Algina (1986) is hypothesis testing. The authors suggest researchers (a) derive from an explicitly stated theory hypotheses about how those who differ on the construct are expected to differ on demographic characteristics, (b) gather empirical data to test the hypothesized relationships, and (c) determine if the data are consistent with the hypotheses.

Factor analysis (FA) is a statistical technique commonly used to establish construct validity (Brown, 1970).
FA "aims to summarize the interrelationships among variables in a concise but accurate manner" (Gorsuch, 1974, p. 2). The goal is to "identify those variables which are related enough to be placed under the same label" (Gorsuch, 1974, p. 7).

Two types of FA are mentioned in the literature: exploratory and confirmatory. Confirmatory factor analysis (CFA) is widely acknowledged as the more sophisticated technique (Tabachnick & Fidell, 1989). Furthermore, CFA is superior to exploratory factor analysis because it allows the researcher to specify the structure of the relations in the model on substantive grounds. Another advantage of CFA is that it can help to resolve the problem of measurement error, because it indicates the degree to which multiple indicators of a concept reflect the underlying concept; the degree to which they reflect anything else is considered measurement error (Coverman, 1989, p. 972).

As the preceding discussion on instrumentation attests, there is a need in dual-earner research for reliable and valid tools that measure salient role characteristics. The REQ is a newly developed tool that quantifies two dimensions of role enactment: role intensity and role disparity. Developed from two qualitative studies that investigated the experiences of dual-earners with young
children (Hall, 1987; Hall, 1991), the REQ demonstrates a high degree of content validity. Furthermore, psychometric testing suggests the instrument is internally consistent and has good test-retest reliability. However, methodological limitations in Hall's (1993) study design indicate additional reliability and validity testing is advisable.

Conclusion

Concerns about the well-being of dual-earners with preschool children make the investigation of this population a research imperative. Recently, theorists revised an earlier assumption that role accumulation leads to either negative or positive outcomes. Instead, it appears that role quality has the potential to create role strain or role gratification, depending on mediating influences. The interaction of role demands and the role incumbent's attitudes may determine which role outcome occurs.

The development of reliable and valid instrumentation has lagged behind other theoretical advances. With the exception of the REQ, available tools are not designed to measure role characteristics thought to impact on strain and gratification for both genders at the work/family nexus. However, further psychometric testing must be conducted on the REQ before this tool can be used in clinical or research settings.
Chapter Summary

Chapter two presented a critical review of the literature. Shortcomings of extant studies were described. The critique highlighted the relevance of the REQ for researchers investigating role quality. However, it was demonstrated that the instrument is relatively untried, psychometrically, and psychometric standards are not negotiable.

In chapter three, the methods used to examine the reliability and validity of the REQ are detailed. The chapter describes the recruitment strategies and study procedures. Lastly, a brief examination of the ethical considerations and limitations related to the study are presented.
CHAPTER THREE

Method

In the following section the sample selection, recruitment strategies, and methods for testing the reliability and validity of the REQ are described.

Sample

Nunnally (1978) suggests researchers use a large sample to psychometrically test new instruments. "A bare minimum in item analysis is five persons for each item ... [although] a safer number is ten persons per item" (p. 298). Since the REQ consists of 126 items, the sample should include between 630 and 1260 individuals. However, the recruitment of such a large sample is not feasible, given that this project is a Magistral thesis and the intent is to gain an understanding of the research process. Thus, although the limitations of the sample size are recognized, the convenience sample only consists of 165 individuals.

Sample Recruitment

In order to recruit subjects, advertisements were placed in the newsletters of the following institutions: BC Hydro, VanCity Credit Union, the University of British Columbia, and the Vancouver Hospital and Health Sciences Centre. E-mail messages were transmitted to all BC Tel
employees who used office computers. Bulletins requesting research subjects were mass-mailed to 650 secretaries and 320 managers employed by the University of British Columbia. Posters describing the study were displayed in community centres, day care centres, and churches in the Vancouver area. Dual-earner parents of young children known to the investigator were invited to participate.

Dual-earners were requested to contact the investigator. When contacted, the investigator screened the individual, and if eligible, the individual and his/her spouse were enrolled in the study. A cover letter (Appendix B) and the first copy of the REQ were then sent to each spouse.

Sample Criteria

To be eligible for participation in the study, prospective respondents were screened for the following inclusion and exclusion criteria.

Inclusion Criteria

1. Couples have lived together for at least one year.
2. Men and women are over 19 years of age.
3. Study participants understand written English.
4. Families may be blended or traditional but must include at least one child under the age of six.
5. Both partners are employed and each is employed at least 20 hours a week.
6. Individuals have been employed in the same job for over three months.

Exclusion Criteria

1. Chronic illness of either spouse or child(ren). Chronic illness is defined as any physical or psychological condition preventing any family member from attending day care, school, or work more than five days between July 1993 and November 1994.
2. Couples and their child(ren) who live with extended family.

Study Procedures

The following section describes the procedures used to evaluate the reliability and validity of the REQ.

Reliability Testing

In order to collect data which would permit assessments of the REQ's internal consistency and test-retest reliability, study respondents were mailed two sets of questionnaires. The following procedure was followed:

1. First mailing: Copy #1 of the REQ and the demographic data collection sheet were mailed to, and completed by, the dual-earner couple.
2. Second mailing: Two weeks after the co-investigator received copy #1, copy #2 of the REQ was mailed to, and completed by, the couple.

3. Respondents were allotted two weeks to respond to each mailing. Couples who did not return a completed questionnaire were contacted by telephone and, when necessary, mailed a duplicate copy of the questionnaire.

4. Respondents who failed to return questionnaires were contacted by telephone every two weeks.

Validity Testing

To support construct validity, hypothesis testing and confirmatory factor analysis (CFA) were performed.

Hypothesis Testing

In order to generate and test the hypotheses that examine the validity of role intensity and role disparity, Hall's (1993) modification of Ward's (1986) theoretical framework was used. From the empirical literature, demographic groups were identified which were most likely to experience high or low scores on the intensity and disparity dimensions. The demographic data collected were used to confirm or reject study hypotheses. If the REQ accurately measured the construct described by Hall, then the scores of
dual-earners may be predicted from their demographic characteristics.

Confirmatory Factor Analysis

The purpose of factor analysis is to identify groupings of variables that correlate with the same factor. Ideally, the correlations between the variables and the factor are high while the correlations between these variables and the alternative factor(s) are low (Nunnally, 1978).

In CFA the dominant factors are hypothesized prior to analysis. For the present study, three analyses of the test items were performed. The goal of the first analysis was to extract two factors corresponding to role intensity and role disparity. A second analysis was performed to confirm the existence of intensity in each of the four role components. The third analysis sought to confirm the existence of disparity in each of the four role components. Evidence that these factors exist, as hypothesized, lends support for the construct validity of the REQ.

Data Analysis

1. To determine internal consistency, only data from the first administration of the REQ were analyzed. Cronbach's alpha was calculated for each role component and
for intensity and disparity in each of the four role
components.

2. To determine test-retest reliability, scores from
the first administration of the REQ were correlated with
scores from the second administration. Pearson's \( r \) was used
to calculate test-retest reliability for each role component
and for intensity and disparity in each of the four role
components.

3. Hypothesis testing was performed using either a
\( t \)-test or a one-way Analysis of Variance (ANOVA). The
significance level was set at .05.

4. To determine the construct validity of the REQ, the
test items were subjected to CFA using the Principal
Components method of analysis, with varimax rotation and
Kaiser normalization.

Assumptions

1. Individuals are capable of evaluating their daily
role activities.

2. Individuals are self-reflective and capable of
describing their feelings.

3. Individuals vary in their performance of, and
attitudes towards, role activities.
4. Individuals can communicate their experiences to others.

Limitations

1. The study relied on a convenience sample. This introduces possible selection bias which may limit the generalizability of findings.

2. The sample is biased in favour of the well-educated. Caution must be exercised in generalizing the findings of this study to substantially different populations.

3. The small sample size and relative homogeneity of sample characteristics limits the variance of scores thereby resulting in lower reliability estimates.

4. Due to the small sample size, construct validity work in this study must be considered preliminary and tenuous.

5. The demographic subsamples are very small. The reader is cautioned not to place undue confidence in significant findings based on small subsamples.

6. Reliability and validity measures are situation specific. Generalizability of these calculations is limited to the study sample.
7. Repeated exposure to the REQ may lead to different degrees of memory recall among respondents. Individuals who remember questionnaire items may duplicate their earlier responses. Polit and Hungler (1991) suggest that this phenomenon may result in spuriously high test-retest reliability coefficients.

8. Thirty-three percent of respondents delayed returning the second questionnaire for one to three months. These respondents may have completed the second questionnaire anywhere from 3 to 14 weeks after the first questionnaire. Changes may have occurred in the nature of the construct over such a protracted period of time. Thus, measurement may reflect construct stability rather than instrument stability.

Ethical Considerations

A cover letter was sent to potential subjects informing them of the purpose of the study (Appendix B). Completion of the REQ served as an indication of informed consent. The study protocol, measures, and contact letters were approved by the UBC Behavioral Screening Committee for Research and Other Studies Involving Human Subjects. To protect respondents' confidentiality, questionnaires were numbered. Only the investigator had access to the participants' names.
Benefits of Participation

1. Increased understanding of oneself in relation to role activities.

2. The opportunity to express personal views regarding role activities.

3. The opportunity to participate in a worthwhile project that may help others adapt to the dual-earner lifestyle.

Risks from Participation

1. Respondents may gain insights into role-related activities. This may alter previous perceptions and cause psychological distress.

2. Completing the questionnaire may take respondents' time away from other activities and increase respondents' perception of time pressure.

Conclusion

Research into the dual-earner lifestyle is hampered by a lack of instruments that measure the antecedents of role strain. Preliminary testing of the REQ suggests that this questionnaire has promise and represents a significant improvement over currently available tools. The procedures followed to address psychometric reliability and validity
contribute to the understanding and value of this instrument.

Chapter Summary

In chapter three, the methods used to evaluate the psychometric properties of the REQ were described. The chapter presented recruitment strategies and sampling criteria used by the study investigator. Procedures used to test the REQ's reliability and validity were examined. Data analysis techniques were identified. Finally, ethical considerations, assumptions, and limitations of the study were discussed.

Chapter four presents the results of data analysis. Findings from the psychometric testing of the REQ are described and discussed in the context of the literature.
CHAPTER FOUR
Presentation and Discussion of Findings

The following chapter summarizes the results from the reliability and validity testing of the REQ. The chapter describes: (a) the sample characteristics, (b) support for reliability, specifically internal consistency and test-retest reliability and, (c) support for construct validity using hypothesis testing and factor analysis. In each section, the findings are described and discussed in the context of the literature.

Sample Characteristics

A convenience sample of 104 dual-earner couples was recruited. Of the 208 parents enrolled, 165 completed and returned the first questionnaire, yielding a response rate of 79%. However, only 134 individuals completed and returned both the first and second questionnaires. Chi-square analysis, \(\chi^2, N = 165 = 9.78, p = .007\), revealed that the two groups were comparable demographically, differing only on the number of children in the home; participants with fewer children had a significantly greater tendency to complete both questionnaires.

Due to the success of a campus mass-mailing recruitment strategy, the majority of dual-earners enrolled were
employed by the University of British Columbia. All participants were rearing at least one child under the age of six. Most of the children were under the age of three. Almost one-half of the sample had at least one child 18 months or younger (see Table 1).

Table 1
Number and ages of children (N = 165)

<table>
<thead>
<tr>
<th></th>
<th>Number of Children</th>
<th>Ages of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Percent</td>
<td>49%</td>
<td>46%</td>
</tr>
<tr>
<td>Number</td>
<td>80</td>
<td>76</td>
</tr>
</tbody>
</table>

The sample reflects the trend for mothers to return to work before their children reach school-age (Googins & Burden, 1987; Schroeder et al., 1992; Walker & Best, 1991). Since 1970, the greatest increase in labour force participation has occurred for mothers with preschool children (Mathews & Rodin, 1989). Interestingly, a "husband's potential to become a good income earner does not
make it more likely for mothers of young children to be out of the labour force" (Matthews & Rodin, 1989, p. 1391).

The majority of the men and women were well-educated. Seventy-three percent had either obtained a diploma, finished college, or earned a university degree. Twenty-five percent of these participants were prepared at the masters or doctoral level. Only 1% had not graduated from high school.

Most of the dual-earners were quite mature (M = 34.9, SD = 5.2). Only 14% of the participants were under 30 which reflects the trend towards delayed childbearing (Bielby, 1992). Higgins et al. (1994) suggested women delay childbirth in order to establish their careers. Ghalam (1993) reported that the mean age when managerial and professional women in Canada have their first child is 31.

Consistent with their education and age, the majority of dual-earners were financially successful. Chi-square analysis showed that men earned more money than women (2, N = 160) = 22.55, p<.001. For personal income, 25% of the participants reported earning between $40,000 and $49,999 a year, while 28% made $50,000 or more a year. Only 4% of the sample earned less than $20,000 a year.

Study participants worked from 18 to 80 hours a week, with a mean of 36.7 (SD = 9.2) paid-work hours. Chi-square analysis demonstrated a significant difference in the number
of paid hours men and women worked (1, N = 165) = 22.52, p<.001. Over one-third of the women worked thirty hours a week or less, while 94% of the men worked more than 30 hours a week (see Table 2).

Table 2
Dual-earners' hours of work (N = 165)

<table>
<thead>
<tr>
<th>Work hours</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Under 20 hrs</td>
<td>0</td>
</tr>
<tr>
<td>20 to 30 hrs</td>
<td>5</td>
</tr>
<tr>
<td>Over 30 hrs</td>
<td>77</td>
</tr>
</tbody>
</table>

Ghalam (1993) reported that in 1991, 26% of all employed Canadian women worked part-time, compared with only 9% of employed men. Forty percent of women aged 25 to 44 prefer part-time work and more than half of these women cite personal or family responsibilities as their reason for working part-time.

Flex-time was assessed for respondents. Burke and McKeen (1988) defined flex-time as employment which allows
employees a "certain freedom in choosing their times of arrival and departure" (p. 34). Chi-square analysis revealed that the availability of flex-time was independent of gender ($\chi^2(1, N = 163) = 2.15, p = .34$). For 50% of dual-earners, flex-time was available; however, 48% reported not being able to access flex-time, and partial flex-time was available to the remaining 2% of the sample.

About one-third (34%) of sample participants did not have help at home. As demonstrated by chi-square analysis dual-earners who worked over 30 hours a week were no more likely to have help than dual-earners who worked under 30 hours a week ($\chi^2(1, N = 163) = 2.33, p = .12$). For the 66% of dual-earners who reported having assistance, the most frequently cited sources of help were nannies (39%) and family babysitters (35%). Thus, child care was the most prevalent form of home assistance.

Ghalam (1993) identified babysitters, rather than nannies, as the most important source of child care assistance for Canadian dual-earners. Babysitters provide care for 37% of children under three and 31% of children aged three to five. Parents also rely on relatives for child care; 24% of children under three and 16% aged three to five are cared for by a relative. In the majority of cases, the grandparent is the relative giving care (Crompton, 1991).
Googins (1991) reported a small percentage of dual-earner parents enlisting help. In his sample, only 10% of hourly workers and 12% of managers employed others to assist with home chores. In a sample of professional women, McLaughlin et al. (1988) observed that 45% of respondents used outside help. Moreover, 67% of the women requested help from a family member on a daily basis.

Reliability

The next section presents the REQ's internal consistency and test-retest reliability estimates. The findings are compared with reliability estimates obtained by Hall (1993).

Internal Consistency

Internal consistency measures the homogeneity of the REQ, the extent to which items measure the same characteristic. "Unless test scores are consistent, they cannot be related to other variables with any degree of confidence" (Brown, 1970, p. 76).

Using Cronbach's alpha, internal consistency was calculated for the REQ. The disparity dimension demonstrated high reliability with an alpha of .91 for the overall scale (see Table 3). Alphas were also obtained for disparity in each of the four role components and ranged from .78 to .91.
Table 3.

Internal consistency: Comparison of findings for role dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Number of items</th>
<th>Sleigh (n=165)</th>
<th>Hall (n=110)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Intensity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid-work</td>
<td>7</td>
<td>.33</td>
<td>.39</td>
</tr>
<tr>
<td>Spouse</td>
<td>26</td>
<td>.75</td>
<td>.78</td>
</tr>
<tr>
<td>Parent</td>
<td>28</td>
<td>.92</td>
<td>.93</td>
</tr>
<tr>
<td>Individual</td>
<td>6</td>
<td>.53</td>
<td>.52</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>.88</td>
<td>.90</td>
</tr>
<tr>
<td>2. Disparity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid-work</td>
<td>14</td>
<td>.77</td>
<td>.76</td>
</tr>
<tr>
<td>Spouse</td>
<td>19</td>
<td>.84</td>
<td>.83</td>
</tr>
<tr>
<td>Parent</td>
<td>14</td>
<td>.86</td>
<td>.89</td>
</tr>
<tr>
<td>Individual</td>
<td>12</td>
<td>.85</td>
<td>.82</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>.91</td>
<td>.90</td>
</tr>
</tbody>
</table>

Internal consistency also proved to be substantial for the intensity dimension. The alpha for the entire scale was .88 (see Table 3). However, alphas were low for the
paid-work role subscale (.33) and modest for the individual role subscale (.53). Both alphas were less than .70, the minimal level of reliability recommended by Nunnally (1978) for exploratory research.

Table 4.

Internal consistency: Comparison of findings for role components

<table>
<thead>
<tr>
<th>Role</th>
<th>Number of items</th>
<th>Sleigh (n=165)</th>
<th>Hall (n=110)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid-work</td>
<td>21</td>
<td>.66</td>
<td>.69</td>
</tr>
<tr>
<td>Spouse</td>
<td>45</td>
<td>.82</td>
<td>.85</td>
</tr>
<tr>
<td>Parent</td>
<td>42</td>
<td>.93</td>
<td>.94</td>
</tr>
<tr>
<td>Individual</td>
<td>18</td>
<td>.86</td>
<td>.83</td>
</tr>
</tbody>
</table>

Comparison of this author's sample and Hall's (1993) sample indicates similar reliability measurements for role dimensions and components (see Tables 3 & 4). In general, the REQ demonstrates excellent internal consistency. However, the persistent failure of the individual and paid-work intensity subscales to achieve minimal levels of reliability warrants further scrutiny.
Low internal consistency may be due to a lack of variability in the scores. For the individual role items, standard deviations ranged from .86 to 1.14. Standard deviations for the paid-work role ranged from .86 to 1.15. Limited score dispersion may be due to the homogeneous sample tested.

Nunnally (1978) emphasized the importance of score dispersion to reliability. "The size of the reliability coefficient is directly related to the standard deviation of obtained scores for any sample of subjects" (p. 241). Furthermore, "the reliability coefficient will be larger for samples of subjects that vary more with respect to the trait being investigated" (Nunnally, 1978, p. 241).

Clear item wording and explicit instructions are elements that impact on reliability (Nunnally, 1978). Measurement error is introduced when respondents do not understand the wording of items. Respondents in this author's sample were confused by the phrase, "the amount that you ..." They suggested in their written comments that "amount" should be defined, for example, amount of time, amount of energy, or frequency of activity.

In addition, respondents received no instructions on how to deal with non-applicable items. Dual-earners chose a variety of ways to score non-applicable items. Responses which do not reflect valid perceptions introduce unnecessary
error into the scores. Inconsistency in answering these items may have compromised reliability.

In the author's sample, the format of the questionnaire confused respondents. On the printed forms, no spaces were inserted between items 13, 14, and 15. The items appeared as:

13. The amount you do dishes.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this?

14. The amount you vacuum/sweep/mop.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this?

15. The amount you do laundry.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this?

Respondents found it difficult to track statements across the page to the correct line of numerical responses. It is quite likely that this visually trying format led to a certain degree of fatigue, impatience, and carelessness in respondents.

Substandard alphas also occur when scales are short. "The size of the reliability coefficient is based on both the average correlation among items (internal consistency) and the number of items" (Nunnally, 1978, p. 230). For intensity, both the individual and paid-work role subscales
are very short, containing only six and seven items, respectively.

The brevity of the subscales probably had a significant impact on reliability estimates. As a role component the individual role subscale consists of 18 items, while the paid-work role subscale contains 21 items. Cronbach's alphas for the individual and paid-work subscales for the role components (see Table 4) were much higher than those obtained for these subscales in the intensity dimension (see Table 3). Alphas for the individual and paid-work subscales for the role components ranged from .66 to .69 and .86 to .83, respectively.

**Test-retest Reliability**

Just as internal consistency measures the consistency of performance over items, test-retest reliability measures the consistency or stability of performance over time. Researchers calculate the stability of an instrument by testing the individual twice and correlating the two sets of scores.

For the REQ, intensity and disparity produced Pearson's $r$ ranging from .69 to .80 for the four role components (see Table 5). With a coefficient of .80, the intensity dimension demonstrated minimally greater stability than the disparity dimension ($r = .76$).
Table 5
Test-retest reliability: Comparison of findings for role dimensions

<table>
<thead>
<tr>
<th>Role</th>
<th>Intensity</th>
<th>Disparity</th>
<th>Intensity</th>
<th>Disparity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid-work</td>
<td>.69</td>
<td>.73</td>
<td>.79</td>
<td>.62</td>
</tr>
<tr>
<td>Spouse</td>
<td>.73</td>
<td>.72</td>
<td>.77</td>
<td>.68</td>
</tr>
<tr>
<td>Parent</td>
<td>.82</td>
<td>.64</td>
<td>.87</td>
<td>.68</td>
</tr>
<tr>
<td>Individual</td>
<td>.70</td>
<td>.64</td>
<td>.62</td>
<td>.65</td>
</tr>
<tr>
<td>Overall</td>
<td>.80</td>
<td>.76</td>
<td>.80</td>
<td>.73</td>
</tr>
</tbody>
</table>

Test-retest reliability was calculated on the four role components. Pearson's $r$ ranged from .69 to .74 for each of the roles (see Table 6). For the total role scale, Pearson's $r$ measured .72.
Table 6
Test-retest reliability: Comparison of findings for role components

<table>
<thead>
<tr>
<th>Role</th>
<th>Sleigh</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid-work</td>
<td>.73</td>
<td>.60</td>
</tr>
<tr>
<td>Spouse</td>
<td>.69</td>
<td>.71</td>
</tr>
<tr>
<td>Parent</td>
<td>.74</td>
<td>.85</td>
</tr>
<tr>
<td>Individual</td>
<td>.72</td>
<td>.66</td>
</tr>
</tbody>
</table>

Compared to Hall (1993), stability was slightly lower for this author's sample (see Tables 5 & 6). Hall (1993) obtained Pearson's $r$ ranging from .62 to .87 for the role components. However, Hall (1993) reported a possible lag time of three to six weeks between the first and second administration of the questionnaire.

In the author's sample, study respondents were even more tardy. For 33% of the individuals, the possible interval between questionnaire administrations ranged from three to 14 weeks. "In general ... the magnitude of the correlation decreases over time" (Brown, 1970, p. 62).
Significant changes may have occurred in the respondents' role experiences over such a protracted period of time.

In order to determine the acceptable level of reliability for a new instrument, Brown (1970) suggested comparing the reliability coefficient of the new tool with an established tool that measures the same construct. Although Hall's instrument operationalizes a novel construct, reliability may be compared with Barnett and Baruch's (1986) rewards and concerns scales.

Barnett et al. (1992) measured the test-retest reliability of their instruments using randomly sampled scores from 10% of women (n = 40) who participated in a longitudinal study. The authors obtained Pearson's r .88 for the job rewards and concerns scales, .82 for the parent rewards scale, and .70 for the parent concerns scale.

In a later study of dual-earners, Barnett, Brennan, and Marshall (1994) calculated test-retest reliability. Ten percent of study participants (n = 64) were randomly sampled and interviewed after the original contact. The authors reported that for the parent concerns and rewards scales Pearson's r was .83 for men and .81 for women. However, Barnett et al. (1994) conducted some retests up to three months after the original test. Thus, the authors probably measured construct stability rather than tool stability.
Comparisons between Baruch and Barnett's (1986) instruments and the REQ suggest that the rewards and concerns scales are slightly more stable. However, "reliability coefficients are specific to the test, the testing situation, and the sample being tested" (Brown, 1970, p. 74). The differences between the reliability estimates may be partly due to the homogeneous, non-random samples recruited by Hall (1993) and Sleigh.

In the preceding section, the discussion focused on the reliability of the REQ. To complete the psychometric evaluation of the REQ, the next section reviews findings supporting the instrument's construct validity.

Construct Validity

The following section presents the hypotheses, the results of the hypothesis testing, and a discussion of the results.

Hypothesis Testing

In order to examine the construct validity of the REQ, ten hypotheses were generated for the role dimensions: role intensity and role disparity. Table 7 presents a summary of the test scores.
Table 7

Test scores for dual-earner men and women (N = 165)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range of possible scores</th>
<th>Men</th>
<th>SD</th>
<th>Women</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td></td>
<td>Mean</td>
<td></td>
</tr>
<tr>
<td>Intensity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>7 - 35</td>
<td>18.0</td>
<td>3.2</td>
<td>15.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Spouse</td>
<td>30 - 130</td>
<td>88.9</td>
<td>11.8</td>
<td>90.8</td>
<td>11.1</td>
</tr>
<tr>
<td>Parent</td>
<td>28 - 140</td>
<td>99.9</td>
<td>15.8</td>
<td>119.2</td>
<td>11.6</td>
</tr>
<tr>
<td>Individual</td>
<td>5 - 30</td>
<td>17.0</td>
<td>3.7</td>
<td>17.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Disparity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>14 - 70</td>
<td>34.6</td>
<td>8.0</td>
<td>34.0</td>
<td>10.6</td>
</tr>
<tr>
<td>Spouse</td>
<td>19 - 95</td>
<td>46.4</td>
<td>9.0</td>
<td>49.4</td>
<td>11.0</td>
</tr>
<tr>
<td>Parent</td>
<td>14 - 70</td>
<td>28.3</td>
<td>8.1</td>
<td>27.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Individual</td>
<td>12 - 60</td>
<td>31.1</td>
<td>8.7</td>
<td>35.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Role intensity. H1. Dual-earner mothers will obtain higher intensity scores in the parent role than dual-earner fathers.

The hypothesis was confirmed by a one-tailed t-test $t(163) = 8.96$, $p < .001$. Since 85% of the sample consisted of dual-earner couples rearing one or more children under the
age of three (see Table 1), the finding suggests that mothers of very young children invest more time, effort, and responsibility in the parenting role than fathers.

The finding is well supported in the literature (Hanson & Bozett, 1987). Researchers have documented that employed women spend more hours in child care than employed men (Darling-Fisher & Tiedje, 1990; Hochschild, 1989; Scarr et al., 1989). Baruch and Barnett (1986) reported the total interaction time between parents and children was 44.5 hours a week for women and 29.5 hours a week for men. Googins (1991) noted that employed female parents spent 24.2 hours on child care a week while employed male parents spent 14.9 hours.

Gender segregation of tasks may account for some of the discrepancy between men's and women's child care contributions. Women generally assume responsibility for children's physical care and perform duties such as bathing, dressing, feeding, and settling children: tasks which are routine, non-discretionary, and time-consuming (Darling-Fisher & Tiedje, 1990). Men, on the other hand, tend to assist by babysitting and playing with their children: activities which occur less frequently and may be scheduled at one's convenience (Power & Parke, 1984).

In addition to expending more time and effort than men in the parent role, mothers retain primary responsibility
for their children (Barnett et al., 1987; Johnson & Johnson, 1980). Many husbands relegate child care to their wives and provide help only when specifically asked. Thus, when fathers engage in child care, they frequently assume the role of "helper" (Gunter & Gunter, 1991).

In order to assess responsibility, some researchers measured the amount of time men and women spent in sole charge of their children. Studies revealed that fathers spent less time alone with their children than mothers (Baruch & Barnett, 1986; Olds et al., 1993). Baruch and Barnett (1986) state "fathers spend an average of 5.5 hours a week interacting alone with their children" while "mothers spend an average of 19.6 hours" (p. 987). Olds et al. (1993) also found gender predicted solo involvement in child care; "less than one quarter (of husbands) care for their children more than four hours a week without their wives present" (p. 8).

The REQ scores accurately reflect one of the most commonly reported phenomena in the literature, mothers' dominance of the parent role. The REQ also captures parents' involvement in a variety of child care activities. Items tap into physical care (bathing, diapering, feeding) as well as auxiliary care (babysitting, playing). With the REQ, a rich data base is generated which may be used by
investigators to track evolving trends in the gender distribution of child care tasks.

Moreover, the REQ permits the investigator to directly measure parents' responsibility for child care. Parents are asked to quantify their level of responsibility for each child care task. This represents a significant improvement over indirect methods of assessing responsibility.

H2. Dual-earner fathers will obtain higher role intensity scores in the paid-work role than dual-earner mothers.

The hypothesis was confirmed by a one-tailed $t$-test $t(163) = 4.56, p<.001$. Fathers appeared to invest more time, energy, and responsibility in the paid-work role than mothers (see Table 7). Indeed, chi-square analysis ($1, N = 165 = 22.52, p<.001$) revealed that men were more likely to work in excess of 30 hours a week than women.

Dual-earner fathers averaged 40.7 ($SD = 8.6$) hours a week in paid-work as compared to dual-earner mothers who averaged 32.7 ($SD = 7.9$) hours a week. A negative correlation, $r(134) = -.33, p<.001$, was found between hours spent in paid work and the intensity of the parent role for both men and women. The men in the sample spent more time doing paid work but experienced less intensity in the parent role while the women experienced the opposite time commitments.
Differences in paid-work hours for men and women have been a consistent finding in the literature (Higgins et al., 1994). Googins (1991) compared the paid-work hours of parents employed by a large American corporation, and found that fathers worked an average of 44.7 hours a week while mothers worked 39.7 hours a week. In their study of Canadian public and private sector employees, Higgins et al. (1994) found that fathers with young children spent 44.0 hours a week engaged in paid work, while mothers spent 41.8 hours a week.

Fathers' high paid-work intensity scores in conjunction with a negative correlation between paid-work hours and parenting intensity may reflect couples' attempts to balance their role commitments. Men and women may be limiting the time, effort, and responsibility involved in one role so they can function more productively in another role. Thus, each spouse may deal with multiple-role demands by assigning priority to those roles that hold more meaning and relevance for them.

Cowan and Cowan (1988) suggested that parenthood exerts a conservative influence on roles. The authors stated that, regardless of where a couple begins on the traditional-to-egalitarian continuum, "men's and women's family role arrangements become increasingly traditional" after the birth of their first child (p. 106). Furthermore, "as
psychological involvement in parenthood increases, it is accompanied by a sense of decreasing involvement in the role of spouse and lover for both mothers and fathers, and contrasting changes in work involvement for husbands and wives" (p. 118). Thus, the adaptation to parenthood, like other major life transitions, "create[s] functional relationships that were not present before, and ... unhook[s] functional relationships that existed before the life change occurred" (p. 126).

Surprisingly, the intensity scores in the paid-work component were quite low for such a well-educated and highly-paid sample. However, Hall maintains the REQ is not designed to measure pressures associated with the paid-work role (personal communication, June 19, 1995). Instead, Hall hopes to capture respondents' perceptions of work-related demands that might intrude on the family domain.

H3. Dual-earner mothers with more than one child will have higher scores on the role intensity dimension of the parent and spouse roles than dual-earner mothers with one child.

The hypothesis was not confirmed. One-tailed t tests revealed no differences in intensity scores between the two groups (see Table 8) for the parent, $t(81) = 0.32$, $p = .40$, and spouse roles, $t(81) = 0.31$, $p = .37$. However, the
subsamples were small, $n = 40$ for women with one child, and $n = 43$ for women with more than one child.

**Table 8**

*Intensity scores for dual-earner women (N = 83)*

<table>
<thead>
<tr>
<th>Role</th>
<th>Range of possible scores</th>
<th>1 child</th>
<th>Mean</th>
<th>SD</th>
<th>&gt; 1 child</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>30 - 130</td>
<td>91.2</td>
<td>9.6</td>
<td>90.4</td>
<td>12.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>28 - 140</td>
<td>118.6</td>
<td>11.4</td>
<td>119.8</td>
<td>11.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Secondary analysis examined the effect the number of children had on intensity scores for men and women (see Table 9). A one-tailed $t$ test indicated that, while there was no difference between groups in the parent role, $t(163) = 0.25$, $p = .40$, dual-earners with one child scored higher on the intensity dimension of the spouse role than dual-earners with more than one child $t(163) = 1.68$, $p = .04$. 
Table 9

<table>
<thead>
<tr>
<th>Role</th>
<th>Range of possible scores</th>
<th>1 child</th>
<th></th>
<th></th>
<th>&gt; 1 child</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>30 - 130</td>
<td>91.4</td>
<td>10.1</td>
<td>88.4</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>28 - 140</td>
<td>109.4</td>
<td>15.3</td>
<td>109.3</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It was curious no difference was found between groups for intensity in the parent role even though 38% of the sample were raising two or more children under the age of three. Common sense dictates child care tasks must increase when there are more young children in the home. Moreover, mothers would be expected to bear the brunt of the burden. Lennon, Wasserman, & Allen, (1991) reported fathers of infants and toddlers were not as involved in child care as fathers of older children.

However, it must be kept in mind that the subscale quantifies parents' perceptions of role intensity. The subscale is not an objective measurement of the number of hours respondents invest in role activities. Possibly,
parents with large families perform more child care tasks but they do not perceive the experience to be unduly time-consuming or strenuous.

Perhaps additional children provide parents with greater rewards, as well as greater demands (Pleck, 1985). Marks (1977) argued that rewarding roles tend to generate rather than drain energy. Such an effect would explain why dual-earners with more than one child do not perceive more parent role intensity than dual-earners with one child. Alternatively, parents with one child may have higher standards than parents with more than one child; parents with larger families may be better organized. Parents with additional children may perform one child care task for all the children at the same time, for example, bathing or playing.

For the spouse role, the data suggested that parents with one child invested more time, effort, and responsibility in housework and/or spousal interactions than parents with two or more children. This finding is difficult to interpret because of Hall's (1993) construction of the subscale. Four items address aspects of the spousal relationship and 11 items assess the individual's perception of the amount of housework (s)he performs. Unfortunately, the questionnaire does not allow the investigator to separate the relationship and housework components so as to
determine each component's contribution to the overall score.

Two explanations may account for the high intensity scores found in parents with one child. High scores may reflect respondents' perception of a more intense spousal relationship. Subscale items assess the amount of time and attention spouses devote to each other. Couples with one child probably have more opportunities to interact with each other than couples with two or more children.

An alternative explanation is that respondents with one child perform more housework than respondents with two or more children. Even though researchers suggest that additional children create more housework (Coverman, 1989; Pearlin, 1975), it is possible that couples with larger families lower their housekeeping standards and actually perform less housework than couples with smaller families.

Unless the investigator is able to separate spousal interaction scores from housekeeping scores, it is not possible to identify which of the preceding explanations might account for the differences between the groups. Calculation of the scores for each component would require the investigator to identify respondents in the comparison groups and rescore the subscale. The process would be laborious and time-consuming. Furthermore, dividing the
spouse role into two subscales compromises the accuracy of the reliability estimates.

H4. Individuals earning high incomes will experience greater role intensity in the paid-work role than individuals earning low incomes.

The hypothesis was confirmed by one-way ANOVA, $F(2, 157) = 33.24$, $p = .03$. Individuals earning $40,000$ or more scored higher on the intensity dimension than individuals earning $30,000 - 39,999$ or individuals earning $10,000 - 29,999$.

This finding makes intuitive sense. Individuals are paid high salaries to compensate for heavy work-role demands. Although highly paid individuals would be expected to experience intense role demands, the scores were mid-range. The median score for individuals earning $40,000$ or more a year was 17.4. The highest score that could be achieved in this subscale is 35 (see Table 10).
Table 10
Test scores in the paid-work role for dual-earners (N = 160)

<table>
<thead>
<tr>
<th>Income</th>
<th>Range of possible scores</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000 - $29,999</td>
<td>7 - 35</td>
<td>15.8</td>
<td>2.9</td>
</tr>
<tr>
<td>$30,000 - $39,999</td>
<td>7 - 35</td>
<td>17.0</td>
<td>3.8</td>
</tr>
<tr>
<td>$40,000 and over</td>
<td>7 - 35</td>
<td>17.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>

It must be remembered it was not Hall's intention to assess the pressures intrinsic to the paid-work role. Rather, Hall composed subscale items in order to ascertain the degree to which paid-work role demands intruded on the family domain. While Hall must be commended for trying to ascertain respondents' ability to compartmentalize roles, her approach introduces logical inconsistencies between roles, vis-à-vis the intensity dimension.

For the parent, spouse, and individual roles, the REQ assesses respondents' perception of the amount of time and effort they invest in role activities. Unlike the paid-work role, items do not measure the degree to which these roles
intrude on other roles. Thus, the operationalization of intensity is not consistent among the four role subscales.

H5. Dual-earners who work full-time will have higher role intensity scores in the paid-work role than dual-earners who work part-time.

The hypothesis was confirmed by a one-tailed t-test \( t(163) = 2.77, p<.001 \). Comparison groups included part-time employees working under 30 hours a week and full-time employees working 30 or more hours a week.

This finding may reflect the confounding of gender with paid-work hours. It has already been shown that men work more hours than women and this phenomenon contributes to men's perception of intensity in the paid-work role. In the present sample, full-time employees consisted mostly of men, while the part-time employees consisted mostly of women (see Table 11). Chi-square analysis, \( (1, N = 165) = 15.40, p<.001 \), confirmed significant differences in paid-work hours between genders.
<table>
<thead>
<tr>
<th>Total hours</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30 hours</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>30 or more hours</td>
<td>79</td>
<td>55</td>
</tr>
</tbody>
</table>

Future studies should investigate the effect that the number of paid-work hours has on women. Findings in the literature are equivocal. Some researchers maintain many married women prefer part-time employment (Moen & Dempster-McCain, 1987; Olds et al., 1993). Rosenfield (1989) suggested part-time employment reduces overall role demands for women who have heavy family responsibilities. Arber, Gilbert, and Dale (1985) indicated part-time work has more beneficial effects for women under 40 than full-time work.

However, Anderson-Kulman and Paludi (1986) reported mothers feel pressured and "torn among the demands of being a worker, mother, and/or wife," regardless of their employment status (p. 250). Greenhaus and Beutall (1985) have suggested mothers with part-time jobs may be spread thinly because they tend to assume responsibility for all child care and housekeeping tasks. Darling-Fisher and Tiedje (1990) concurred, noting women employed part-time
receive even less help from their spouses than full-time homemakers. The authors concluded women limit their work hours and attempt to "do it all" with their children.

In the present study, paid-work hours are negatively correlated with parent role intensity, \( r(134) = - .33, p<.001 \), suggesting that dual-earners channel energy from the paid-work role into the parent role. The correlation is particularly salient for women because they are more likely than men to work fewer hours.

Barnett et al. (1987) believed parent role stressors are more potent than paid-work role stressors. Parental work occurs in a context of high demands and low control (Rosenfield, 1989). Karasek (1979) associated these conditions with stress. Thus, it would be interesting to determine whether or not women actually benefit from exchanging paid-work role demands for parent-role demands.

The preceding discussion illustrates the importance of observing the interrelationships among roles. Failure to examine work and family roles simultaneously deprives investigators of an opportunity to explore the complementary nature of roles. The REQ is to be lauded for capturing a role dynamic that may have a significant impact on role outcomes for mothers in dual-earner families.
**Role disparity.** H6. Dual-earners with more than one child will experience greater disparity in the spouse and individual roles than dual-earners with one child.

The hypothesis was confirmed. One-tailed $t$-tests revealed a significant difference between the two groups for the spouse, $t(163) = 2.31$, $p = .01$, and individual roles $t(163) = 2.19$, $p = .02$. The groups showed a clear-cut difference in role perceptions: Parents with one child reported low levels of role disparity (meaning the intensity of their role demands was acceptable). Parents with more than one child reported higher levels of role disparity (see Table 12).

**Table 12**

<table>
<thead>
<tr>
<th>Disparity scores for dual-earners ($N = 165$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role</td>
</tr>
<tr>
<td>Spouse</td>
</tr>
<tr>
<td>Parent</td>
</tr>
</tbody>
</table>

Some studies have suggested greater numbers of children adversely affect parents' marital quality (Cleary & Mechanic, 1983; Coverman, 1989; Vannoy & Philliber, 1992;
Verbrugge, 1986). Guelzow et al. (1991) reported an indirect association between the number of children in the home and marital stress. Nock and Kingston (1982) concluded that the decreased availability of time, and competition for time, accounts for the effect. These authors find the "presence of children, especially young children, seems to reduce the time spouses spend together except, perhaps, in child care roles" (p. 392). Chassin et al. (1985) opined that when couples experience time pressures they prioritize the parent and worker roles at the expense of the spousal role. Voyandoff (1988) maintained that children increase housework and housework is generally performed by the wife. Pearlin (1975) suspected that additional children lead to wives' disenchantment with homemaking. Coverman (1989) agreed implicating increased housework as the reason that wives' marital satisfaction is negatively affected by the number of children in the home.

However, husbands may also experience a decline in marital quality when there are more children in the home (Vannoy & Philliber, 1992). Suitor (1991) believed this reflects the delegation of housework from wives to husbands. Marital quality suffers if men's "contribution to household labour is more extensive than they desire" (p. 227).

On the other hand, Hall (1993) suggested that men simply lack time to maintain the marital relationship.
Earlier work by Chassin et al. (1985) lends credence to Hall's contention. The authors reported when fathers have difficulty fulfilling the husband and father roles, the husband role is left wanting.

Unfortunately, the REQ does not permit a clear interpretation of the study findings. The tool fails to separate housework from the spousal relationship. Thus, it is unknown which aspect of the spouse role may be responsible for differing disparity scores between the groups.

The literature does not address the effects the number of children have on parents' individual roles. However, it is logical to assume disparity in the individual role is linked to parents' lack of time. Studies indicate, although dual-earner parents experience pressure due to time shortages, parents with more than one child experience even greater time pressures (Verbrugge, 1986). Schnittger and Bird (1990) suggested parents prioritize in order to cope. A popular coping method is to limit parents' avocational activities.

This study's findings may also be related to the ages of the children. Younger children have higher dependency needs than older children and may require more physical and emotional care. Thus, young children create a parenting
role that is particularly labour-intensive (Walker & Best, 1991).

Parents of infants and toddlers may ignore the demands of the individual role. Studies that report dual-earners' lack of time for exercise, community activities, and hobbies support this interpretation. However, researchers have often restricted their samples to parents with very young children (Anderson-Kulman & Paludi, 1986; Walker & Best, 1990). Thus, the population sampled in these studies may account for the consistency of the findings.

H7. Dual-earners who work full-time (30 or more hours a week) will experience greater disparity in the paid-work role than dual-earners who work part-time (under 30 hours a week).

A one-tailed t-test confirmed the difference between the two groups $t(163) = 1.98, p = .03$. The mean score for part-time workers was mid-range, indicating they perceived paid-work role intensity to be neither acceptable/unacceptable nor controllable/uncontrollable. Full-time workers' scores were moderately high suggesting they found work intensity somewhat unacceptable and uncontrollable.

Unfortunately, the small sample size precluded entering gender as a control. Analysis of the demographic data revealed that women accounted for 90% of the part-time workers (see Table 11). Lower disparity scores for part-
time workers may reflect women's preference for less intensity in the paid-work role. Thus, a comparison of hours of work was somewhat misleading because the gender issue may have confounded comparisons.

H8. Dual-earner fathers will experience greater disparity in the parent role than dual-earner mothers.

The hypothesis was rejected using a one-tailed t-test, $t(163) = 0.67, p = .25$. Men's disparity scores were higher than women's (see Table 7), but the difference was not statistically significant. Since power is .72, it is unlikely that the finding resulted from a beta error.

Although there were significant differences in intensity scores between the two genders $t(163) = 8.96, p < .001$, the men and women shared similar perceptions regarding the acceptability of their role demands. The low disparity scores for men and women indicate both genders perceived the amount of time, effort, and responsibility they invested in the parent role as acceptable. The failure to find high disparity scores for men does little to support the notion that today's generation of fathers desires greater participation in child rearing and are frustrated by exclusion.

Rotundo (1985) believed the adoption of a more nurturant model of fatherhood would be problematical because it "involves a substantial recasting of ... manhood,
womanhood, and family life. It demands new emotional styles and it entails different notions of male and female" (p. 16). Moreover, Rotundo suggested men may have difficulty relinquishing the traditional style of fatherhood. Men may be "too thoroughly ingrained with 'male' values of ambition and achievement to devote much time to substantial daily care" (Rotundo, 1985, p. 20).

The data also suggest that the women in this sample do not want or expect more involvement in child care from their spouses. These women seem content with the intensity of their parent role. The literature provides some support for this finding. Many women are not dissatisfied with being primary providers of child care (Darling-Fisher & Tiedje, 1990; Lennon et al., 1991). Indeed, some women covertly exclude men from direct child care (Hanson et al., 1985).

Glendinning and Millar (1992) offered one explanation as to why women are unwilling to relinquish child care turf. The authors think women's lack of power in the occupational domain drives them to establish a power base in the home. Thus, some women perceive men's participation in child care as a threat to their position of power in the family.

That the perceived quality of the parent role is similar for men and women is not a new finding. Barnett et al. (1994) studied 180 dual-earner couples, the majority of whom were employed in management and professional
occupations. Eighty-three percent of the couples were rearing preschoolers. The authors reported mothers and fathers obtained almost identical scores in the parental rewards and concerns scale. Moreover, reward scores were considerably higher than concern scores, suggesting dual-earners enjoyed quality parenting experiences.

The REQ is highly effective in capturing dual-earners' experiences in the parent role. The items include an exhaustive selection of child care activities identified by the literature as being integral to the parenting experience. It is highly unlikely a major component of the parent role has been overlooked.

However, Hall's (1993) detailed coverage of child care tasks limits the utility of the REQ with older children. Tasks such as feeding, bathing, dressing, and diapering are relevant to parents with infants and toddlers. Thus, the REQ is limited to testing dual-earner parents with young children.

H9. Dual-earner mothers will obtain higher disparity scores in the individual role than dual-earner fathers.

A one-tailed $t$-test confirmed the hypothesis, $t(163) = 3.23$, $p < .001$. Scores suggested mothers found the intensity of the individual role somewhat unacceptable and/or uncontrollable (see Table 7) as opposed to fathers who
perceived the intensity of the individual role as being acceptable and/or controllable.

The literature consistently demonstrates employed mothers spend less time in leisure activities than men (Leslie & Anderson, 1988; Schnittger & Bird, 1990). Women spend more hours a week on combined work and family responsibilities and have less free time than men (Duxbury, Higgins, & Lee, 1994). Googins (1991) estimated an employed mother's total work week as 83.7 hours while an employed father's was 72.1 hours.

Gilligan (1982) believed society expects women to subordinate their personal needs in order to meet the needs of their families. Many women find "it ... more socially acceptable to cut back on community activities or leisure activities than to reduce time in child care or for spousal support" (Schnittger & Bird, 1990, p. 202). However, Hall (1992) suggested women who sacrifice their own needs in order to meet the needs of their families experience feelings of exhaustion, resentment, and anger (Hall, 1992). Thus, there is support for the notion that women's lack of involvement in the individual role may be a source of discontentment.

Men, on the other hand, are not as socially conditioned to deny their needs. Men in one study indicated "they did not and would not put their needs last" (Hall, 1992, p. 36).
Male dual-earners in Schnittger and Bird's (1990) study limited their avocational activities less than women.

H10. Dual-earner mothers working full-time who have college or professional preparation will have lower disparity scores in the paid-work role than dual-earner mothers working full-time who have a high school diploma or less.

The hypothesis was rejected using a one-tailed $t$-test, $t(51) = .83, p = .20$. However, this finding probably represents a beta error. The power calculated for the entire sample ($N = 165$) for comparisons using the education variable was only .20. Hypothesis 10 used a subsample of only 55, so the power is considerably lower than .20.

A finding of equivalency between groups is not supported by the literature. Researchers consistently find positive correlations between women's educational attainment and the quality of their work roles (Hibbard & Pope, 1985; Kessler & McRae, 1982). Ulbrich (1988) concluded women are more likely to prefer their paid work if they are highly educated and employed full-time. Moreover, the quality of the work role exerts a powerful effect on an individual's attitude (Barnett et al., 1992; Grimm-Thomas & Perry-Jenkins, 1994).

Research further demonstrates highly educated women experience greater congruence between their self-concepts
and the role demands of paid-work. Woods (1985) suggested women with advanced education are likely to have modern gender role norms. Women with non-traditional orientations may perceive the paid-work role to be more acceptable than women who espouse traditional values. Moreover, Repetti et al. (1989) maintained employment is beneficial when there is "congruity between women's attitudes toward ... employment and their actual role status" (p. 1397).

The preceding section reviewed the findings from the hypothesis testing. To further explore the construct validity of the REQ, confirmatory factor analysis (CFA) was conducted.

**Confirmatory Factor Analysis**

Three CFAs were performed. Factors were extracted using the Principal Components method with varimax rotation and Kaiser normalization.

**Analysis one (intensity and disparity).** A two-factor solution was proposed. Intensity items were expected to correlate with factor one and disparity items were expected to correlate with factor two. Three iterations were necessary. The factors correlated moderately with each other, suggesting non-orthogonality ($r = .60$). Since intensity and disparity are two aspects of the same construct, one would expect some degree of correlation. The total variance explained by the two factors was 22.4%.
Out of 67 items, 46 loaded on factor one. However, the magnitude of the loadings was modest. Only two parent role items achieved correlations greater than .71. Forty-three percent of the items ranged from .45 to .68. Twenty-three percent of item correlations ranged from .31 to .45. Another 23% of the items failed to correlate adequately with either factor and were dropped from the analysis ($r<.30$). The non-loading items included: four parent role items; three individual role items; two spouse role items, and two paid-work role items.

Three parent role items and one spouse role item loaded on both factors. Correlations with factor two were relatively low, ranging from .30 to .36. Nine items did not load on factor one. Instead they loaded on factor two, displaying correlations ranging from .30 to .49. These items included three items each for the spouse and individual roles and one paid-work role item.

For factor two, 43 out of 59 items loaded. Loadings were modest. For 8% of the items, correlations were greater than .55. Thirty-seven percent achieved correlations ranging from .45 to .55 and 45% of the items loaded from .30 to .44. Twenty-two percent of the items did not achieve the minimal correlation of .30 for either factor and were dropped from analysis. They included; 11 paid-work role items; one spouse role item; and one individual role item.
One parent role item loaded only on factor one ($r = .43$) and another parent role item loaded on both factors. Correlations with factors one and two for this item were .30 and .54, respectively.

The literature does not provide a definitive technique for judging the quality of a factor analysis. Johnson and Wichern (1992) suggested investigators use the WOW criterion. "If while scrutinizing the factor analysis, the investigator can shout, 'wow, I understand these factors,' the application is deemed successful" (p. 444).

Visual inspection of the rotated factor matrix, revealed that the items had a clear-cut affinity for one or the other factor. Items loaded in the hypothesized manner. Two distinct columns emerged, each of which contained, for the most part, either intensity or disparity items.

Further examination of the factor analysis prompted concern. Only 22.4% of the variance among test scores was accounted for by the two-factor solution.

Limited variance may be related to the magnitude of the item loadings. High loadings are desirable because "the greater the loading, the more the variable is a pure measure of the factor" (Tabachnik & Fidell, 1989, p. 640). In order to determine the quality of loadings, Tabachnik and Fidell (1989) recommended Comfrey's scale. "Loadings in excess of .71 (50% overlapping variance) are considered excellent, .63
(40% overlapping variance) very good, .55 (30% overlapping variance) good, .45 (20% overlapping variance) fair, and .32 (10% overlapping variance) poor" (p. 640).

Applying Comfrey's criteria (Tabachnik & Fidell, 1989) to the rotated factor matrix rendered the following evaluation. For factor one (intensity), 46% of the items either loaded poorly or not at all. For factor two (disparity), 68% of the items loaded poorly or not at all. Thus, a significant proportion of the test items provided little or no information about the factor.

Although the two factors were not potent explainers of the variables, the failure may lie with the investigator for hypothesizing too simple a factor solution. It must be remembered the REQ was generated from qualitative research; the instrument operationalizes a multidimensional construct. Intensity and disparity are but two dimensions of role enactment. Four role components that are often specific to males or females are also included in the operationalization. A two-factor solution may not be comprehensive enough to capture a construct as complex as role enactment.

Sample homogeneity may also account for the low magnitude of the correlations. Brown (1970) stated correlation coefficients "are influenced by the distribution of scores within the sample used to calculate the
coefficient" (p. 69). Recall the similarity in demographic characteristics among dual-earners enrolled in the study. Couples were predominantly white and shared the same life-cycle stage, geographic location, and educational background. A sample of this composition cannot be expected to produce a broad range of scores. Unfortunately, though, "as the variability ... of the score[s] decrease, the correlation coefficient generally decreases ..." (Brown, 1970, p. 69).

The small sample size is another methodological shortcoming that might account for the findings. Nunnally (1978) recommended a minimum sample of 650 individuals for a factor analysis of 126 items. When fewer respondents are tested the range of scores is limited, further constraining variability.

Analysis two (intensity in four roles). A four-factor solution was proposed which accounted for 37.4% of the variance. Sixty-one out of 67 items loaded over .30 and were retained for analysis. Sixty-six percent of the items achieved correlations greater than .45. Although varimax rotation converged in eight iterations, items did not cluster under the four factors as hypothesized. Due to the tendency of the parent and spouse role items to double and triple load, these items were over-represented in the factor matrix.
Factor one contained 14 spouse role items and 14 parent role items. The spouse role items showed the highest correlation with the factor. All 14 items loaded in excess of .45. Parent role item loadings ranged from .32 to .51.

Factor two included 13 parent role items, 4 spouse role items ($r = .34$ to $.47$), and 2 individual role items ($r = .32$ to $.42$). The parent role items provided the heaviest loading, with 9 correlations over .45.

Factor three contained 12 parent role items, 4 spouse items ($r = .33$ to $.47$), and 3 paid-work items ($r = .32$ to $.41$). The parent role items clearly defined the factor and provided 6 correlations over .45.

Correlations for factor four included; 11 spouse role items ($r = .32$ to $.66$), 4 parent role items ($r = .31$ to $.44$), and 1 individual role item ($r = .32$). The spouse items dominated with 8 correlations over .45. Sixteen items loaded on 2 factors and included 10 parent role items and 6 spouse role items. Four parent role items triple-loaded. Triple-loaders demonstrated similar correlations across three factors.

The four-factor solution accounted for more variance than the two-factor solution. The two-factor solution may have failed to adequately represent the balance that dual-earners maintain among their role demands. In the
two-factor solution high scores in one role may have been
cancelled out by low scores in another role. With the
four-factor solution, the ranges in scores may have been
better preserved, thus capturing greater variance.

On the other hand, the four-factor solution may have
provided more "homes" for items. Low loading items dropped
from the two-factor solution may have been more
role-specific than intensity-specific. With the four-factor
solution, items had an opportunity to cluster under role
factors. Thus, more items were retained in the analysis.
The four-factor solution contained more information thereby
allowing the factors to account for a greater proportion of
variance in the scores.

However, the four-factor solution failed to produce the
hypothesized structure. Each of the four columns contained
items from the parent and spouse roles. Moreover, instead
of clustering together, the individual items were randomly
distributed over three factors.

The dominance of the parent and spouse role items in
the analysis is undoubtedly a function of the REQs
construction. The author's qualitative work informed her
decision to oversample items in the family domain. Hall's
(1993) sample of dual-earner parents with infants placed a
lower priority on the individual and paid-work roles.
Despite the considerable overlapping of role items, the rotated matrix suggested factors one and four related to the spouse role while factors two and three represented the parent role. Examination of the questionnaire statements associated with the items supported this interpretation.

For the spouse role (factors one and four), analysis suggested items clustered according to the traditional gender segregation of tasks. Factor one contained items consistently identified in the literature as feminine domestic tasks, such as meal preparation, vacuuming, and buying groceries (Blair & Johnson, 1992, Marat & Finlay, 1984).

Factor four contained items describing tasks typically performed by men, for instance, house repairs, garbage disposal, and car maintenance (Blair & Johnson, 1992; Marat & Finlay, 1984). Items that loaded on both factors may represent tasks that genders share, for example, tidying the house and laundry (Marat & Finlay, 1984). Non-loading items described role demands that were unrelated to the family domain and included, leisure activities, hobbies, work-related education, and commuting.

For the parent role (factors two and three), the pattern of clustering may also represent gender segregation of tasks. Male-oriented activities clustered under factor two and suggested a planning or organizational theme. Items
referred to long-term planning for child(ren), the organization of the child(ren)'s health care, and the handling of safety concerns.

However, factor three described direct child care activities, usually performed by mothers. Activities included bathing, feeding, and diapering children. Double-loading items suggested tasks that might be shared by men and women, such as feeding, dressing, and playing with children.

Three paid-work role items also loaded on factor three. Items described overtime, paid work beyond regular employment, and amount of travel. Possibly, these items share intrusiveness on the parent role as a common attribute.

Interpretation of the factor matrix suggests when it comes to intensity, factors are not entirely role-specific. The factors are also defined by the gender specificity of household and child care tasks. This finding is consistent with the literature which demonstrates the tenacity of the traditional division of labour (Benin & Agonstinelli, 1988; Berardo, Shehan, & Leslie, 1987).

Analysis three (disparity in four roles). Analysis three replicated analysis two but examined the disparity dimension. The total variance explained by the four factors was 36.2%. Varimax rotation converged in 11 iterations. A
A moderate degree of correlation existed between factors representing the individual role and the other roles ($r = .47$ to $.69$). The parent and paid-work role factors were orthogonal ($r = .26$). However, the spouse and paid-work role factors correlated substantially with each other ($r = .90$).

Such a high correlation suggests a great deal of conceptual overlap between the subscales. However, items in the paid-work role examine demands such as commuting, work-related education, and overtime. The spouse role looks at housekeeping duties and the spousal interaction. It is difficult to understand how such diverse activities could correlate so highly.

All 59 items in the disparity scale achieved correlations greater than .30 and were included in the analysis. Item loadings were relatively satisfactory. Sixty-eight percent of the items correlated over .45 with the factors.

Factor one was shared by the parent and spouse roles which contributed 13 items ($r = .42$ to .66) and 10 items ($r = .41$ to .60), respectively. Factor two was fairly distinct and consisted of 10 individual role items ($r = .36$ to .78). Four spouse role items and one paid-work role item were also included, but the loadings were less than .43.
In factor three the spouse role dominated with eight items ($r = .33$ to $.73$). However, the parent and individual roles were also represented. Four parent items loaded ($r = .31$ to $.49$) and four individual role items loaded ($r = .34$ to $.57$).

The most clear-cut pattern emerged for factor four. Twelve paid-work role items loaded on the factor ($r = .30$ to $.68$). Only one non-paid-work role item loaded, a spouse item ($r = .30$).

Ten items loaded on two factors, simultaneously. However, loadings for the alternative factors were low, ranging from $.31$ to $.41$. Double-loading items included three items each from the parent, spouse, and individual roles. One spouse role item loaded on three factors ($r = .30$ to $.43$).

Visually, the rotated factor matrix looked fairly orderly, with items clustering together and aligning under the four factors. Factors two and four were quite distinct and differentiated between individual and paid-work role items well. However, factor one contained a mixture of parent and spouse role items. Factor three was somewhat chaotic and also displayed a mixture of parent and spouse items.

Notable is the failure of the analysis to separate parent and spousal role items. Undoubtedly both roles share
common attributes, since they account for the heaviest loadings on factors one and three. Factor one is biased in favour of parent role items, while factor three is biased towards spouse role items.

Examination of the questionnaire statements in the parent and spouse role subscales reveals an interesting pattern. Factor one almost exclusively contains task-oriented items such as feeding, settling child(ren), dressing child(ren), doing the dishes, and maintaining the yard. On the other hand, factor three contains all the relationship-oriented items.

This pattern suggests that the relationship and housework components of the spouse role may represent two different factors. Furthermore, the parent role items and the housework component of the spouse role seem to combine and define a common factor which may describe daily family maintenance tasks.

Chapter Summary

In the preceding chapter, significant findings derived from the reliability and validity testing of the REQ were presented. The results were discussed in the context of the literature. A critique of the instrument was offered, insofar as reliability and validity performance was concerned.
In chapter five, the conclusions related to the study findings are discussed. The implications of the conclusions for nursing are then developed. The chapter also includes recommendations for the revision of the REQ.
CHAPTER FIVE

Conclusions and Implications

Chapter five focuses on the conclusions drawn from the psychometric testing of the REQ. Implications for tool development and recommendations for revision of the REQ are included. The REQ's utility for nursing is discussed. Conclusions related to hypothesis testing are also described and the implications of these conclusions for nursing are offered.

Conclusions from Tool Testing

In the following section, conclusions regarding the reliability and validity of the REQ are presented.

Reliability and Validity of the REQ

The REQ behaved well psychometrically. Reliability testing indicated that the REQ has excellent internal consistency, with the exception of intensity in the paid-work and individual roles. Substandard alphas for the two role components may be a function of the homogeneous sample and the limited score variance. However, the brevity of the subscales may have precluded adequate reliability estimates. The REQ appeared to be fairly stable over time. Because a high percentage of the respondents in this author's study delayed returning the second questionnaire, test-retest estimates were lower than those obtained by Hall
The REQ compared favourably with more mature scales which also measure role quality.

Strong support for construct validity was shown in hypothesis testing. Although the sample was small, significant findings characterized testing of eight of the ten hypotheses. Seven hypotheses were accepted and one was rejected.

The parent and paid-work role subscales best differentiated between demographic groups for intensity, while the paid-work, spouse, and individual role subscales most effectively differentiated between groups for disparity. Differences found among the demographic groups concurred with findings in the literature. Moreover, the REQ demonstrated an interrelationship between the paid-work and parent roles which was also consistent with the literature.

Construct validity for the REQ was partially supported by confirmatory factor analysis (CFA). In the first analysis, the rotated factor matrix demonstrated the hypothesized role dimensions: role intensity and role disparity. Analysis also showed some support for the presence of four role components in the disparity dimension. Unfortunately, the proportion of variance accounted for by the solutions was relatively low.
It is not surprising, however, that the simple two- and four-factor solutions failed to adequately account for a reasonable proportion of variance among REQ scores. The REQ operationalizes a construct that is complex and multidimensional. More factors may have to be considered in order to capture the construct of role enactment.

Contrary to the author's prediction, a four-factor CFA failed to support the existence of the paid-work and individual roles in the intensity dimension. Analysis also failed to differentiate between the parent and spouse roles. The rotated matrix demonstrated that the hypothesized four factors consisted almost exclusively of parent and spouse role items. Each role subscale separated and defined two factors. The factors seemed to reflect gender segregation of domestic tasks.

Furthermore, the four-factor solution for disparity revealed relationship and housework items from the spouse role subscale did not define the same factor. The factor matrix demonstrated the spouse role divided into two factors. Relationship items clustered under one factor and housework items joined with parent role items to define another factor.

These findings tend to mitigate against the REQ's construct validity. Items should hang together and cluster under the hypothesized factors. It may be necessary to
revise the instrument in order to address conceptual problems identified by the CFA.

The unexpected finding that intensity factors were split along gender lines lent indirect support for the REQ. The instrument captured strong gender preferences towards role activities. The finding is consistent with research demonstrating the tendency of parents with young children to assume a traditional division of labour.

Implications for Tool Development

Psychometric testing revealed that further work must be done on the REQ. In the next section recommendations for tool revision and future psychometric testing are presented.

Tool Revision

The following section presents a critique of the four subscales. Suggestions for revision of the REQ are offered.

The paid-work role. In order to refine the REQ's operationalization of intensity, the paid-work role subscale must be revised. As written, the subscale introduces logical inconsistency into the REQ. Instead of measuring the intensity of demands associated with job performance, the subscale focuses only on job demands which have the potential to intrude on the family role.

The other subscales do not share this function. They measure the time and effort individuals invest in role
demands. Thus, intensity has a somewhat different meaning for the paid-work role than for the other roles.

Items that tap into demands related to the performance of paid work should be added to the subscale. The addition of more items would also contribute to the subscale's reliability. With only seven items, the subscale is too short. Using Nunnally's formula (1978) 25 items would have to be added, in order to render an alpha of .70.

However, the addition of 25 items increases the REQ from 126 to 151 items. Some research participants might find a questionnaire of this length somewhat daunting. Instead of adding more items, one might also consider incorporating two more steps into the Likert rating scale. Nunnally (1978) states that, "if there are only half a dozen items in the scale, the reliability ... may be markedly increased by an increase in the number of scale steps" (p. 597). Instead of five response choices, respondents would be offered seven. For example,

<table>
<thead>
<tr>
<th>None</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount you do dishes.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
Some paid-work items in the REQ could be deleted. Item number two, "the amount of time you miss work" is not consistent with the definition of intensity. Strictly speaking, missing work decreases the time and effort associated with the paid-work role. Moreover, absence from work, does not have the potential to intrude on family roles. Reliability analysis indicates deletion of this item increases Cronbach's alpha from .35 to .41.

It is also unclear how income adequacy is related to intensity in the paid-work role. A high income may be related to intensity for dual-earners. However, an adequate income may simply reflect the family's frugality or satisfaction with a low-paying job. Removal of the item increases Cronbach's alpha to .38.

The spouse role. As previously discussed, the spouse role subscale contains items oriented to the relationship and housework. However, combining these items limits the utility of the subscale. For example, the author had difficulty interpreting findings in hypotheses three and six. (Recall that hypothesis three confirmed that parents with one child experienced greater intensity in the spouse role than parents with two children. Hypothesis six demonstrated that parents with more than one child experienced greater disparity in the spouse role than parents with one child). Moreover, CFA suggests that the
relationship and housework items define two different factors.

On an intuitive level, the two components seem poorly suited to share a subscale. The concept of relationship is qualitatively different from the concept of housework. Furthermore, the spousal relationship and housework probably have almost opposite effects on dual-earners. Engaging in positive interactions with their partner is likely perceived by most spouses as a supportive, regenerative experience. However, the performance of domestic chores might be considered somewhat burdensome. Thus, relationship and housework items probably should not be combined in the same subscale.

The parent role. Curiously, the items included in the parent role result in a solid subscale but limit the usefulness of the REQ. The comprehensiveness of child care items attests to the subscale's validity. However, the items apply to infants and toddlers, only. Use of the REQ must be restricted to dual-parents with young children. Perhaps future REQs might address parental demands associated with school children and adolescents.

The individual role. The failure of the four-factor solution for intensity to identify a factor corresponding to the individual role is probably partially due to the subscale's brevity. There were not enough items to define a
distinct factor. Lengthening the subscale will help to improve validity and increase reliability. If the subscale is increased from 6 to 12 items, Cronbach's alpha rises from .53 to .70 (Nunnally, 1978).

To determine the kind of items that should be included, Nunnally (1978) recommends that the investigator review item-total statistics and identify items with high correlations. The themes of these items should form the nucleus for newly constructed items. For the individual role, items related to social activities achieved the highest correlations. Thus, potential new items should tap into the amount of time dual-earners spend engaging in activities of a social nature.

Reliability may also be increased with the deletion of item 42: the amount dual-earners spend planning and attending health care appointments. Analysis revealed that deletion would increase reliability to .58. Hall suggested the item may reflect a parent's tendency to arrange appointments for the whole family, not just for him/herself (personal communication, June 19, 1995).

Future Psychometric Testing of the REQ

Further testing of the REQ would be advisable. It is with the accumulation of evidence from multiple studies that an instrument's usefulness is confirmed (Weinert & Tilden, 1990). Researchers contemplating psychometric testing of
the REQ are advised to pay careful attention to sampling procedures. A large and heterogeneous sample should be recruited. Since the REQ is restricted to parents with young children, investigators must endeavour to sample dual-earners who vary with regards to family size, occupation, income level, and geographic location.

Sample respondents should be offered an REQ that is user-friendly. The questionnaire should be double-spaced. The anchor statements and corresponding numerical responses must be easy to track across the page. Comprehensive instructions would provide clear guidelines for completing the questionnaire and improve the accuracy of participants' responses.

Data analysis might include CFAs that propose 8 or 16 factor solutions. For instance, an 8 factor solution would examine the presence of intensity and disparity in the 4 subscales for both genders. A 16 factor solution might identify how items function for each gender vis-à-vis role intensity and role disparity in the four role components.

Utility of the REQ for Nursing

The REQ may be confidently used to test dual-earners in the community. Such information would provide a clearer understanding of some demographic variables that predict role stress, as reflected in high levels of role intensity and role disparity. Information of this nature would give
practitioners a better idea of dual-earner parents who may be at risk for some forms of role stress.

However, unless revised, the REQ probably should not be used for correlational research. Reliability estimates for intensity in the paid-work and individual roles are suboptimal. Investigators who use the REQ may not be able to relate test scores to other variables with any degree of confidence.

Conclusions from Hypothesis Testing

Despite theorists' prediction of increasing role convergence, the findings from this study support men dominating in the work role and women dominating in the parent role. Moreover, gender segregation continues to inform dual-earners' domestic task assignments. The continuation of the traditional division of labour must be regarded as a testament to the tenacity of gender role norms.

Gender strongly predicts parents' contentment with individual role activities. Mothers find the intensity of the individual role unacceptable. Gender socialization patterns that stress the precedence of the family may be responsible for mothers' tendencies to place a low priority on role demands associated with the individual role.

The REQ provides an excellent opportunity to observe the interdependence of roles. Dual-earners engage in
trade-offs among their role commitments in order to accommodate competing role demands. One strategy involves limiting mothers' paid work so that they may invest greater time and effort in the parent role. However, it is unclear how this affects role outcomes for women.

Men and women in this study seem content with fathers' involvement in child care. Perhaps, men's desires for an androgynous model of fatherhood are no longer as strong as they once were. Or, these dual-earners may find the barriers to egalitarianism more formidable than expected. Certainly, the current economic climate cannot be regarded as an ideal time for dual-earner parents to experiment with the paid-work role. Regardless, these results suggest egalitarian sharing of child care tasks has yet to occur.

Findings suggest that dual-earners with more than one child may jeopardize marital quality in order to meet additional parent role demands. This finding hints that there may be an upper limit to the number of role demands that an individual can effectively accommodate. Beyond that limit deterioration in role quality may occur.

**Implications for Nursing**

Conclusions drawn from hypothesis testing have implications for nursing practice, education, administration, and research.
Clinical Practice

Prenatal classes provide an excellent forum for nurses to share information with parents. A topic that might be placed on the agenda is the impact of parenthood on dual-earners' roles. Nurses could advise first-time expectant couples that roles may become more traditional following childbirth. Couples may wish to explore the topic with each spouse identifying his/her expectations for task-sharing in the postnatal period.

Nurses are in a position to encourage expectant couples to find balance among their roles. Dual-earners should be informed that neglecting the individual or spouse roles in favour of the paid-work and/or parent roles may have negative effects on personal well-being and/or marital quality. Group discussion might facilitate exploration of this issue. Participants could discuss why women tend to assign a low priority to their own needs. Couples could identify ways to increase time spent together.

In the postnatal period, nurses must respect dual-earners' allocation of role responsibilities. Couples may choose a traditional rather than egalitarian division of labour. Although the traditional model is inconsistent with prevailing feminist ideology, evidence suggests dual-earners are relatively content with a traditional approach to the allocation of role activities. Nurses need to reinforce the
importance of couples making decisions that feel right for them.

Notwithstanding dual-earners' apparent satisfaction with the traditional division of labour, nurses should continue to promote "involved" fatherhood. Nurses can encourage fathers to become more invested in child care by inviting them to participate in prenatal classes and during labour and delivery. Nurses can also enhance men's parenting behaviours by teaching fathers about infant care.

Nursing Education

Due to changes in practice requirements and the growing number of women seeking graduate degrees in nursing, more and more multiple-role women are enrolling in nursing programs. Educators must be cognizant of the intense demands made on mothers who are also nursing students.

Results from this study can be used by educators to identify dual-earners who may be challenged by the student role. The findings indicate the ages of the children and the family size have an impact on role intensity and role disparity for parents. Since women often assume primary responsibility for the care of infants and toddlers, mothers of very young children may experience intense role demands. Educators should not assume the presence of a spouse in the home means mothers will be relieved of child care responsibilities.
Parents with more than one child may be overtaxed by role demands. Findings from this study suggest parents with large families perceive that the intensity of the spouse role is unacceptable and uncontrollable. By taking on the student role, individuals may be even more hard pressed to maintain the quality of their roles.

Nursing faculty must be prepared to assist nursing students who are parents. Counsellors should be aware of the tendency of mothers to put their own needs last. As part of a comprehensive assessment, counsellors could determine whether the mother has sufficient time and energy to meet role demands associated with the individual role. Mothers who fail to take time for themselves may be at risk for role strain.

Students should be taught to appreciate the complexity inherent in multiple-role lifestyles. Moreover, understanding the demographic predictors of role intensity and role disparity may assist students to identify those couples who potentially find it difficult to combine parenthood with paid work.

Nursing Administration

Nursing administrators play an important part in ensuring organizations respond to employees' needs. Since the majority of health care workers are women, administrators can facilitate women's integration of
paid-work and motherhood by lobbying for family-oriented personnel policies.

Administrators could use the demographic predictors to identify groups of employees likely to experience high levels of role intensity and role disparity. Programs may be developed that address the needs of employees who are most vulnerable to role stress.

The study suggests mothers of very young children experience intense parent roles and may receive relatively little child care assistance from their husbands. Managers must be cognizant many of these women "put in a second shift" when they leave work (Hochschild, 1989). Often mothers arrive home and spend the remainder of the day attending to domestic responsibilities. It would behoove managers to adopt a sensitive attitude towards mothers of young children and understand the demands motherhood makes on time and energy reserves.

Administrators should be aware disparity in the individual and spouse roles is associated with couples who are rearing two or more children. These couples may be too busy to meet the demands of the individual role. Administrators may assist couples by providing on-site fitness and nutrition classes. In addition, administrators could ensure marital counselling programs are available to employees.
Administrators can be instrumental in increasing men's participation in child care. Hall (1992) suggested that "fathers need to be involved with their infant's care at the earliest possible time" (p. 37). By providing paid leave for new fathers administrators can ensure fathers are allowed an opportunity to become more involved in the parent role.

Nursing Research

The study empirically validates theory. Researchers may feel confident about generating hypotheses from Hall's (1993) modification of Ward's (1986) theoretical framework. The use of verified integrative frameworks is heralded as an important prerequisite to understanding the relationship between role stress and role outcomes.

This study examined a highly educated and well-paid segment of the dual-earner population. It would be interesting to investigate the function of intensity and disparity in a sample of the working poor or in other cultural groups. Substantial differences in role enactment may be found among occupational strata.

Researchers should identify structural features of society that affect individuals' perceptions of role intensity and disparity. As postulated by Marks (1977), human energy is socially constructed and may not be just a function of time and effort. Human energy is also directed
towards role demands in the context of employment and political and social policies.

Results from this study suggest the traditional division of labour is firmly entrenched. Although the dual-earner lifestyle has been a fact of societal life for over twenty years, gender segregation of roles and tasks continues unabated for this sample. Research could determine why gender role norms continue to dominate in some dual-earner families. It would be illuminating to find out why gender roles do not change more rapidly.

Chapter Summary

The fifth chapter described conclusions derived from the psychometric testing of the REQ. The implications for tool development and future testing of the REQ were detailed. In addition, the chapter discussed the REQ's utility for nursing. Conclusions related to hypothesis testing were presented and the implications of these conclusions for nursing were described.

Concluding Comments

The goal of this study was to evaluate the psychometric properties of the REQ. The dearth of reliable and valid instruments capable of measuring discrete characteristics of roles necessitated the REQ's development. Although the study recommended revisions to the instrument, the REQ
promises to be a significant advancement in the field of dual-earner research.

Gone are the days when role occupancy served as a proxy for role quality. Today's investigators require an instrument that can quantify role characteristics deemed salient to the role outcomes of dual-earner men and women. Analysis of role characteristics will enable researchers to better understand the relationship between roles and role outcomes.

The need for sound measuring devices is greater than ever. As the proportion of dual-earner families rises, employers and governments will likely experience pressure to resolve work-family issues. Public policy decisions must be based on research findings obtained from psychometrically sound instruments.

Thesis Summary

In this study, the author discussed the importance of a psychometrically tried instrument capable of measuring role quality associated with dual-earners. The REQ was identified as a promising new tool. However, it required further reliability and validity testing. After a comprehensive review of the literature, a method for testing the REQ was devised. Procedures and ethical concerns were identified and a description of the sample provided. The findings generated from the psychometric evaluation were
discussed in the context of the literature. Pertinent conclusions, nursing implications, and recommendations for further tool development were presented.
References


APPENDIX A

The Role Enactment Questionnaire

Instructions

This questionnaire consists of a series of statements representing various behaviours which may or may not be a part of your role as a parent, a worker, a spouse, or an individual. Following each statement are three questions. To answer each question, please circle the number which best represents what is happening at this point in your life.

For example:

1 = none
2 = a little
3 = somewhat
4 = a fair amount
5 = a great deal

The amount of time you spend answering research questionnaires.

1 2 3 4 5

a) How acceptable is this to you? 1 2 3 4 5
b) How much do you control this? 1 2 3 4 5

These responses would indicate that you answer research questionnaires infrequently; that answering them is somewhat acceptable to you; and that you are responsible for deciding whether or not you will answer them.
1 = none  
2 = a little  
3 = somewhat  
4 = a fair amount  
5 = a great deal

YOUR ROLE AS A PAID WORKER

In this section, you are required to answer questions about your role as a paid worker.

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<thead>
<tr>
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<th>None</th>
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<tbody>
<tr>
<td>1. The amount of overtime you work.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
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<tr>
<td>2. The amount of time you miss paid work.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>3. The amount of time you are required to spend in work-related education.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4. The amount your paid work requires you to travel away from home.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>5. The amount of commuting required for your paid work.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>6. The paid work you do beyond your regular employment.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>7. The adequacy of your combined incomes to meet your family needs.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>(b) How much do you control this?</td>
<td>1 2 3 4 5</td>
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</table>
YOUR ROLE AS A PARTNER

In this section, you are required to answer questions that deal with your role as a spouse.

8. The amount of time you spend talking with your spouse.
   (a) How acceptable is this to you?  1 2 3 4 5
   (b) How much do you control this?  1 2 3 4 5

9. The amount of attention you receive from your spouse.
   (a) How acceptable is this to you?  1 2 3 4 5
   (b) How much do you control this?  1 2 3 4 5

10. The conflict you experience with your spouse.
    (a) How acceptable is this to you?  1 2 3 4 5
    (b) How much do you control this?  1 2 3 4 5

11. The amount that you are alone with your spouse for fun activities.
    (a) How acceptable is this to you?  1 2 3 4 5
    (b) How much do you control this?  1 2 3 4 5

FOR EXAMPLE:
The amount you refinish furniture.  1 2 3 4 5
(a) How acceptable is this to you?  1 2 3 4 5
(b) How much responsibility do you take for this?  1 2 3 4 5
These responses would indicate that you never refinish your own furniture, that not refinishing your furniture is acceptable to you, and that you make the arrangements for a firm to pick up your furniture and refinish it.

12. The amount you prepare meals.
    (a) How acceptable is this to you?  1 2 3 4 5
    (b) How much responsibility do you take for this?  1 2 3 4 5
13. The amount you do dishes.
   (a) How acceptable is this to you? None 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
14. The amount you vacuum/sweep/mop.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
15. The amount you do laundry.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
16. The amount you tidy the house.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
17. The amount you clean the bathroom.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
18. The amount you handle the disposal
    of garbage.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
19. The amount you do yard maintenance.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
20. The amount you do house repairs and
    renovations.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you 1 2 3 4 5
      take for this?
1 = none  
2 = a little  
3 = somewhat  
4 = a fair amount  
5 = a great deal

21. The amount you participate in car maintenance.  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

<table>
<thead>
<tr>
<th>None</th>
<th>A great deal</th>
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<tbody>
<tr>
<td>1</td>
<td>2 3 4 5</td>
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</table>

22. The amount you shop for groceries or household items.  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

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<tr>
<th>None</th>
<th>A great deal</th>
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<td>1</td>
<td>2 3 4 5</td>
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</table>

YOUR ROLE AS A PARENT

This section examines your role as parent.

23. The amount you bathe your child(ren).  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

<table>
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<tr>
<th>None</th>
<th>A great deal</th>
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<tr>
<td>1</td>
<td>2 3 4 5</td>
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</table>

24. The amount you participate in feeding your child(ren).  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

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<th>None</th>
<th>A great deal</th>
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<tr>
<td>1</td>
<td>2 3 4 5</td>
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</table>

25. The amount you change your child(ren)'s diapers.  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

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<tr>
<th>None</th>
<th>A great deal</th>
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<tbody>
<tr>
<td>1</td>
<td>2 3 4 5</td>
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</table>

26. The amount you dress your child(ren).  
(a) How acceptable is this to you?  
(b) How much responsibility do you take for this?  

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<thead>
<tr>
<th>None</th>
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<tbody>
<tr>
<td>1</td>
<td>2 3 4 5</td>
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<tr>
<td>Question</td>
<td>None</td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>27. The amount of time you spend playing with your child(ren).</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
<tr>
<td>28. The amount that you settle your child(ren) in bed at night.</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
<tr>
<td>29. The amount that you participate in organizing child care (daycare, nannies, babysitting).</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
<tr>
<td>30. The amount of time that you spend transporting your child(ren) to childcare or school.</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
<tr>
<td>31. The amount of sick care you give your child(ren).</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
<tr>
<td>32. Your participation in organizing your child(ren)'s health care.</td>
<td>1</td>
</tr>
<tr>
<td>(a) How acceptable is this to you?</td>
<td>1</td>
</tr>
<tr>
<td>(b) How much responsibility do you take for this?</td>
<td>1</td>
</tr>
</tbody>
</table>
1 = none
2 = a little
3 = somewhat
4 = a fair amount
5 = a great deal

33. Your participation in disciplining your child(ren).
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this? 1 2 3 4 5

34. Your participation in long-term planning for your child(ren).
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this? 1 2 3 4 5

35. The amount you plan family activities.
   (a) How acceptable is this to you? 1 2 3 4 5
   (b) How much responsibility do you take for this? 1 2 3 4 5

36. The amount you handle the safety concerns for your child(ren)
    (child-proofing your home and car).
    (a) How acceptable is this to you? 1 2 3 4 5
    (b) How much responsibility do you take for this? 1 2 3 4 5

YOUR ROLE AS AN INDIVIDUAL

This section will examine activities that may be part of your role as an individual.

37. Your involvement in personal friendships.
    (a) How acceptable is this to you? 1 2 3 4 5
    (b) How much do you control this? 1 2 3 4 5

38. Your involvement with relatives.
    (a) How acceptable is this to you? 1 2 3 4 5
    (b) How much do you control this? 1 2 3 4 5

39. The amount you participate in exercise activities.
    (a) How acceptable is this to you? 1 2 3 4 5
    (b) How much do you control this? 1 2 3 4 5
1 = none  
2 = a little  
3 = somewhat  
4 = a fair amount  
5 = a great deal

40. Your involvement in personal projects (e.g., hobbies, night classes).  
(a) How acceptable is this to you?  
(b) How much do you control this?

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<tr>
<th>None</th>
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<td>3</td>
<td>4</td>
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<tr>
<td>4</td>
<td>5</td>
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41. Your personal leisure activities (reading, watching television).  
(a) How acceptable is this to you?  
(b) How much do you control this?

<table>
<thead>
<tr>
<th>None</th>
<th>A great deal</th>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
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</table>

42. The amount you spend planning and attending health care appointments.  
(a) How acceptable is this to you?  
(b) How much do you control this?

<table>
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<th>None</th>
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DEMOGRAPHIC DATA

1. What is your age? _____

2. What is your sex? Male ___ (1) Female ___ (2)

3. How many children do you have living full-time in your household? _____

4. How many children do you have living with you part-time? _____

5. What ages are these children?  
   First born child: _____  
   Second born child: _____  
   Third born child: _____  
   Fourth born child: _____  
   Fifth born child: _____  
   Sixth born child: _____

6. What is you highest level of education?  
   1. Some high school ( )  
   2. High school completed ( )  
   3. Some college ( )  
   4. College completed ( )  
   5. Diploma course completed ( )  
   6. Some university course ( )  
   7. Completed university with;
      1. Bachelor's degree ( )  
      2. Master's degree ( )  
      3. Ph.D ( )  
      4. Medical degree ( )

7. Number of hours of paid work per week. _____
8. Is flex-time available to you? Yes ___ (1) No ___ (2)

9. What is your personal income level? (Does not include spouse's income).
   1. $10,000 - $19,999 ( ) 4. $40,000 - $49,000 ( )
   2. $20,000 - $29,000 ( ) 5. more than $50,000 ( )
   3. $30,000 - $39,000 ( )

10. Please list the additional help you have at home (i.e., nannies, regular babysitting, cleaning and housekeepers, gardeners, relatives who assist you).
    1. ____________________________ 4. ____________________________
    2. ____________________________ 5. ____________________________
    3. ____________________________ 6. ____________________________
APPENDIX B

Cover Letter

The Role Enactment Questionnaire: Reliability and validity testing.

PRINCIPAL INVESTIGATOR: Wendy Hall, RN, MSN, Assistant Professor of Nursing.

CO-INVESTIGATOR: Kenna Sleigh, RN, Master of Science of Nursing candidate.

Dear dual-earner parent,

My name is Kenna Sleigh. I am a Registered Nurse who is currently enrolled at the University of British Columbia (UBC) in the Master of Nursing program. As part of my educational requirements I am conducting a research study. The purpose of the study is to see whether or not a new questionnaire, the Role Enactment Questionnaire, can accurately measure the stress that dual-earner couples experience. The questionnaire was designed by my study supervisor Wendy Hall, who is an Assistant Professor at the UBC School of Nursing.

As you are undoubtedly aware, raising a family and working outside the home is a challenging experience. Many dual-earner couples with children report feeling stressed out sometimes. However, in order to find ways to prevent or reduce stress, researchers need to be able to scientifically measure the amount of stress people experience. We also need to make sure that questionnaires like the Role Enactment Questionnaire are accurate.

In order to evaluate the Role Enactment Questionnaire, I need your assistance. You would fill out the questionnaire on two separate occasions approximately 2 weeks apart. The questionnaire is 6 pages long and will take 15 - 20 minutes of your time to complete. Thus, the total time necessary to participate is 40 minutes over a number of weeks. If you feel you would like to participate in this study, please do the following:

1. Both you and your partner should fill out copy #1 of The Role Enactment Questionnaire and the accompanying demographic data sheet. Please answer the questions with your activities in mind. Don't compare your responses with those of your partner.
2. Place the two completed copies of the Role Enactment Questionnaire and the demographic sheets in the self-addressed stamped envelope and mail to me.

3. Two weeks later you will receive copy #2 of the Role Enactment Questionnaire.

4. Both you and your partner should fill out copy #2 of the Role Enactment Questionnaire and mail both forms back to me in the self-addressed, stamped, envelope.

5. When I have received both completed copies of the Role Enactment Questionnaire and the demographic data sheet I will mail you a check for $5.00.

Benefits to participation

1. Increased understanding of yourself in relation to role activities.

2. The opportunity to express your personal views regarding role activities.

3. The opportunity to participate in a worthwhile project that may help others adapt to the dual-earner lifestyle.

Your anonymity will be preserved because all questionnaires will be identified only by a code number. A list, identifying subjects' names and code numbers, will be held in confidence by the investigator.

I will assume that you have consented to participate in the study if you complete copy #1 of the Role Enactment Questionnaire. However, you have the right to refuse to participate or withdraw at any time. If you have any questions, please do not hesitate to call me.

Thank-you in advance for your assistance in this matter.

Kenna Sleigh, RN, BSN