Maintaining Marital Quality in the Transition to Parenthood: An Evaluation of a Communication Skills Intervention

by

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A Dissertation

Presented to
Oregon Health Sciences University
School of Nursing
in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

August 1994

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Acknowledgment of Financial Support

This dissertation has been supported in part by: (1) National Center for Research fellowship #1 T32 NR07061-01 and (2) utilized a subset of data from the Becoming Parents Project which is funded by grant #K07 NR 00030 Expectant/New Fathers at Risk, from the National Institute of Nursing Research, National Institute of Health, Pamela Jordan, Principal Investigator, with additional moneys from the John D. and Catherine T. MacArthur Transition from Early Childhood Network, Risk and Prevention Group, Kathryn Barnard, Principal Investigator.

ACKNOWLEDGMENTS

There have been few endeavors in my live requiring the ongoing support and encouragement of so many others. Dr. Margaret Imle, my dissertation advisor, provided many long hours talking me through the conceptualization of the theoretical framework of this study, meeting with me even when I felt I had made so little progress since our last time together. I specially enjoyed her company as we studied the research techniques that were new to both of us.

I am profoundly grateful for Dr. Pamela Jordan who included me in the research team that launched the PREP™ Project. We shared many hours of planning and struggling with SPSS, as well as talking and laughing together. She supported and encouraged me in getting through my dissertation so that we could continue to work together on additional phases of this research. She has become the best of friends and mentor to me. Special thanks also goes to Dr. Kathryn Barnard who first invited me to the PREP™ Training Workshop and taught sessions of the program along with Pamela, Gretchen Zunkel, and me.

I also wish to thank the third member of my dissertation committee, Dr. Sherry Boyd, who said to us the first quarter of school that we should focus on "getting in and getting out" in a timely manner. I tried to do that! Dr. Barbara Stewart was also instrumental in my initial introduction to advanced statistics and as a consultant to Margaret and me when we needed explanations and reassurance that we were on the right track.

One of the most special parts of doctoral education is the meeting of new friends and colleagues: Kathryn Anderson, who shared the long drive from Seattle to Portland, Linda Budan, Ingrid Brudenell, Iku Inoue, Yoko Nakayama, Jennifer Schaller-Ayers, Kris Campbell, Liz LeCuyer, and especially Debra Anderson, who shared her home, her books, her food, and lots of laughter.

Likewise, as I continued my work at Seattle Pacific University, I was encouraged and supported by many colleagues. I especially appreciated Lilyan Snow and Cathryn Washington, who were PREP™ Consultants as well as dear friends who understood the research from the inside and were always there to listen and provide critical insight. The Deans of the School of Health Sciences, Barbara Innes and Annalee Oakes, who worked with administration to provide me with educational leave and reduced work loads at critical times. I recognized many times that extra work was picked up by Vicki McClurg and others to give me the breaks I needed. May I return all these favors in due time!

Then there are my husband, DeLoss, and my children, Amy, Carrie, and Bruce. They were there for each other during the long periods of time that I was away or buried in paper work. DeLoss learned about almost-single parenting and I learned that family members can survive without me in the middle orchestrating the household and their lives. As I reflected often in this research on the meaning of healthy marriages and healthy families, I valued very deeply the gift of my own family, their personhood and their contribution of love and sharing to each other. They are a blessing and I thank God for them.

ABSTRACT

TITLE: Maintaining Marital Quality in the Transition to Parenthood: An Evaluation of a Communication Skills Intervention

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Because marital dysfunction and dissolution have detrimental effects on the physical and emotional health of family members, preventive interventions aimed at enhancing marital quality and marital communications are critical to family well being. The transition to parenthood is considered a time in which couples are particularly vulnerable to relationship stress. The processes involved in this transition require good communication skills in order to negotiate interpersonal conflicts. Expectant couples are often highly motivated to seek and incorporate information and skills they perceive to be important to becoming parents. This study evaluated the effectiveness of a psychoeducational program teaching communication and conflict management skills to expectant couples. Twenty-eight volunteer expectant couples attended a 12 hour workshop, the Prevention and Relationship Enhancement Program (PREP™). These 28 couples were compared with 18 comparison couples with no PREP™ training on measures of marital satisfaction, marital adjustment, perceived self and other perspective-taking, perceived confirmation by spouse, and tactics used to resolve conflict. Comparison measurements were taken during pregnancy, at 6 weeks and 6 months post birth.

A quasi-experimental design was used to answer the following research questions: (a) Are marital quality and marital communication maintained with PREP™ training? (b) Do males perform the same as females on marital quality and marital communication scores with and without PREP™ training? and (c) Is the pattern of change in marital quality and marital communication the same for both males and females across the transition to parenthood regardless of PREP™ training? PREP™ was presented to intervention couples during pregnancy.

Repeated Measures ANCOVAs assessed for differences between the treatment and comparison groups. While no significant treatment by time effects were found for the marital quality and other marital communication measures at six months post birth, there were trends in the direction of beneficial effects from PREP™. Significant treatment effects were found for Conflict Tactics Scale Reasoning Other scores, and significant treatment by gender by time effect was found for CTS Violence Other scores, indicating some beneficial effects in conflict resolution with less violent tactics.

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CHAPTER 1

INTRODUCTION

The marriage and family roles continue to be central to our society. Ninety to ninety-five per cent of individuals marry at some time during their lives. However, over the last century the reasons for choosing to marry have undergone changes. Today couples often come into relationships seeking and expecting love, companionship, and the fulfillment of expectations (Bornstein & Bornstein, 1986). Much of the couple's early relationship may be founded on romanticism. Fifty per cent of first marriages end in divorce, with unrealistic expectations and limited resources to manage the large and small conflicts normal to married life often cited as underlying causes (Kitson & Holmes, 1992). Many couples who remain married experience varying levels of dissatisfaction within their relationships and some couples continue on to develop seriously dysfunctional patterns.

The transition to parenthood is a critical period in the couple's relationship during which marital quality can be significantly altered. The transition to parenthood is a family developmental stage in which the couple experiences changes in roles and role expectations. While functional couples can adjust their relationship expectations to cope with the necessary changes associated with parenthood, dysfunctional couples may become increasingly distressed. While divorce rates are the measure often cited to indicate the well-being of marriage as a social institution, the incidence of divorce represents only a portion of those marriages fraught with conflict. Family conflict contributes to problems in social adjustment, emotional stability, and cognitive skills in

children regardless of whether the marriage has remained intact or divorce has occurred (Demo & Acock, 1991; Howes & Markman, 1989; Nicholi, 1990). Family stress, marital dysfunction, and divorce affect the physical and emotional health of all family members (Christensen, 1990; Kitson & Holmes, 1992; Kitson & Morgan, 1991). Thus, the well being of the couple relationship, integral to healthy family functioning, is an issue of critical importance to professionals interested in family health care.

Marital Quality and Marital Stability

With the development of romantic love and personal attraction as a basis for marriage, satisfaction with the partner and the marriage has assumed increasing importance in the prediction of whether a given couple will remain married (Booth, Johnson, Glenn & Weaver, 1988; Lewis & Spanier, 1979; Storaasli & Markman, 1990; White & Booth, 1985). Marital success is usually measured by the quality of the relationship between husbands and wives. This quality is the subjective evaluation of a marriage as good, happy, or satisfying (Lewis & Spanier, 1979).

Marital quality and its associated dimensions such as satisfaction, happiness, adjustment, adaptation, or lack of distress refer to a number of subjectively experienced dimensions and evaluations of the marital relationship. While a strong link between marital happiness and marital stability seems obvious, there has been limited empirical evidence. Johnson, White, Edwards, and Booth (1986) report that individuals with low marital happiness are four to five times more likely to divorce than those with high marital happiness. In contrast, couples that share time together are also more likely to remain

married (Booth, Johnson, White, & Edwards, 1985, 1986; Hill, 1988). Husbands and wives see the ability to express feelings to one another and to resolve problems as one of the major predictors of their marital happiness (Kitson & Holmes, 1992).

The beliefs about the relationship between marital satisfaction and communication behavior are strongly supported in our culture (Fitzpatrick & Badzinski, 1985). "Good" communication has been defined as the ability to send a message that is clear in its intent and adequately understood by the receiver. Communication problems refer to inadequate transmission of the intended message and or inaccurate interpretation on the part of the receiver. Happily married couples believe that they have remarkably good marital communication. Most distressed couples identify communication difficulties as a major problem in their relationships (Bornstein & Bornstein, 1986; Storaasli & Markman, 1990). Thus, it appears that communication is central to marital success. How and what couples talk about influence their level of satisfaction with the relationship. Equally important is how couples resolve conflict that is a normal part of all couple relationships (Gottman, 1979; Fitzpatrick, 1988c; Markman, 1991a). Improving communication skills along with relationship enhancement techniques does enhance marital relationship satisfaction, particularly benefiting couples early in their relationship prior to the development of destructive communication patterns (Halweg & Markman, 1988; Wampler, 1990).

The Transition to Parenthood

The importance of family for meeting the nurturant and developmental needs of each family member has been recognized. The initial transition to parenthood is a critical

time period for families and a stressful time for most couples. Expectant couples face significant changes as they add the new role of parent. In addition, their marital relationship undergoes critical changes as the couple works to incorporate the infant into the family. The expenditure of time, energy, and resources all are increased to meet the demands of the new family member. In this process there is less time and energy for the marital relationship. As some couples have described, "It just gets placed on the back burner."

There is a predictable decline in couple satisfaction that occurs after the birth of the child (Belsky, 1985; Belsky, Spanier, & Rovine, 1983; Tomlinson, 1987). According to transition theory (Cowan, 1991), there are significant changes that occur within the self as new roles are taken on. The self is often redefined, relationships with significant others are altered, expectations of the world are altered, and behaviors are expected to change accordingly. In the transition to parenthood, both husband and wife experience changes. However, their trajectories for the transition process are not on the same time table (Jordan, 1989). Women, during pregnancy, begin working through the role changes more rapidly than expectant fathers. Broom (1984) found that the substance and saliency of wives' and husbands' agendas during the transition period differ. Husbands and wives experience many situations where conflict can occur, in which differences in needs and rapidly changing expectations can lead to arguments, hurt feelings, or feelings of isolation when one spouse "does not understand" how the other is feeling. Nurses are in a position to interact with expectant parents and assess and intervene. Nursing interventions that

focus on marital communication as part of prenatal educational programs can potentially have long lasting impact as new expectations and behaviors are established (Jacobson & Addis, 1993). If couples do not have the understanding and skills necessary to negotiate the changes in their expectations and needs during this transition, the resulting family distress can lead to dysfunction and perhaps eventual marital dissolution. Since about half of couples who divorce do so by the seventh year of marriage, young children are often affected by the processes of family dysfunction and dissolution (Cherlin, 1992; Cowan & Cowan, 1992).

Within this context, a group of nurse educators met with the marriage and family counselors who had developed a preventive intervention program for couples preparing to marry or in the early stages of their marriage. The purpose of this interdisciplinary meeting was to explore how this preventive intervention might be applied in a wide range of clinical settings in which nurses work with families. The program discussed at that meeting, called the Prevention and Relationship Enhancement Program (PREP™) (Markman, Blumberg, & Stanley, 1991), teaches couples skills in communication, problem solving, and constructive arguing. Studies of the effectiveness of PREP™ demonstrate that the program can improve marital quality, prevent declines in marital quality over time, and significantly reduce the incidence of divorce (Markman, 1981; Markman, Duncan, Storaasli, & Howes, 1987; Markman, Floyd, Stanley, & Storaasli, 1988; Markman, Renick, Floyd, Stanley, & Clements, 1993).

As a result of the interdisciplinary meeting, the developers of PREP™ presented a PREP™ leadership training workshop for nurse educators. From this training four nurses prepared a series of workshops for married couples expecting a first child as part of an ongoing Becoming Parents Project (principal investigator, Pamela Jordan, Ph.D., R.N.). The application of PREP™ as an intervention of teaching communication and problem solving skills to parents specifically in the context of transition to parenthood had not yet been explored.

Purpose of the Study

The transition to parenthood is considered a high risk time during which couples are vulnerable to relationship stresses as the family is undergoing structural and role changes (Cowan & Cowan, 1992). Parents are often highly motivated to seek and incorporate information and skills they perceive to be important to taking on the tasks associated with parenthood (Belsky & Pensky, 1988; Duncan & Markman, 1988; Meleis & Swendsen, 1978; Saunders & Robins, 1987; Tomlinson, 1987). Because nurses are in a primary position to assess prenatal families within clinical settings, the transition to parenthood is an ideal time for family nurses to intervene. Perinatal and early parenting courses in community settings have often been taught by nurses. However, there has been only modest focus within these clinical settings and educational programs on the couples' marital relationship. Yet, the strength and well being of the couple relationship is considered a key factor in family adaptation (Cowan & Cowan, 1992; Jacobson & Addis, 1993). Thus, a preventive nursing intervention during the transition to parenthood which

is focused on the couple relationship may well affect family well-being with long-lasting benefits, not only for the couple relationship but for the parent-child relationship as well (Broom, 1991). The PREP™ intervention was selected for application with expectant couples because of its simplicity and potential for incorporation into existing perinatal education programs offered to couples seeking preparation for childbirth and parenthood.

This investigation, an evaluation study of a couples' communication intervention program in which expectant couples are taught communication, problem solving, and conflict resolution during the transition to parenthood, is part of the PREP™ Project, a larger program evaluation which taught PREP™ workshops to expectant couples and followed them for one year post birth. The research question for the larger PREP™ Project was, does the cognitive-behavioral approach used by PREP™ make a difference in marital satisfaction and family functioning when taught prenatally to couples expecting their first child? The purpose of the dissertation study, a sub-study within the PREP™ Project, was to investigate the effects of the PREP™ intervention on marital quality and marital communication for a subset of the couples from mid pregnancy through the first six months after birth. The general hypotheses to be tested were that expectant couples who have participated in PREP™, a skill-building intervention program of communication and problem-solving skills, will maintain marital quality and marital communication quality at higher levels than couples who have not received the intervention program.

Significance for Nursing

Traditional marriage and family therapy has been focused on working with troubled families. The question raised here is, "Why do we wait until families are in serious trouble before we help?" Primary prevention provides assessment, anticipatory guidance, and educational programs that can be cost effective when considering the impact of family dysfunction and dissolution on the physical and emotional health of all family members. Health and wellness, as more than the absence of disease and dysfunction, can be enhanced through preventive intervention for family relationships.

Nurses work with families throughout the life cycle, often at times of transition. First-time parenthood is the family transition that is the focus of this study. The perinatal period, often the first time families interact with nurses, is a time during which there are opportunities to assess family dynamics and the marital relationship. As indicated, the transition to parenthood brings with it the addition of new roles, changes in the saliency of existing roles and new definitions of role expectations. The strain of these changes on the family and on the couple relationship is well documented (Belskey, Lang, & Huston, 1986; Belsky et al., 1983, Belsky & Pensky, 1988; Belsky & Rovine, 1990; Cowan & Cowan, 1992; MacDermid, Huston, & McHale, 1990; Michaels & Goldberg, 1988). Interventions to facilitate these role transitions can be carried out by nurses working with families. However, current content of perinatal education programs does not adequately include aspects of family stresses that lead to serious marital distress and dissolution (Duncan & Markman, 1988).

A significant number of families experience serious stress and dysfunction resulting in divorce or ongoing dysfunctional family interactions during the early childrearing years. The proposed intervention in this study introduced a set of communication and conflict resolution skills that have demonstrated success in enhancing marital relationships and reducing the incidence of divorce. By incorporating communication and conflict resolution skills into the existing prenatal and parenting educational programs, nurses can provide this type of marital intervention to childbearing families during this transitional period.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The focus of this study is the evaluation of an intervention program that taught communication and conflict management skills to couples during the transition to parenthood. This review of the literature includes the constructs of marital quality, marital communication processes and the relationship between them. The effects of the transition to parenthood on marital quality are explored. Current research literature related to marital communication and relationship enhancement programs are reviewed. A behavioral-communications model of marriage and marital discord and a theory of family transition are discussed as the framework for the present study.

Marital Quality

Expectations for intimate and durable interpersonal relationships within marriage and the family are high (Erickson, 1993). The success of a couple's marriage is often determined according to each spouse's own criteria and standards (Fitzpatrick, 1988a). Evaluation of marital quality then has often taken the form of measuring satisfaction with one's partner and with marriage. Research in marital quality has determined that several components are major contributors to marital quality.

Spanier and Lewis (1980) reviewed the 1970s literature on marital quality and recognized the need to specify multidimensional components in defining the marital relationship. While there is considerable diversity of operational definitions of marital

satisfaction, most researchers (Johnson, White, Edwards, & Booth, 1986; Lewis & Spanier, 1979; Sabatelli, 1988) are focusing on the same construct, increasingly called "marital quality." Marital quality covers a number of dimensions under its umbrella including adjustment, satisfaction, happiness, marital interaction, agreement/disagreement and proneness to separate or divorce (Lewis & Spanier, 1979).

Lewis and Spanier (1979) identified the following dimensions which contribute to marital success. Interpersonal and dyadic factors associated with high marital quality are: positive regard, emotional gratification, adequate communication, role fit, and the quantity and quality of interaction. These in turn are associated with marital happiness and a high degree of satisfaction with the relationship. Marital quality is not a state, e.g., a high-quality versus low-quality marriage, but rather a mobile construct, shifting along a continuum ranging from high to low. A couple's marital quality can be affected positively or negatively by events at any given time in their lives. The transition to parenthood is an example of a critical period in the couple's relationship during which marital quality can be significantly altered.

Spanier and Lewis (1980) also acknowledged that "a marriage is much more than subjective feelings about the relationship" (p. 832). Other researchers have viewed marital quality as being a characteristic of the relationship between spouses instead of, or in addition to, a matter of the separate feelings of the two spouses (Glenn, 1990). In order to clarify dimensions of marital quality, Johnson et al. (1986) interviewed a representative national sample of 1845 married people to identify components of marital quality that

were empirically unique and, therefore, of use in research and theory construction. Five conceptually distinct components of marital quality were identified: marital happiness, marital interaction, marital agreement, marital problems, and marital instability. Marital happiness referred to "the degree of personal satisfaction or happiness the individual feels about the marriage" (Johnson et al., 1986, p. 34). Interaction included all the day-to-day activities in which the couple participates together. Marital agreement/disagreement involved the amount of consensus or lack thereof and severity of conflict between the spouses about marital and individual goals or other problems, both internal and external to the marriage. Marital problems indicated "the extent to which personal traits and behaviors of either spouse have led to problems in the marriage" (Johnson et al., 1986, p. 36). Marital instability was defined as the propensity to divorce, including both considering the idea and taking actions toward termination of the marriage. To evaluate whether the pattern of relationships among the measurement scales indicated a single or multidimensional empirical conceptualization of marital quality, the authors used factor models to analyze the adequacy of the fit of the models to the data. In the final model, the five measures of marital quality apparently represented two unmeasured dimensions: a positive marital quality dimension including interaction and happiness, and a negative dimension including problems, disagreements, and instability. The authors found that these dimensions performed quite differently over forms of marital structure such as duration and gender. They concluded that scales which include both the positive and negative dimensions are likely to yield ambiguous findings and contribute little to an

understanding of marital process. While ongoing discussions in the literature continue to reflect upon conceptual definitions and adequate measures of marital quality, satisfaction and adjustment (Fowers, 1990; Glenn, 1990; Sabatelli, 1988), the literature continues to support importance of marital quality to marital stability and family well-being. The relationship between marital quality and marital stability will be discussed.

Marital Quality and Stability

Marital Stability is defined as the formal or informal status of a marriage as intact or non-intact (Lewis & Spanier, 1979). A stable marriage is one which is terminated only by the natural death of one spouse. An unstable marriage thus is one which is willfully terminated by one or both spouses. The central propositions of the theories of marital stability suggest that, if marital stability is to be strengthened, then attraction between marital partners needs to be increased; barriers to dissolution need to be intensified, and attractiveness of alternative relationships needs to be decreased, or various combinations of these alternatives should be employed (Lewis & Spanier, 1979). Marriage is intended to provide family stability, an environment in which family roles are enacted, particularly, the sheltering, safety, and nurture of all family members. The concern then is not only whether the marriage remains intact or is dissolved, but whether there is sufficient quality in the couple relationship to prevent dysfunctional family patterns in which both adults and children can suffer deleterious effects (Fincham & Osborne, 1993; Kitson & Holmes, 1992).

In theorizing about the quality and stability of marriage, Lewis and Spanier (1979) built a partial theory of marital stability which identified many of the conditions under which a marriage may remain intact or be dissolved. They argued that the quality of most marriages is the primary determinant of whether a marriage remains intact. Marital quality was explained by a series of first and second order propositions which supported three major propositions: (a) the greater the social and personal resources available for adequate marital role functioning, the higher the subsequent marital quality (Lewis & Spanier, 1979, p. 275); (b) the greater the spouses' satisfaction with their life style, the greater their marital quality (Lewis & Spanier, 1979, p. 279); and (c) the greater the rewards from spousal interaction, the greater the marital quality (Lewis & Spanier, 1979, p. 282). These three implicit propositions support the central proposition of the theory which is: "The greater the marital quality, the greater the marital stability" (Lewis & Spanier, 1979, p. 288). The authors also noted two factors external to the marriage which influence stability: the strong negative influence of alternative attractions, and the positive external pressure upon couples to remain married. The marital relationship is mitigated at times by more attractive alternatives, but, conversely, it may be strengthened by external pressures to remain married. These two sets of external forces are seen as contingent variables influencing the central relationship between marital quality and stability.

With respect to this study, the areas of greatest focus from Lewis and Spanier's framework are the interpersonal and dyadic factors within the couple relationship. Lewis and Spanier categorized propositions in this portion of their inventory under positive

regard, emotional gratification, communication, role fit and interaction. Propositions relating to positive regard addressed the following: perceived similarities; ease of communication, perceived physical, mental, and sexual attractiveness; positive evaluation of the other; value consensus; and validation of the self by the other. The second-order proposition deduced from these propositions is "The more positive regard between spouses, the greater the marital quality" (Lewis & Spanier, 1979, p. 282).

Propositions relating to emotional gratification were also linked with marital quality. These included: expression of affection, esteem or respect between partners, spousal performance in social-emotional areas, encouragement of each other's personal growth, negotiation of equal power structures, emotional interdependence, love, sexual satisfaction, greater congruence between one's ideal spousal concept and spouse as perceived, and the couple's identity as a couple. All of these propositions support the second-order proposition that "the more the emotional gratification between the spouses, the more the marital quality" (Lewis & Spanier, 1979, p. 282).

Role complimentarity or fit is partially defined as the absence of role conflict. Lewis and Spanier (1979) found empirical evidence to support the proposition, "the more the role complementarity, the more the marital quality" (p. 284). The following concepts link role fit to marital quality: need complimentarity, congruence between role expectations and role performance, similarity of personality, role sharing, and sexual compatibility. Conversely, family conflict is increased with greater disparity in the fit of marital and family roles.

Both quantity and quality of marital interaction affect marital quality. Positive relationships are found between marital quality and the following interactive facets of the couple relationship: increased companionship, shared activities, dyadic interpenetration, and problem-solving, and decreased physical separation (Lewis & Spanier, 1979). Components of these concepts are evident in PREP™, the intervention program used in this dissertation study.

Integrating these propositions into a comprehensive theory of marital quality and stability is not sufficient to explain all the complex interrelationships of the marital relationship. Lewis and Spanier (1979) recognized that a marriage is much more complex a construct than explained by the subjective reactions of the couple to the relationship. Thus, included in their theoretical framework is an exchange typology of marital quality and marital stability, in which marital quality is dichotomized as high to low (though conceptually on a continuum) while marital stability is viewed in terms of the dichotomous status of intact or not intact. All marital relationships may, thus, be represented on both a quality dimension and a stability dimension. The quality and stability of the marital relationship may vary over the life cycle. Marriages may be judged at points in time to be of high quality and high stability; high quality and low stability; low quality and low stability; or low quality and high stability. According to Lewis and Spanier, most marriages have likely been in the category of high quality and high stability at some point in time, usually in the early years of the relationship. Most marriages of low quality and low stability end through divorce or separation. While high quality and high stability are

the most positive characteristics, many marriages of low quality remain intact because of complex factors related to external pressures to remain married.

Lewis and Spanier (1979) developed their model as a guide to future research and understanding of the relationships between marital quality and stability. While research related to marital quality has continued, providing support to many of the propositions, there have been limited direct attempts to test this theory. In his review of research on marital quality in the 1980s, Glenn (1990) noted that much of marital quality research was completely atheoretical, though practical rationale was often given for the research, with elements of theory being brought in on an incidental basis. Lewis and Spanier's (1979) model does present a logical and practical basis for understanding marital quality and, while it has not yet been substantiated by direct attempts to test its propositions, it has not been replaced by other comprehensive models. It provides some framework for understanding continuing research on marital quality and a basis for the selection of PREP™ as the intervention used in this study.

As an example of some of the interpersonal and dyadic factors in marital quality, the importance of affection and companionship is highlighted in marital relationship studies (Christensen, 1988; Kitson & Holmes, 1992). Couples yearn for more communication with and support and concern from their partners. In a longitudinal study of married and divorced couples, Kitson and Holmes (1992) investigated the extent to which people's spouses had met their expectations in regard to a number of marital roles. They found that many respondents reported that their spouses satisfactorily fulfilled the more instrumental

roles of the marriage, such as "provider/homemaker," and "parent." The respondents' dissatisfaction stemmed especially from their spouses' performance in the role of "someone to talk things over with," and to a lesser extent in those of "helpmate/partner" and "leisure-time companion." Such roles as helpmate/partner, provider/homemaker, sexual partner, leisure time companion, and someone to talk things over with were examined in both married couples and those who divorced. The expectations for these dimensions are harder to meet and maintain, and are more easily eroded by slights, hurts, and inattention. Among those who were divorced, 64 per cent of the respondents identified the lack of "someone to talk things over with" as the most important role influencing the decision to divorce. Among the marrieds, half of those who had a problem mentioned this role as being the most problematic, indicating how critical this role can be in maintaining stable marriages. Kitson and Holmes (1992) noted that marriage puts tremendous pressure on spouses to provide affectional support for one another. These findings suggest that couples need to establish a means to provide for the division of emotional labor in the couple relationship in much the same way they might construct a division of housework and child care labor.

In summary, the quality of the interpersonal relationship and the nature of communication within the marital couple play central roles in the maintenance of satisfying and functional marriages. While there are complex intervening factors in the well-being of the marital relationship, each couple must maintain a caring open interactive communication process in order to appreciate and fulfill each other's expectations and

needs for the relationship. The theoretical framework of marital quality and marital stability provides support for PREP™, the intervention used in this dissertation study.

Measurement Issues in Evaluating Marital Quality

There are three primary response modes used to evaluate couple's interactions: (a) self-report, (b) spouse-report, and (c) external-observer report. Although advancements have been made in all of these modes, the majority of marital quality measures are still self-reports of spouses. Since marital quality is defined as an "intrapersonal" variable which requires an individual spouse to evaluate some aspect of the marriage, the construct can be operationalized using a self-reported subjective relationship assessment. Spouse-reported measures provide highly valuable, yet potentially unreliable data. On one hand, spouses are uniquely qualified to observe and report on all aspects of the marital relationship. In addition, marital partners represent highly efficient sources of information. However, high levels of reactivity and bias are inherent in the spouse's dual role of participant and observer. Thus, data obtained from spouse-report measures must be carefully evaluated against other assessment information. Sometimes, biased or "inaccurate" data, when uncovered, represent significant findings about the couple and their interactions. Self-and spouse-report measures are less expensive, and are easy to administer and score. However, changes in the marital relationship may be precipitated by the act of completing the measurement tools.

In contrast to self-reports and spouse-reports, most external-observer reports are thought to be less biased, behaviorally based data about marital relationships. These

techniques can provide observations of behaviors of interest rather than relying on subjects' self assessments or recall of events. While there has been a considerable increase in behavioral observation research techniques, the increased costs in equipment, trained personnel, and other resources necessary for direct observation preclude the use of these techniques in most situations. While external observer reports may enhance research findings unique to the technique, commonly used self-report measures of marital quality remain remarkably robust evaluating change in the couple relationship (Belsky et al., 1983, 1985).

The selection of the appropriate unit of analysis is a problem in marital relationship research. Some procedure for combining individual data into dyadic measures is required to make the transfer from the level of the individual respondent to that of the couple. However, accuracy of couple scores is questionable. A lack of consensus on marital quality between husbands and wives can represent inaccuracy of perception, or, possibly, different criteria for evaluating the quality of the marriage. When responses differ between spouses, these differences represent important statements about the nature and quality of the marriage. Both the nature of the measure and the implications of differing responses from spouses must be explored before considering the couples as the unit of analysis and combining data from individual spousal reports.

A major implication for researchers interested in marital quality is that most marital adjustment and satisfaction scales are multidimensional but summated scales. Thus, it may be more meaningful and accurate to cautiously use selected subscales within some of these

tools if it can be determined that unidimensional concepts are better represented in the subscales. Some researchers recommend the use of short and direct tests to evaluate marital satisfaction and using additional instruments to separately measure other variables of interest (Fincham & Bradbury, 1987). Certainly there needs to be continued development of carefully conceptualized measurement tools for research concerning relationship quality and its correlates.

The decision was made to include two measures of marital quality in this study along with measures of other aspects of communication relevant to study objectives. The two selected measures of marital quality were Dyadic Adjustment Scale (DAS) (Spanier, 1976) and the Marital Satisfaction Scale (MSS) (Roach, Frazier, & Bowden, 1981). The DAS is a widely used instrument developed to measure the quality of marital adjustment. The MSS was originally designed as an assessment tool for measuring general marital satisfaction as well as a repeated measure to assess impact of marital intervention. Both instruments were designed to differentiate between distressed and non-distressed couples, usually in clinical settings.

Dyadic Adjustment Scale

The DAS (Spanier, 1976) was designed to address some of the shortcomings in existing measures of marital satisfaction, such as the Locke-Wallace Marital Adjustment Test (LWMAT) (Locke & Wallace, 1959), the most commonly used measure in the two preceding decades. Adjustment is defined as "a process, the outcome of which is determined by the degree of: a) troublesome dyadic differences; b) interpersonal tensions

and personal anxiety; c) dyadic satisfaction; d) dyadic cohesion; and e) consensus of matters of importance to dyadic functioning" (Spanier, 1976, p. 17). Thus, adjustment in the DAS is viewed as a multidimensional construct, created from the summed scores of the four subscales that measure satisfaction in marriage, marital consensus, marital cohesion, and affectionate expression. The Satisfaction subscale measures overall satisfaction and commitment to the relationship. The Consensus subscale reflects agreements in values and decision making. The Cohesion subscale measures the quality of interaction, the ability of the couple to do things together, such as share outside interests, exchange ideas, work on projects, or calmly discuss something. The Affectional Expression subscale measures both the sexual relationship and the exchange of affectional behavior. Insight into the level of adjustment that is achieved by a couple at a particular point in time is derived from information obtained from individuals about these selected aspects of their relationship. Partner differences are presumed to reflect differing perceptions of the relationship functioning.

The DAS has often been used in samples of expectant couples and new parents. In order to assess marital change in response to the birth of an infant, Belsky, Spanier, and Rovine (1983) used the DAS as one of the measurements taken in a study of 72 volunteer couples from the third trimester of pregnancy through the ninth postpartum month. Using a univariate analyses of variance, the mean scores on the DAS revealed modest yet highly reliable declines in marital adjustment across time. These scores correlated strongly with the other measurements (interview, observed marital interaction, and marital

characterization) employed in their study. Regardless of the measure employed, individual spouses and couples tended to maintain their relative ranking across testing periods of that study.

A second study (Belsky, Lang, & Rovine, 1985) of 67 volunteer couples, replicated and extended the initial longitudinal study of the transition to parenthood. Three additional instruments were used to provide more differentiated assessments of the marital relationship beyond those employed in the initial study. The first instrument, an adaptation of the Areas of Change Questionnaire developed by Huston (Huston, McHale, & Crouter, 1986), assessed satisfaction/dissatisfaction with the marital interaction; the second, Braiker and Kelley's (1979) four-factor scale of intimate relationships, tapped the character of the relationship in terms of both the extent to which the partners experienced conflict and the extent to which they engaged in behaviors to enrich, improve, and thereby maintain the relationship; and the third instrument, also developed by Huston, assessed mood or overall marital satisfaction. Using these instruments, the observed patterns of marital change demonstrated a significant though moderate decline in marital quality over time. Individual differences also remained highly stable over time and the correspondence between husband's and wife's marital appraisal increased over time. The authors' discussion of these results included the relative merits of different measurement approaches for studying marital change across the transition to parenthood. There was a high degree of correspondence between the general results of the initial investigation (Belsky et al., 1983) employing the DAS and those reported in the second study with the

use of more differentiated measures. The DAS was found to be nearly as sensitive as these more differentiated scales for describing marital change across the transition to parenthood.

The DAS has a possible range of scores from 0 to 151. The higher the score, the greater the marital adjustment is assumed to be. Although the total score is most often used as the score of interest, concern has been expressed regarding the problem of disproportionate weighting based on number of subscale items (Norton, 1983). The consensus subscale contains 13 items and the satisfaction subscale contains 10 items. In contrast, the cohesion and affectionate expression subscales contain only five and four items respectively. Although each of the subscales is advocated as being a conceptually distinct contributor to adjustment, they do not have an equal chance of being represented in the overall adjustment score using the scoring system devised by Spanier (1976). This leads to an overemphasis on agreement, a possible confounding of agreement and satisfaction, and an inadequate evaluation of couples' ability to work well together and demonstrate love for each other.

A second consequence of using total scores is that the patterns within the score are often ignored. If a person scores low on a subscale concept for which there are more items and high on a subscale with fewer items, a potentially inaccurate low total score may be obtained while the couple's relationship may in fact be considered adequately adjusted. Thus, interesting internal effects of the measure may be washed out in the overall scoring of this tool.

There is also some concern with the descriptive items on the DAS in that the authors make a number of assumptions about what determines marital adjustment. For example, Spanier assumes that quarreling, leaving the house after an argument and being too tired for sex all are detrimental to marital satisfaction. On the other hand, he sees having a stimulating exchange of ideas, working together on a project and confiding in one another as being good for marital satisfaction. These behaviors do not necessarily have the same meaning for all couples (Fitzpatrick, 1988b).

Despite Spanier's attempt to define and measure the multiple contributions to adjustment in marriage, reevaluation of the scale has also suggested that only one aspect of the construct is being measured. Two subsequent factor analyses produced results that differed from Spanier's original findings (Kazak, Jarmas, & Snitzer, 1988; Sharpley & Cross, 1982). The variety of findings suggests that the DAS is best viewed as a unidimensional rather than a multidimensional measure.

While the Dyadic Adjustment Scale (Spanier, 1976) has been able to distinguish between those couples who are happily married and those who are not, most researchers have not been as successful in identifying the role of other components of marital success. Because the DAS seems to have some multidimensionality, there may be difficulty in using it with other potentially highly correlated dimensions, such as communication, as independent variables. For this reason, there is growing preference to use short direct tests of marital quality and to examine other components of the relationship with additional measures. Unidimensional measures sharpen the focus on the variable of

marital quality, permitting a comparison of covariates that are not clearly evaluative. This type of comparison is not likely to occur in a scale where other variables are contained as part of the overall measure (Fincham & Bradbury, 1987; Norton, 1983). The combination of the DAS and MSS was used by Kurdek and Schmitt (1986) in a study of relationship quality of partners in heterosexual and gay and lesbian relationships. These investigators created a composite relationship quality score by summing the five *z* scores (the four DAS subscales and the total MSS score) obtained from the two measures. The composite score was then used in multivariate analyses of variance, along with two other dimensions, love for one's partner, and liking of one's partner, to determine differences among partners in predictors of relationship quality. Cronbach's alpha for this composite score was .84. This process has possible application within this study.

In summary, despite some of the concerns about the number of constructs indexed by the DAS, it continues to be used in marital quality studies as an outcome variable and to categorize couples into distressed and nondistressed groups. It has proven effective in measuring change in marital adjustment in populations similar to the transition to parenthood sample in this study.

Marital Satisfaction Scale

The MSS is a self-report questionnaire designed to measure the level of satisfaction within one's own marriage (Roach, 1981). Marital satisfaction is considered an attitude in contrast to other measures of marital adjustment, such as success or happiness, which are relatively fixed properties or behavioral states. Within this context,

marital satisfaction is defined as "the perception of one's marriage along a continuum of greater or lesser favorability at a given point in time" (Roach et al., 1981, p. 539). The MSS was developed specifically as a unidimensional assessment tool. In reaction to other measures of marital quality such as the DAS, Roach et al. (1981) contend that it is not possible to assess adjustment from a self-report instrument because self-reporting is strongly contaminated with the individual's subjective assessment of the marriage relationship. Thus, items were selected as they deal with opinion toward some aspect of one's marriage, reflecting affect rather than cognition. The MSS differs from Spanier's DAS in that Spanier's instrument focuses heavily on estimates of the frequencies and degrees of difference between spouses. Such estimations on the DAS involve more cognitive and recall processes than affective or attitudinal responses.

The final 48 item version of the MSS was reduced from an original 73 Likert-type items suggested by marital literature and from the therapy experiences of the authors. Internal consistency, item-to-item correlation and principal-components analyses were carried out. The principal-components analyses strongly supported the presence of a unidimensional measure, with 57 of the original items loading greater than .50.

In conclusion, all marital quality scales have an intrinsic problem with the degree of variance and skewness in the direction of marital happiness. In fact, 95 per cent of couples have been found to say their marriage is happier than "average" (Fitzpatrick, 1988a). Very few people seem to report themselves or their marriages as unhappy overall, although some individuals appear willing to report specific stresses in the marriage. This

shortcoming has not been completely resolved within the field of marital studies. This, along with other shortcomings, demonstrates the need for developing additional ways of examining the marriage relationship.

Marital Communication

The Meaning and Effect of Communication

Communication plays an integral part in the stability, maintenance and change that occurs in marriage (Fitzpatrick, 1987, 1988c). Communication is essential in all of the interpersonal interactions within the family. Communication may be viewed as "a symbolic, transactional process, one of creating and sharing meanings" (Galvin & Brommel, 1991, p.16). Words or verbal behavior are the most commonly used symbols but a whole range of nonverbal behaviors are also used symbolically.

Communication is transactional in that, when people communicate, all participants are both affecting and being affected by the others. A transactional view of communication focuses on relationships, and relationships take precedence over individual participants. Each individual communicates within an interpersonal context, and each communication act reflects the nature of those relationships. The transactional view also stresses the importance of the communicator's perceptions, and actions in determining the outcome of interactions. In communication relationships, "each person (1) creates a context for the other, (2) simultaneously creates and interprets messages, and (3) affects and is affected by the other" (Galvin & Brommel, 1991, p. 15). Communication is a

process in that it is continuous and changing. Relationships, no matter how committed, change constantly, and communication both affects and reflects these changes.

Successful communication depends on the partners' shared reality or sets of meanings. Each individual sees the world within the context of age, race, gender, religion, culture, and family experiences. Meanings emerge as information is processed in communication interactions with others who eventually share some common experiences and negotiate shared symbols. In long term, enduring relationships persons develop a relationship world view reflecting their symbolic interdependence. Communication of meaning occurs on two levels: the content level containing information, and the relationship level which indicates how the information should be interpreted or understood, often through nonverbal messages that accompany verbal communication. Metacommunication occurs when people communicate about their communications, usually providing verbal and nonverbal instructions about how their messages should be understood. In a positive sense, metacommunication serves to permit members to state their needs, clarify confusion, and plan new and more constructive ways of relating to one another. Thus, communication shapes the relationship and, in turn, is shaped by the relationship (Galvin & Brommel, 1991).

Marital roles are considered almost synonymous with communication roles as the quality of communication between husbands and wives is considered to be central to the well-being of the relationship. Fitzpatrick (1988a) suggested that one way to view the strong correlation between marital satisfaction and self-reports of communication behavior

is that these relationships "constitute evidence for strongly held beliefs in our culture about the role of communication in marriage" (p. 9). The interpersonal interaction between husbands and wives is crucial to the marital relationship because it is the means by which couples manage their daily lives, express their feelings to one another, solve their problems, and cope with other relationships. Because communication is so central in society's view of marriage (Fitzpatrick & Ritchie, 1992), there is pressure placed on each spouse to be able to communicate effectively. Thus, an understanding of relationship processes and the communication patterns associated with the well-being of couple relationships is integral to preventive intervention with couples early in relationships and during transitional periods in their lives to help improve their communication and to gain greater satisfaction from their relationship (Noller & Fitzpatrick, 1990).

The Relationship between Marital Quality and Marital Communication

Of interest here are the processes by which marital communication affects, or is affected by, marital quality. Research in particular has focused on the causal mechanisms that account for this strong relationship between a couple's communication and the well-being of their marriage (Filsinger & Thoma, 1988; Kelly, Huston, & Cate, 1985; Markman, 1981; Noller & Gallois, 1988). There have been research efforts to understand the differences in communication patterns between couples whose relationships are distressed and those whose relationships are not distressed (Christensen & Shenk, 1991; Dickson-Markman & Markman, 1988; Gottman, 1993; Guthrie & Snyder, 1988; Heavey, Layne, & Christensen, 1993; Noller & Gallois, 1988). A couple's ability to resolve

conflicts in their relationship has been determined to be a critical aspect of relationship satisfaction (Fitzpatrick, 1988c; Markman, 1991a; Schaap, Buunk, & Kerstra, 1988). Other aspects of marital communication quality include the general nature of communication, the affective tone in the relationship (Schaap et al., 1988), the ability to disclose private thoughts and feelings about the self to the spouse (Fitzpatrick, 1988c; Hendrick, 1981), perspective-taking abilities (Long & Andrews, 1990), confirmation, also defined as validation (Gottman, 1979; 1993; Sieburg, 1969), disclosure of negative rather than positive feelings to spouse (Filsinger & Thoma, 1988), perceived accuracy of nonverbal communication (Noller & Gallois, 1988; Sabatelli, Buck, & Dreyer, 1982),and frequency of successful exchanges. All of these can be factors that mediate between marital communication and marital satisfaction.

According to Bowenian theory, relationship processes are expressed through channels of communication (Kerr & Bowen, 1988). The theory implies the possibility of two types of communication. The one type reflects an open communication style as expressed in the tendency toward cohesive, altruistic, and cooperative communication in relationships in which individuals "listen without reacting emotionally" (Kerr & Bowen, 1988, p. 188). The second type of communication has aversive properties and includes the tendency to insulate, withdraw, fight, blame, badger, or reject. Although specific terminology has varied, previous investigations of communication patterns have identified these open and aversive communication patterns (Gottman, 1979; Margolin & Wampold, 1981; Markman, 1981). Markman, in particular, has identified as most damaging the

aversive communication patterns as they occur in family conflicts. Thus, out of his extensive research on marital conflict he has developed a cognitive behavioral skill building program, PREP™, to teach couples constructive communication and conflict management.

A Prevention and Relationship Enhancement Program, PREP™

Markman, Blumberg, and Stanley (1991) have developed the Prevention and Relationship Enhancement Program (PREP™) designed to teach couples communication skills and ground rules for handling conflict and promoting intimacy. The goal of the program is to intervene early in couple relationships so as to modify dimensions of couple functioning before negative communication patterns have resulted in distressed or dysfunctional relationships. A description of PREP™, the intervention used in this current study, will be followed by a review of the research underlying PREP™.

Description of PREP™

PREP™ is typically conducted in a combination of lecture and practice sessions. Couples spend some time with other couples listening to presentations of the content followed by opportunity to practice skills or discuss various issues. Consultants trained to facilitate the practice sessions work individually with each couple. Couples are given homework, including assignments to read from a manual.

Couples are taught various communication skills, with the greatest focus being on the importance of proper listening and feedback for accuracy of communication and validation of one another's viewpoints. The program also includes a format for solving

problems and disagreements. Couples learn how to monitor behaviors, to make specific requests for behavioral change, and to use skills such as problem-solving techniques. They are helped to develop a sense of confidence in their ability to handle problems that will inevitably arise in the future. The program also assists couples in identifying and discussing major expectations for their partner, their relationship, and their marriage. Additional sessions focus on sensual and sexual education and enhancement and the general role and importance of fun in relationships. The program ends with couples agreeing on a set of ground rules that they will use to handle issues in their family.

Supportive Research

In predicting future marital success, the ability of each partner and of the couple's system to handle negative affect emerged as one of the key predictors (Markman, 1991b). Since constructive handling of conflict implies that negative feelings are expressed, the effects depend on how it is expressed and received. Thus, the constructiveness of expression of negative affect may be associated with future relationship success, whereas negative escalation would be a sign of current distress, and predictive of future distress. Negative escalation occurs when the listener is not able to handle the speaker's negative affect constructively and responds destructively with his or her own increasing anger and frustration. In some cases, the expression of negative emotions may be associated with concurrent lowering of satisfaction because dealing with negative feelings is often difficult for couples. Withdrawal of one partner from conflictual situations also has a negative effect on relationship satisfaction.

Markman noted from both his own research (Markman & Kraft, 1989) as well as from the research of others (Levenson & Gottman, 1983, 1985; Noller & Gallois, 1988) that there are gender differences in how conflict is handled. These gender differences lead to a pattern wherein it is most likely the wives who bring up issues (i.e., express negative feelings). Thus, a major determinant of future outcomes for a relationship may be the extent to which the wives can bring up negative feelings constructively and the extent to which the husbands can respond to their partners' "gripes" constructively. One of the best predictors of future distress and divorce is a high level of male withdrawal from real or perceived conflict. Men may "need structure (e.g., ground rules) for handling conflict due to increased physiological vulnerability to conflict and because they have learned to handle disagreements as children by appealing to rules" (Markman, 1991a, p. 91).

Markman's theory was developed from his research with PREP™ and affirmed by his review of literature pertaining to marital conflict (Markman, 1991a). Within PREP™, couples learn how to handle conflict constructively in (e.g., by agreeing on and following ground rules for handling conflict). Couples who had been through PREP™ had a divorce rate 50 per cent lower than control couples who had not. They also had higher levels of constructive handling of conflict and lower rates of marital violence 5 years later (Markman et al., 1993). Thus, Markman believed couples can successfully learn through training how to manage negative affect. If the men and women learn the basic skills early in their relationship, they may more likely survive the usual conflicts that are part of every marriage.

Measures of Selected Concepts Related to Communication Quality

Several concepts related to communication quality were selected as outcome measures of the effect of the PREP™ intervention. Each concept will be reviewed and measures for each will be discussed in relation to the purpose of this study.

Perspective-taking

In the investigation of factors that may affect interpersonal relationships, there has been some shifting from negative characteristics (such as emotional instability and irritability, neuroticism and impulse control) and their adverse impact on marital quality to positive characteristics that facilitate the development and maintenance of satisfying interpersonal relationship (Davis & Oathout, 1987; Long, 1990). Empathy has been identified as one such positive characteristic of relational competence.

Empathy involves "understanding the world from another's perception, that is, seeing what the other person sees, thinking what that person thinks, and feeling what that person feels" (Hines & Hummel, 1988, p. 317). Empathy has both cognitive and affective dimensions. While the affective component denotes taking on the feelings of another, the cognitive component involves accurate perception of others. This cognitive component, identified in the research of Long and Andrews (1990) as perspective-taking, has been hypothesized to be critical to interpersonal dynamics, facilitating satisfying interaction. Long (1990) contended that effective social interaction results when people modify their behavior in social situations as a result of understanding the other's point of view. Without accurate perspective-taking, persons may interact in ways that are perceived by

the other person to be inappropriate. Persons who are able to take into account the viewpoint of another are often viewed more positively and perceived as showing a greater concern for the needs, interests, and desires of others.

The importance of perspective-taking to relationship quality was identified and developed into a model of relationship satisfaction in which perspective-taking and perceptions of a partner's perspective-taking are positively related to satisfaction (Davis & Oathout, 1987). The perspective-taking of one partner is positively related to the relationship satisfaction of the other and satisfaction with the relationship is positively related to the perceptions of the partner. The initial study deduced from this model was carried out on 264 college student couples involved in intimate relationships.

Self- and Other Dyadic Perspective-Taking Scales. Long and Andrews (1990) further studied this relationship model with a sample of 159 couples married for an average of 24 years to evaluate the perceptions of the partner's dyadic perspective-taking in predicting marital adjustment. They developed two scales to assess separate dimensions of dyadic perspective-taking, the Self Dyadic Perspective-Taking Scale (SDPT) to assess the individual's own perspective-taking ability, and the Other Dyadic Perspective-Taking Scale (ODPT) to measure the individual's view of the perspective-taking ability of their partner. Measures were taken using the general Perspective-Taking subscale of the Interpersonal Reactivity Index (IRI) (Davis, 1980), the SDPT, ODPT, and the DAS (Spanier, 1976).

The DAS was used in Long's (1990) study to assess marital adjustment. In correlating dyadic perspective-taking scores with those on Spanier's DAS, the wife's SDPT score was positively correlated with the husband's DAS score ($r=.45$, $p<.001$). The husband's SDPT score was positively correlated with the wife's DAS score ($r=.25$, $p<.001$). Perspective-taking (IRI) and self (SDPT) and other's (ODPT) dyadic perspective-taking were also designated as predictor variables and were regressed against DAS scores using hierarchical multiple regression analysis. Hierarchical analyses revealed that wives' general dyadic perspective-taking predicted 8 per cent of the unique variance in husbands' marital adjustment. Husbands' general dyadic perspective-taking accounted for 2 per cent of the unique variance in the wives' marital adjustment. Likewise, analyses of ODPT data revealed that husbands' perceptions of their wife's dyadic perspective-taking (ODPT scores) accounted for 22 per cent of the variance in husbands' marital adjustment, while wives' perceptions of their husband's dyadic perspective-taking (ODPT scores) accounted for 50 per cent of the unique variance in wives' dyadic adjustment. These results indicated that both husbands' and wives' perspective-taking were significantly predictive of their spouse's marital adjustment. According to Long (1990), a positive relationship was expected, since dyadic perspective-taking would be indicative of the partner's sensitivity to the needs, interests, and desires of the spouse, and would likely be positively related to marital adjustment. The authors noted that a certain level of perspective-taking competence may be necessary for successful social interaction within a marriage. Because perspective-taking skills are incorporated into PREP™ training, the

SDPT and ODPT should provide evidence that the skills learned in the PREP™ intervention enhance competence with the perspective-taking dimension of marital communication. Likewise there should be a strong positive correlation between perspective-taking scores and marital adjustment and satisfaction scores. Long and Andrews (1990) also suggested for further research that specific perspective-taking behaviors need to be identified that could lead to the development of intervention strategies to improve marital interaction. Within the context of their study and from the model of relational competence developed by Davis and Oathout (1987), it was not clear how much of empathy and its working facet, perspective-taking, was part of an individual's personality versus how much could be a learned behavioral skill. If perspective-taking can be a learned behavior, it was not clear in this research how it would best be learned.

Empathy training programs have been studied with married couples. Hines and Hummel (1988) tested the effects of empathy training upon the couples' empathic ability, perceived spousal empathy, and marital satisfaction. Forty couples were randomly assigned to a control group or one of three empathy training conditions: (1) didactic training and modeling; (2) didactic training, modeling, and practice in reflection; and (3) didactic training, modeling, practice in reflection, and psychodramatic doubling. Multivariate analysis indicated that, in comparison with a control group, there was a significant overall training effect for all three training conditions when assessed immediately after treatment and again three months later, though no significant differences

were found among the three conditions. Empathic ability was measured using the Reflection of Feelings Scale (Bernier, 1976) to measure expressed empathy from ten-minute audio tapes. Perceived spousal empathy was measured using the Relationship Inventory Empathic Understanding Scale (Barrett-Lennard, 1962) and marital satisfaction was measured by the LWMAT (Locke & Wallace, 1959). While the subjects, across all three programs, showed increased empathic abilities at the posttest measurement with a slight decline in scores at three months, perception of spousal empathy and marital satisfaction were not significantly changed with any of the empathy training programs. The investigators surmised that either the measurement tools were not related to the kind of marital satisfaction that results from empathic communication, or the effect of using empathic communication skills may be indirect and take more that three months to occur. They did not consider whether perspective taking, a facet of empathy, could be a learned behavioral skill.

In summary, perspective-taking appears to be a concept relevant to marital adjustment and a skill that should improve along with the communication skills taught within PREP™. The SDPT and the ODPT are measures specific for measurement of dyadic perspective-taking that have been tested with married couples. They correlate well with the DAS which is also used in the present investigation. If PREP™ content is indeed helpful in enhancing perspective-taking, then scores on the SDPT and the ODPT should be higher than those of a comparison group. The longitudinal data collection with this instrument may well provide needed psychometric characteristics of its use across

approximately a year and one half, demonstrating potential change over time and test-retest reliability.

Perceived Confirmation

The concept of confirmation and its counterpart, disconfirmation, has been identified and incorporated into clinical research in human interaction (Friedman, 1983; Sieburg, 1969; Jacobs, 1973). Early investigations were based on the philosophical works of Martin Buber (1965), who defined confirmation as the validation of another human being as a unique and worthy individual, stating:

> "I not only accept the other as he is, but I confirm him, in myself, and then in him, in relation to this potentiality that is meant by him and it can now be developed, it can evolve, it can answer the reality of life." (p. 16)

Because Buber saw confirmation as central to effective human interaction, it follows that confirmation may well be central to effective marital interaction. This concept is similar to Gottman's (1979, 1993) use of the term validation.

Perceived Confirmation Scale. In the development of the Perceived Confirmation Scale (PCS), an instrument used to measure confirmation, Sieburg (1969) defined confirmation as "any behavior that causes another person to value himself more" and disconfirmation as "any behavior that causes another person to value himself less" (p.1). Further work with this concept resulted in the following confirming interactional behaviors: (a) expression of recognition of the other's existence as an acting agent; (b) acknowledgment of the other's communication by responding to it relevantly; (c)

expression of acceptance and congruence with the other's self experience; (d) willingness on the speaker's part to become involved with the other person. These behaviors translated into measurement items that focus on awareness, acceptance, interest, liking, respect, and trust, all of which are related to personal identity and self-perception. Later versions of the scales used five items, dropping awareness from the scale.

Cissna's (1975) work extended the work of Sieburg in studying intimacy in marital relationships. Cissna found that the best predictors of intimacy in these relationships were first, perceived confirmation; second, personal growth; and third, male personal growth. He also found a relationship between male confirmation and female confirmation, suggesting that the sense of being confirmed by one's partner reinforces a sense of attraction for both partners. Confirming communication is supportive of continued growth in the marital relationship as it enhances the building of personal identity through a positive self/other perception (Friedman, 1983).

Keating (1977) replicated and extended Cissna's work regarding sent and perceived confirmation, finding that male and female feelings of being confirmed are not necessarily related to each other's specific communication behaviors. Rather the frequency of disagreement by one spouse may be negatively related to the other spouse's perception of being confirmed. Weatherford (1985) studied the relationship between reciprocal confirmation behavior for marital partners and marital satisfaction, and found that most distressed couples exchanged the greatest amount of disconfirming communication when compared with all other subjects. Emde (1991) understood these

studies to suggest that when there is an increase in confirmation, there is an increase in relationship intimacy and predictably an increase in marital satisfaction. In her own research on marital communication and stress, Emde (1991), using the Perceived Confirmation Scale, found that dissatisfied couples were more disconfirming of each other than satisfied couples, perceived less confirmation from each other, and perceived less confirmation sent to them by their partners. The dissatisfied couples were less interested in each other, accepted each other less, respected each other less, liked each other less, and trusted each other less than satisfied couples, all at high levels of statistical significance.

From these studies it could be deduced that there is a relationship between satisfaction/dissatisfaction in the marital relationship and the quality of marital communication. The development of mutual confirmation may result from an ongoing dialogue between marital partners in which personal identities are reworked through the course of the relationship. The meaning of this dialogue may lie in the nature of what the couple has built together in the shared experiences of the relationship.

In the transition to parenthood, the role changes associated with first time parenthood, that is, becoming a mother or a father, and the concomitant role shifts in the marital relationship, create an increased need for confirmation of self and other as each partner's own identity and their identity as a couple may be challenged. The PCS will measure the extent to which one partner feels confirmed or disconfirmed by the other.

Problem Solving Skills

Conflict is inevitable in intimate interpersonal relationships like marriage. Modern marriages may be exceptionally prone to conflict because there is more explicit discussion and negotiations about role arrangements (Scanzoni & Fox, 1980). It is not always clear who is to do what and the increasing flexibility of role definitions for husbands and wives creates a greater potential for conflict. Newer value orientations about marital relationships and family life have altered how decisions should be made and who should make them. The ability of husbands and wives to solve problems that inevitably arise between them is a major factor in marital satisfaction.

Optimally, couples deal with their conflicting interests in some constructive manner that involves negotiation or problem-solving strategies. Not all couples are capable of engaging in negotiation and problem solving when conflicts arise. In some relationships, there may be extensive reliance on power moves or power plays within conflict resolution that interfere with effective communication between the spouses during conflict. Avoidance of active problem solving (or withdrawal) can have a strong negative effect on marital satisfaction (Gottman, 1993; Markman, 1991a; Sayers, Baucom, Sher, Weiss, & Heyman, 1991). Of great concern is that spouses react to conflicts in aversive ways that not only prevent the resolution of the conflict but also generate negative affect such as anger and resentment. Escalation of anger can result in aggressive psychological abuse and/or physical violence (Babcock, Waltz, Jacobson, & Gottman, 1993; Burman, Margolin, & John, 1993; Meredith, Abbott, & Adams, 1986). PREP™ includes teaching

the problem solving process and skills to increase constructive engagement for the resolution of conflict. Constructive problem solving is a process that potentially enhances a couple's marital satisfaction by increasing the likelihood that spouses will discuss and solve conflicts in their relationships.

Conflict Tactics Scale. The Conflict Tactics Scale (CTS) (Straus, 1979) is a measurement of the ways in which family members attempt to deal with conflict. The instrument measures the use of reasoning, verbal aggression, and violence as modes of dealing with conflict in relationships within the family. The Reasoning subscale taps the use of such tactics as rational discussion to resolve disputes. The Verbal Aggression subscale refers to the use of verbal and nonverbal acts to symbolically hurt the other, and thus is a negative index of problem solving. The Violence subscale, similarly indexed, measures the use of physical force against the other.

The CTS has proven useful in survey research about family violence (see Grotevant & Carlson, 1989). There is limited evidence of its use in evaluating an intervention or treatment though it is presumed to have good potential for use in clinical settings (Grotevant & Carlson, 1989; Straus & Gelles, 1990). The CTS will be used in this study to assess couple conflict tactics before and after the intervention and in contrast with the comparison group to determine if the intervention influences the ways spouses handle conflict.

In this study, the theoretical expectations would be that the skills learned in the PREP™ intervention should maintain the Reasoning Scale scores for couples during the

transition to parenthood. The Verbal Aggression and the Violence scale scores should maintain or demonstrate fewer negative behaviors used to resolve conflicts for couples who have experienced PREP™ training.

Summary

Measurement issues related to marital quality and marital communication are complex. Within the context of this dissertation selected aspects of these concepts have been examined. Marital quality is a multidimensional concept which shares components of the concept of marital communication. The quality of the marital relationship depends in many ways upon the effectiveness of communication processes within the couple relationship.

A Family Life Transitions Model

Transition theory provides a contextual framework for understanding the individual and interpersonal aspects of the transition to parenthood. Cowan (1991) proposed a model of family transitions that provides a perspective involving (a) qualitative changes in the inner view of the self and the family, and (b) a reorganization of central roles and intimate relationships. The model is primarily structural but Cowan incorporated the work of Parkes (1971) into his model to define the transitional process.

The transition to parenthood is considered a normative family developmental transition, meaning that it is expected and experienced by a majority of individuals and families in a population (Cowan, 1991). It involves a relatively planned and predictable set of events. By contrast, non-normative transitions such as illness or death are

associated with less predictable events. Many couples enter marriage anticipating that they will become parents at some point in time. The transition to parenthood requires taking on new roles, adapting and adjusting, and sometimes dropping, existing roles. When an infant is added to the family constellation, the learning of new roles and skills and the impact of care-taking on time, energy, and resources stress the couple and their relationship.

Of equal importance are the changes within the individual parent. The transition is defined by psychological changes in the individual's inner world and in the organization of roles and central relationships (Cowan, 1991). These changes involve major reorganizations of the person's psychological life space. In the transitional process as one looks inward to the self and outward to the world, things are seen and felt that were never experienced before. There may be a perceived discontinuity between the way it was and the way it seems to be now. These changes are accompanied by emotional turmoil.

Like individuals, couples also have *self*-perceptions, a more or less strong sense of "we-ness," and a generally-agreed-upon perception or myth about the nature of their family. The members of the couple may not both hold the same beliefs, but decisions and collective actions are often based on their modal self-perception. As the family changes, the self-view is left open to redefinition and reorganization.

At the same time as the changes in one's sense of self there is a shift in the assumptive world. Previously held assumptions about how the world works may no longer apply. Expectations about how roles should be defined and relationships carried

out may come into question. Not all aspects of one's view of the world necessarily change, but rather one's world may be seen with "new eyes" (Cowan, 1991).

These changes usually result in emotional upheaval as couples attempt to cope with new and ambiguous roles and tasks. Tension, anxiety, and depression are common feelings during the transitional process. Adaptive coping with inner emotional arousal involves achieving a balance between two competing tendencies. First, it may be necessary to experience some of the disruption in order to mobilize the appropriate psychological defenses and problem solving skills. Second, it is necessary to develop some strategies for self-regulation so that one is not totally overwhelmed and incapacitated by the feelings. The shifting balance between experiencing and controlling emotion occurs in the interpersonal as well and the intrapersonal domains (Gottman & Levenson, 1988).

Successful transitions may require new forms of adaptive behavior, concrete, observable actions to cope with new tasks and interpersonal demands. In addition to studies of inner coping during transitions, the consequences of reorganizing roles, and the changes in personal-social competence have been explored in the transition to parenthood. In reorganizing roles, there is not a clear distinction between what belongs to one's inner sense of self and what belongs to one's roles. Roles provide the definition of appropriate behaviors for a person occupying a given position. Yet, roles are often carried out in relationship between two or more people as they carry out their complimentary family roles, such as husband/wife, or parent/child. Parenthood is such a role. For first time

parents, parenthood is added to already existing roles. The expectations and behaviors may have to be redefined as new parents are experiencing the new roles in ways different from what was anticipated. The transitional change may involve a shift in salience of already existing roles, such as the role of wife/husband (Hackel & Ruble, 1992). New roles must be integrated and coordinated with old ones. These changes are often stressful as they disrupt the previous balance, creating new or increased interpersonal conflict. Others are forced by the transition to make shifts in their own role expectations and behaviors (Hall, 1991; Harriman, 1986). The change in roles and role behaviors may also significantly impact individual self-esteem and identity (Fleming, Ruble, Flett, & Van Wagner, 1990; Stamp & Banski, 1992). As men and women become parents, they describe transformations in the quality of their relationships with their own parents (Hansen & Jacob, 1992), in their relationship with each other, and in their relationship with the infant (Cowan & Cowan, 1992).

In trying to achieve an inner balance between experiencing feelings and avoiding being overwhelmed, couples can experience stress and conflict. Tensions can occur when one spouse experiences transitional changes in the other spouse and reacts to these changes while trying to cope with his or her own experience of the transition. Couples who enter the transition to parenthood with some degree of marital discord and dissatisfaction will tend to escalate negative affect until their exchanges are out of control. (Tomlinson, 1987; Cowan & Cowan, 1992). In contrast, couples with more satisfying

marriages are often able to express negative affect without impairing the relationship (Gottman et al., 1988; Markman et al., 1993; Belsky, 1985).

These accounts of qualitative reorganization of the person's inner life and relationships constitute the *structural* definition of life transitions (Cowan, 1991). Using the process model of Parkes (1971), Cowan described the transitional process with sequential phases: (a) beginning with an early phase of "de-organization;" (b) proceeding through a middle phase of testing new alternatives, building new skills, and redefining self and the assumptive world; and (c) entering a late phase involving the establishment of a new equilibrium or returning to a previous equilibrium. This description is applicable to the process of transition to parenthood as are the structural aspects described above. Cowan (1991) believed that many people experience stressful changes in themselves and in their relationships and all can benefit from assistance through transitional processes.

The Effects of the Transition to Parenthood on the Couple Relationship

Transitions in Couple Relationships

In an effort to explain relationships between family stage, presence or absence of children and duration of marriage, studies over the last several decades have documented a curvilinear relationship between family stage and marital quality, whereby the average quality is higher in the preparental and postparental stages (Glenn, 1990). The meaning of the relationship remains unclear though the most common interpretation of the variation in marital quality is that it reflects the addition of children to the family, their maturation, and

their departure as well as the effects of duration of the marriage. However, when the relationships of couples married for similar lengths of time but who have remained child-free are compared with the relationships of couples with children, the pattern of marital satisfaction and adjustment demonstrates that all relationships deteriorate to some extent over time irrespective of parental status (MacDermid, Huston, & McHale, 1990; McHale & Huston, 1985; White & Booth, 1985).

The extent to which important negative effects are related to duration of marriage or the transition to parenthood is unclear. White and Booth (1985) speculated that while the presence of children in the home may not appreciably lower marital quality, it may delay the divorces of many couples with low quality marriages thus creating an association between the presence of children and low marital quality. White, Booth, and Edwards (1986) found support for the hypothesis that children delay the divorces of dissatisfied couples. The presence of children also tended to lower marital quality by lessening the level of spousal interaction, creating dissatisfaction with finances and the division of labor, and moving the division of labor in a more traditional direction, (i.e., wives carrying an increased load of household maintenance tasks than before parenthood). While changes in marriage may be partially a function of time, the transition to parenthood does seem to accelerate and accentuate negative changes (Cowan, Heming, Garrett, Coyish, Curtis, Bolis, & Bolis, 1985; Tomlinson, 1987, 1993).

The decline in marital quality has been identified as a primary indicator of the change that becoming parents creates for the couple relationship during transition to

parenthood (Belsky, 1985; Belsky et al., 1985; Feldman & Nash, 1984; Fleming et al., 1990; Markman & Kadushin, 1986). Many of the studies were longitudinal, assessing marital quality before and after the transition, finding a consistent effect of lower average quality after the transition than before (Belsky et al., 1985; Belsky & Rovine, 1984; Cowan & Cowan, 1987a, 1988, 1992; Cowan et al., 1985; Goldberg, Michaels, & Lamb, 1985; Miller & Sollie, 1980). This effect was found to be consistently greater among wives than husbands. These negative changes in marital quality tend to occur from a slightly elevated high in late pregnancy compared to prepregnant levels to declines lasting from 6 to 18 months postpartum (Belsky et al., 1983; Cowan et al., 1985, 1978; Feldman & Nash, 1984).

Stressful changes are experienced by almost all couples in the transition to parenthood. The marriage relationship undergoes critical changes as the couple works to incorporate the infant into the family. The expenditure of time, energy and resources are all increased to meet the demands of the new family member. There tends to be less time and energy for the marital relationship (Belsky et al., 1983, 1985; LaRossa, 1983; Worthington & Buston, 1986). Postpartum couples' relationships may become less central to what is positive and meaningful in their family lives (Hackel & Ruble, 1992). Some couples have described it as "putting our relationship on the back burner." There are issues related to role strain, conflict over relationship rules, and the function of the couple relationship prior to becoming parents that must be negotiated and resolved. Each

of these facets require adequate skills in communication and problem-solving in order to resolve the inherent conflicts of roles, expectations, needs, time, and energy.

Time and Energy

Time allocation is changed by the addition of a child to the family (Harriman, 1983; LaRossa, 1983; McHale & Huston, 1985). Husbands and wives as individuals differ in the amount their time schedules are disrupted by the birth of the child, and they differ in whether the "new" time schedule is more positive or more negative than prior to the birth of the baby. Generally, high disruption of time schedules seems to be associated with perceived negative affect (Worthington & Buston, 1986). Most people consider the changes as stressful even if the changes themselves are desirable. The effect on the couple's relationship depends on the new resolution as well as on the initial impact.

Role Salience and Realignment Issues

Declines in marital satisfaction during the transition to parenthood are related not only to the impact of adding a new family member, but also to the role changes experienced by the parent/couple. These role changes have been found specifically to affect (a) division of labor (Cowan, & Cowan, 1985, 1988; McHale & Huston, 1985; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor, & Deutsch, 1990); (b) spousal companionship (Belsky, Spanier, & Rovine, 1983) (c) intimacy and autonomy (Stamp & Banski, 1992); (d) intimacy and sexual relationships (Tomlinson, 1987); (e) sex role attitudes (Lenz, Soeken, Rankin, & Fischman, 1985; Tomlinson, 1987); (f) individual and couple expectations of self, each other and the infant (Belsky, Rovine, & Taylor, 1984;

Belsky, Taylor, & Rovine, 1984); and (g) men's and women's relationships with their own parents (Cowan & Cowan, 1992; Hansen & Jacob, 1992).

Parenthood increases the number of roles that each parent must perform, thus, adding to the feeling of the scarcity of time. LaRossa (1983) points out that the addition of extra roles to an already full schedule makes social time seem scarce because it calls people's attention to smaller units of time, making them more aware of how each unit of time is used. If a person is in multiple roles, such as employee, civic leader, son/daughter, friend, and spouse, then the new duties that accompany parenthood make the person acutely aware of the limitations of time. LaRossa identifies this as a psychological as well as physical pressure of time.

Another area of the marital relationship that is affected by time and energy during the transition to parenthood is the balancing of needs for intimacy and autonomy. Within each relationship there is a certain but variable need for intimacy-promoting activities and for distance-promoting activities. Intimacy-promoting activities are those that require sharing positively valued, important experiences with another. Distance-promoting activities fulfill one's need to be alone, to have time for oneself. Each person is assumed to tolerate a range of intimacy/autonomy combinations (Malone & Malone, 1987). When activities are such that the person feels unbalanced, dissatisfaction is felt and may be expressed.

Addressing the lack of studies which examine how couples experience and manage these intimacy/autonomy changes in their relationship during the transition to parenthood,

Stamp and Banski (1992) interviewed 10 married couples, separately and together in the third trimester of their first pregnancy and again 8 to 12 weeks postpartum, to determine the communicative management of changes in intimacy and autonomy. The interviews were analyzed following the constant comparative method for incidents related to the theoretical framework provided by autonomy/connection, novelty/predictability, and openness/closedness as found in the literature. They found that one of the most prevalent experiences noted by couples during the immediate postpartum phase of the transition was "constrained autonomy-the overwhelming feeling that one's sense of independence is severely compromised by factors outside of one's control" (p. 285). While marriage itself required some coordination of spousal activities, after the birth of the baby, the necessity of coordination not only increased but took on new meaning. Coordination became an obligation because of the increase in spousal interdependence. Stamp and Banski (1992) surmised that the perceived constraints on autonomy might be an illusion due to selective recall of their "previous" lives by new parents.

Prenatal expectations did not prepare these couples for the reality of the constraints that having a baby placed on their perceived autonomy. While, as a childless couple, they seemed to easily negotiate an equitable arrangement between issues of autonomy and connection, such negotiation was more problematic for new parents to achieve. Previously taken for granted and easily negotiated activities required interactional work between the spouses. They noted that couples had to learn *how* to negotiate particular issues within the context of a changing relationship that included "an

increased accountability to the other, a need to monitor both self and other's behavior, a responsibility for the child, and more complicated interconnections in the emergent triadic system" (p. 293). The investigators found that couples who shared similar perceptions and were able to discuss relevant issues seemed able to more positively address issues of autonomy during the postpartum phase.

However, Stamp and Banski (1992) found that the notion that couples should be open and disclosive, as common cultural ideology suggests, does not necessarily apply in all situations. Their investigation illustrated that, while openness may be an effective communication strategy, such a generality can be problematic as expression and protectiveness are weighed out in "the complicated lived experience of emergent parenthood" (p. 297). While the sample in their study was small and relatively homogeneous, it does provide some meaningful insight into how intimacy and autonomy are experienced and renegotiated by couples during the transition to parenthood.

Grossman (1987) explored issues of men's autonomy and affiliation in the transition to parenthood. Autonomy was defined as a view of oneself as separate or distinct from others, as participating in and enjoying activities carried out alone, or at least separate from important personal relationships. He defined affiliation similarly to intimacy in that it refers to viewing oneself as connected to others, participating in a caring responsive relationship. Forty-two men and their wives were interviewed individually and completed self-report scales in early pregnancy and 1, 2, and 5 years after the child was born. Affiliation and autonomy were measured along with life adaptation, anxiety, marital

adjustment, and emotional well-being. Fathers of firstborns who were more affiliative at one year also felt better about themselves. More affiliative men were also more satisfied with their marriages, whereas men high on autonomy tended not to express much satisfaction with the marriages. Because Grossman defined high autonomy scores in terms of maintaining other areas of interest and involvement, men in his sample could still have high affiliative scores if they expressed a high valuation of their intimate relationships, despite a lack of time to enjoy them. For all the men it was an issue of striking a workable balance between autonomy and affiliation as part of the developmental task of becoming a parent. For men with strong inclinations for autonomy, marriage and parenthood provided some inevitable stresses. Less extreme autonomy seemed to create less conflict for such men as they tried to balance their own and their families' conflicting needs.

What stands out from the review of these studies is the violation of expectations. Each person has an internal perception of what ought to be and how one wants oneself and others to behave. What may be happening over and over is the violation of these expectations, resulting in strain and conflict. Issues not raised in the literature are how realistic or unrealistic the expectations may be as well as what may have been promised or intimated to the other as they became involved in taking on parenting roles.

Expectations and Violation of Expectations

Research on the transition to parenthood has identified discrepancies in expectations, the contrast between what was desired or expected before the baby's birth and what actually transpired postpartum. These discrepancies may exist in a number of

facets of family functioning and couple relationships. An expectation is the anticipation that something will happen. This anticipation is based on prior experience within the relationship, within the family or family of origin, from observations of other couples, friends, and from educational or media portrayals. Confirmation of expectations becomes the critical determinant of spousal satisfaction.

The impact on the marital relationship of fulfilled and unfulfilled expectations concerning role arrangements and couple interaction is well documented (Cowan & Cowan, 1992; Belsky et al., 1986; Gottlieb & Pancer, 1988; Suitor, 1991). Couples whose expectations are violated about household and child care task assignments report greater disappointment and marital dissatisfaction than couples whose expectations are realized (Suitor, 1991). Expectations about the nature and extent of emotional support from the spouse can also be unmet. Such violations of expectancies may explain part of the decline in marital satisfaction during the transition to parenthood when spousal emotional needs may be reprioritized.

One effect of having a baby is the traditionalization of the household division of labor. However, many of the studies related to husband participation in domestic activities focused primarily on how to increase various forms of father involvement with children. Less attention was given to participation in other household tasks, many of which may be considered less desirable or rewarding than direct child care activities. Equitable sharing of daily housework may be as important to family functioning and marital satisfaction as sharing child care. Even in households where the division of labor

was relatively equitable prior to the birth of the child, wives tended to carry out more household tasks such as doing dishes and laundry, preparing meals and cleaning house after the arrival of the first child than before (Belsky et al., 1985; Cowan et al., 1985; LaRossa & LaRossa, 1981).

Belsky and Pensky (1988) concluded that, for couples experiencing the transition to parenthood, the division of labor is the greatest source of conflict in marriage. They noted that wives invariably assume more household burdens than do men, and that family roles become more traditional postnatally than couples had anticipated prenatally (Belsky, Ward, & Rovine, 1986; Cowan et al., 1985). These violated expectations seem to create significant conflict. Different points of view that husbands and wives hold within the family also contribute to these conflicts (Broom, 1984). Wives often view their husbands as not doing nearly enough at the same time husbands regard themselves as making considerable, if not equivalent, contributions to the household division of labor. Husbands are likely to evaluate their contribution in terms of what their fathers did in their families of origin or in terms of what their friends and coworkers contribute. Wives are more likely to evaluate their husbands' contributions in terms of their own role performance. Women may believe that sex roles have changed much more than they actually have. It is in this context of "who does what" that conflict can occur. Belsky and Pensky (1988) surmised that the daily confrontations in this area of marital activity may well have more to do with how the transition to parenthood affects the marriage than anything else.

Ruble, Fleming, Hackel, and Stangor (1988) combined cross-sectional analysis of 670 women in relation to birth and longitudinal analysis of 48 women to evaluate the hypothesis that violated expectations with respect to sharing child care and housekeeping responsibilities contribute to women's dissatisfaction with their marital relationship after the birth of their first child. The researchers noted that while marital dissatisfaction during the transition to parenthood was a consistently significant finding, little attention had been devoted to the question of why marital satisfaction appears to decline for so many couples. Thus, they chose to focus on concerns of role consensus and the division of labor. They predicted that discrepancies between expectations concerning division of labor postpartum would be associated with greater dissatisfaction with the marriage. Women reported fewer positive feelings of closeness with their husbands during the postpartum period, and wives reported doing much more of the housework and child care than they had expected. Pregnant women expected a much more egalitarian division of labor than postpartum women reported actually experiencing, especially for child care. Thirty-three per cent of expectant women expected to share child care tasks equally, whereas only twelve per cent of the postpartum women reported such an egalitarian sharing of tasks. Through regression analysis, it was determined that expectancy violations were predictive of negative feelings postpartum. Women who found themselves doing relatively more of the household and child-care tasks than they expected, or their husbands doing less than the wives had expected, reported more negative feelings about the husband's involvement in child care and about the baby's influence on the marital relationship. Feelings of closeness

with the husband did not change. Only division of housework was effected by prior expectations. Women who expected they would be doing a lot of the housework, or that their husbands would be doing relatively little, felt closer to their husbands than women with greater expectations of help. Women with medium expectations regarding the division of housework reported the most negativity when their expectations were not fulfilled. This was an unexplainable finding, for which the authors speculated that some ambivalence and ambiguity may be confounding the simple interpretations. It was not clear to the authors why only expectations regarding division of housework affect women's satisfaction with the marital relationships, except that child care may be intrinsically more rewarding than housework. Ruble et al. (1988) also suggested that discrepancies in relative contributions may lead a woman to feel specific irritations while at the same time feeling that her marriage is globally intact. However, if things do not change over time, the woman may begin to attribute more negative characteristics to the husband's qualities and behaviors.

Although the central concern of their intervention research in the Becoming A Family Project was maintaining couples' marital satisfaction over the transition to parenthood, Cowan and Cowan (1988,1992) included discussions of the problems of sharing daily family work. The study design followed couples from before birth to 4 years after the birth of their first child, thus providing an invaluable longitudinal perspective on couples' attempts to distribute household tasks and child care. Twenty-four couples, in groups of 4 couples with a leader couple, met weekly for 6 months, from 3 months before

to 3 months after the birth. Clinically trained couples led in-depth, open-format discussions covering many of the challenges facing couples during the transition to parenthood. The results of this intervention with respect to increasing new fathers' involvement in daily domestic work are intriguing. Fathers in the intervention group did not become more or less involved in daily housework or child care compared to a control group of fathers. By 18 months after the birth of the child, however, both husbands and wives in the intervention group were more satisfied with their role arrangements than the control group couples. Also, intervention group wives were more satisfied with their husbands' level of involvement, even though the actual levels of involvement in these two groups did not differ statistically. The researchers attribute this increased dissatisfaction to greater awareness and sensitivity on the part of intervention group husbands to the challenges faced by their wives in running the household. In addition, the intervention may have helped intervention group couples develop more realistic expectations about the transition to parenthood, thereby reducing disappointment due to unmet expectations. The divorce rate of the intervention group couples was lower for a few years. By 5 years after the intervention, however, divorce rates were similar for treatment and control groups (Cowan, Cowan, Heming & Miller, 1991). It appeared that this intervention was unable to increase significantly fathers' temporal commitment to child care, although it was effective in creating greater satisfaction with role arrangements, aligning expectations with reality, and preventing declines in marital quality for at least a few years.

Based on the findings of these studies, violation of expectations is at the center of many of the frustrations and disillusionments of spouses. As indicated in Cowan and Cowan's (1992) work, behaviors may not always change as a result of opening communication about expectations and feelings. But what does change is awareness of each others' perspectives when differences arise. This provides a basis for acceptance of the other without necessarily expecting behavioral change. Again communication skills are introduced within the PREP™ intervention which should help couples share their expectations, their perspectives, and their feelings in ways that encourage acceptance and understanding of each other and the ability to negotiate acceptable solutions to differences.

Spousal Companionship

When considering the costs in providing care to an infant, financially, in physical energy, and in time, it might be expected that the transition to parenthood would decrease the amount of time the couple has to engage in leisure activities together as well as alter the ways in which they spend their time together. This area of marital activity has not been studied as extensively as division of labor though there is some empirical evidence for the nature of change in leisure activities.

Belsky et al. (1983, 1985) asked the working- and middle-class couples in their studies how often they engaged in joint leisure activities, such as going out to dinner, to the movies, or just watching television. Their results revealed a significant decline in the frequency of joint leisure activities from the last trimester of pregnancy through three-

months postpartum and a leveling off thereafter. With the transition to parenthood, couples increasingly came to view their relationship as more of a partnership and less of a romance.

In a longitudinal study of newlyweds McHale and Huston (1985) compared 28 volunteer couples who became parents during the first year with 78 volunteer couples who remained child-free during the year. Data from phone and face-to-face interviews were collected 2 months into the marriage and about a year later. They explored behavioral dimensions of the couple's relationship that demonstrated the ways in which the lives of couples changed over time and as a consequence of becoming parents "to include: (a) the extent to which the partners do things together (marital companionship); (b) the extent to which the spouses' behavior is sex-typed (sex-role patterns); (c) the socioemotional tone of the relationship (extent of affection; frequency of conflict and negativity); and (d) the extent of involvement the spouses had with friends and kin" (p. 411). Couples who became parents were compared with those who remained child-free, using two multivariate analyses of variance with repeated measures to evaluate group differences on these four dimensions. The results of these comparisons revealed changes in marital activities across the transition to parenthood, many of which were paralleled by similar changes in the activities of couples who did not become parents. Both groups spent less time conversing and doing things together. While there was no shift over time for either parents or nonparents, couples who were parents increased the proportion of joint activities that centered around child care responsibilities and household tasks, a finding

consistent with that of Belsky et al. (1983). Personal leisure time of the men and women who became parents also declined after their first child was born, while the nonparent couples showed no significant change in patterns. Couples who became parents indicated they were less satisfied with the amount of time they had for leisure. Wives were more satisfied with the amount of leisure time compared to husbands early in the marriage while the pattern was reversed after a year of marriage. While there were declines in marital satisfaction along with feeling "less in love," both parents and nonparents experienced similar declines. The investigators concluded, that while no differences were found in marital satisfaction due to parenthood, such differences may emerge later. They speculated that with the shift from time spent in leisure activities together to time spent on instrumental tasks, couples may associate one another with neutral, or even negative, affective states which may result in further erosion of their attraction toward each other.

In a follow-up report that included data from a third year of marriage (MacDermid, Huston, & McHale, 1990), 23 more couples had become parents in the second year of marriage and 46 couples remained child-free. As in the previous portion of this longitudinal study, findings revealed that parenthood appeared to exert the most profound affect on the nature of couples' companionate activities and on their instrumental activities. Following the birth of a child regardless of whether it occurred in the first or second year of marriage, couples experienced a sharp decline in the extent to which their spouse was included in their leisure activities. Nonparents also experienced a lesser decline in the centrality of companionate activities, however, there was an increase

in the frequency of joint activities for the couples with children. These findings suggested that the birth of a child gives rise to many more activities that must be carried out in daily family life. The additional activities associated with parenthood mean that parents actually engage in more activities together than nonparents and that more of these activities are child-centered. The overall amount of leisure time did not differ between parents and nonparents but the leisure time spent without children present had declined.

In concluding the discussion of their findings MacDermid et al. (1990) suggested that while the transition to parenthood is not an inescapable detriment to marital quality, "the new responsibilities do require a renegotiation of husbands' and wives' marital roles....it is only when a mismatch occurs between these new marital activities and men's and women's attitudes about appropriate role behavior, that parenthood may cause conflict and erode feelings of love in the marital relationship" (MacDermid et al., 1990, p. 485). This conclusion suggests that expectations play a central role.

Issues of companionate activities are presented within PREP™, encouraging couples to plan intimate talks and share fun activities. While no specific measure of these activities was included in the study, the DAS does elicit data regarding activities of this nature by seeking the frequency of the following events: having a stimulating exchange of ideas, laughing together, calmly discussing something, and working together on a project.

Intimacy and the Sexual Relationship

Intimacy includes but is not limited to sexual expressions of affection. Because of the changes in physiology, sexual behavior, and sexual interests during pregnancy and the

postpartum year, marital intimacy is altered across the transition to parenthood. Pregnancy and childbirth clearly interrupt established patterns of coital activity, demonstrated by progressive declines in sexual interest by women during pregnancy While a certain amount of time is required for healing after childbirth, there is evidence that women's sexual interests have returned by six weeks postpartum, and that, within three to six months postpartum, sexual relationships should be reestablished into a mutually acceptable pattern for the couple (Reamy & White, 1987). In a nonrandom survey of 194 postpartum couples, Fischman, Rankin, Soeken, and Lenz (1986) found that couples resumed intercourse approximately six weeks after delivery. However, even though sexual activity resumed, couples reported declines in frequency of and desire for sexual activity when compared with their pattern before the birth of the child. Decreases were related to the woman's level of fatigue, physical discomforts, depression, and dissatisfaction with the appearance of her body. While 43 per cent of the wives reported less desire for sexual intercourse, only 15 per cent of the husbands indicated less desire for intercourse compared to perceptions about their prebirth levels of desire. The majority of husbands at 4 and 12 months postpartum reported sharp decreases in frequency of sexual intercourse while levels of desire for sexual intercourse remained unchanged. These husbands also reported feeling less close to their spouses at 12 months postpartum than at 4 months. At the same time, wives reported that their desire to touch and hold was being satisfied more at 12 months that at 4 months postpartum.

Again, what is apparent in this aspect of the marital relationship is the discrepancy between needs and expectations held by each spouse. It can be speculated that these declines in sexual intimacy are also reflected in declines in affectional interactions in the postpartum period. What is appreciated most by spouses is understanding and empathy (Hames, 1980), implying again the need for adequate communication of concerns and expectations by both spouses.

Role Change and Sex Role Attitudes

Sex-role socialization sets women and men up to hold attitudes and beliefs about how each ought to behave in carrying out social, familial, and personally prescribed roles. The result is often that women and men hold different and possibly incompatible expectations regarding parent and spouse roles for self and spouse. Within the transition to parenthood, gender, spouse, and parent roles may be incompatible or overly demanding, creating role conflict and strain. Expectations provide the basis for evaluating one's own role performance and that of ones' spouse, thus, potentially affecting marital quality.

The relationship of sex-role attributes and gender to perceptions of changes in intimacy and marital quality following the birth of a baby were examined by Lenz, Soeken, Rankin and Fischman (1985). Their sample consisted of 165 volunteer middle class married couples, most of whom were expecting their first child. Data were collected in the third trimester from the subjects attending Lamaze classes and again at 4 months post birth. Sex role attributes were measured using the Bem Sex-Role Inventory (Bem, 1974)

to explore the extent to which gender and sex-role attributes predicted changes in intimacy and the overall marital relationship after the birth of a child. Overall marital relationship change was measured by the Relationship Change Scale (Guerney, 1977) and marital quality by the DAS (Spanier, 1976). Gender did not predict either perceived marital change or marital quality. According to the investigators, because the quality of the marital relationship is a reality constructed by the spouses as they continually redefine their aspirations and perceptions in ongoing interaction, couples may have worked out differences in the direction of increasing consistency in the four months since the birth of the child. The subjects in this sample were described as well educated and may have worked to diminish the influences of early sex-role socialization. Femininity was the only sex-role attribute that predicted overall marital change and quality during the postpartal period. Mothers and fathers with higher levels of feminine attributes reported more positive overall marital change and higher marital quality than those who described themselves as lower in femininity. Masculine and androgynous attributes did not affect perceptions of marital change and quality. The investigators attributed these findings to the increased nurturing behaviors expected of both new mothers and fathers as they took on the care of an infant. Individuals with high levels of femininity more likely manifested these attributes with the least incongruity in expressing the attributes within their couple relationship as well.

Summary

The quality of the marital relationship impacts the well-being of the family, more so when marital quality is low and marital discord is high. The transition to parenthood provides a critical opportunity to provide anticipatory guidance, skill building, and reality orientation about the expectations couples hold for themselves and each other as their couple relationship is impacted by the role changes (Tomlinson & Irwin, 1993; Worthington & Buston, 1986). The process of transition to parenthood heightens the tensions and stresses in the couple relationship as roles are changing and new expectations are brought in through the parenting roles. Communication problems already present in the couple relationship may be exacerbated by the pregnancy and the introduction of the baby into the family (Cowan & Cowan, 1992; Tomlinson, 1987). Thus, a preventive intervention may be particularly effective at this time of transition to parenthood in that couples may have a heightened interest in enhancing their marital relationship as they anticipate the impact on their own relationship by the addition of the infant to the family.

Much of the research on the effects of the transition to parenthood on the couple relationship has focused on identifying the variables associated with adaptive and maladaptive processes in the family relationships during the transition to parenthood. There are only a limited number of intervention programs aimed at enhancing the couple relationship and thereby indirectly hoping to enhance overall adaptation to family life transitions (Duncan & Markman, 1988; Cowan & Cowan, 1992).

A Behavioral-Communications Model of Marital Discord

The theoretical model underlying the preventive intervention selected for this study comes from a behavioral-communications approach to marital therapy. Bornstein and Bornstein (1986) developed the behavioral-communications model of marital intervention from a theoretical and practical blend of systems theory, cognitive theory, and behavioral theory. Although behavior pertains to an act of an individual, when behavior is part of an interactional process within the couple relationship, one partner's behavior has effects upon the other, impacting relational outcomes. The systems approach fits the framework of the family as a living open system in which the concepts of openness, pattern and organization, and mutual and simultaneous interaction are evident. The behavioral-communications model also acknowledges individual attributions and interpretations of the partner's behaviors that affect spousal perception and the type of response returned. Behavior within relationships can be significantly influenced by these cognitive factors. Psychoeducational programs and behavior modification therapies use applied principles of social exchange, reciprocity, problem-solving training, and behavioral-communication theory.

Based on the preceding literature review on marital quality and satisfaction, marital communication processes, and the impact of the transition to parenthood on the couple relationship, the behavioral-communications model of marriage and marital discord proposed by Bornstein and Bornstein (1986) provides rationale for the PREP™ intervention selected in this study. The behavioral communications model incorporates

factors identified in Lewis and Spanier's (1979) theory of marital stability and Markman's (1989) theory of negative expressivity, both described earlier. The basic tenets of this model are examined here.

1. Spousal behavior must always be examined within its relational context. This is in recognition that the family is a system in which one member's behavior affects the behaviors of other family members. Each behavior and response must take into account the preceding events and future expectations. Changes that occur within the individual family members can affect other individuals and the interpersonal relationships between family members. Yet, family interaction is much more than intra-systemic. There are larger social norms that influence interactions and the acceptability and equity of outcomes (Caddick, 1988).

2. Marital discord is a function of receiving low rates of pleasing behavior and/or high rates of displeasing behavior from one's spouse. The social exchange model of marital interaction assumes that persons enter and stay in relationships only so long as that relationship is adequately satisfying with respect to both rewards and costs (Nye, 1979). Individuals seek to maximize satisfaction and minimize dissatisfaction. Yet, positive and negative aspects of a relationship appear to be relatively independent of one other (Bornstein, Anton, Harowski, Weltzien, McIntyre, & Hocker, 1981; Bornstein, Hickey, Schulein, Fox, & Scolatti, 1983). However, dysfunctional couples appear to experience lower rates of pleasing and higher rates of displeasing behavior when compared to

healthier couples (Gottman, Markman, & Notarius, 1977; Bornstein, Bach, Heider, & Ernst, 1981).

3. Reciprocity occurs in both distressed and nondistressed relationships with negative exchange having an even higher probability of occurrence in distressed relations (Burman, Margolin, & John, 1993; Gottman et al., 1977; Jacobson & Margolin, 1979). Distressed couples appear to react more immediately to a partner's comments and actions than do nondistressed couples. This is even more apparent in negative interactions with negative behavior from one partner precipitating negative behavior from the other partner. Couples establish some equality or parity in categories of rewarding and punishing exchanges that correlate highly on selected days. Gottman (1979) described this as a "bank account" model of marital exchange. Nondistressed couples maintain good faith deposits that enable them to move forward in their relationship without immediate positive or negative reciprocation. Distressed couples, however, do not appear to have sufficient trust that enables them to function as effectively as couples with a history of repeated positive "deposits."

4. Marital dissatisfaction is clearly associated with communication deficits (Gottman, 1979; Jacobson, Waldron, & Moore, 1980; Markman et al., 1991). While communication problems do mark the relationships of distressed couples, there is evidence from these investigations that marital communications are not the sole cause of marital conflict. While communication problems are found to be present in the interpersonal relationships of distressed couples, these same problems are not necessarily present in

interactions with strangers. Thus, it would appear that communication problems are specific to other conflictual issues between the spouses and not to individual lack of "skills". Communication deficits may be most apparent when couples interact regarding matters of conflict and disagreement.

5. Dysfunctional couples have great difficulty resolving conflict and effectively dealing with disputes. Conflict is a necessary by-product of living closely with others. Family systems require some sense of rules and regulations, particularly regarding the division of responsibilities. Even with rules and regulations in place, one member may desire change or both members may not be able to agree on how to operationalize the responsibilities and activities. Thus, couples must find acceptable ways of resolving conflict. Problem-solving, as a learned process, can be the means by which couples work toward conflict resolution and agreement.

6. Cognitive mechanisms influence marital adjustment and satisfaction. Individuals bring to the marital relationship a set of expectations, beliefs, and fantasies regarding the relationship and both their own and their partner's role in the relationship. The violation of these expectations can lead to disillusions, disappointment, frustration, and anger. Unrealistic relationship beliefs are strong predictors of marital dissatisfaction (Belsky, 1985; Epstein & Eidelson, 1981; Ruble et al., 1988).

Although the behavioral-communications model was developed as a basis for therapeutic intervention with distressed couples, it is easily applicable within prevention-based programs. The rationale for primary prevention programs is the assumption that

early intervention decreases the likelihood of later marital distress (Markman et al., 1987). Such intervention provides couples with resources and skills that can be used to prevent emergence of common difficulties and resolve everyday problems as they arise. During critical periods of transition and developmental milestones, such as engagement, marriage, and birth of the first child, couples need coping strategies to effectively manage their couple relationship. The preventive aspects of the behavioral-communications model include the following elements.

1. Couples learn to understand behavior within the context of the relationship. They learn to listen and verify concerns and issues and discuss them in a more open and cooperative manner. Dealing with matters before they become problems is the essence of prevention.

2. Couples learn to objectively state their concerns in specific descriptions of pleasing and displeasing behavior. The skill to be learned is to restructure nonfacilitative verbal messages into constructive information.

3. Relationships are enhanced when partners learn to please one another. Positive behaviors on the part of one's spouse reinforce appreciation and reciprocal giving. When mutually rewarding behaviors increase, the probability of marital success increases. Learning to create high levels of positive behavioral exchange is a strong component within a prevention-based program.

4. Effective communication skills are essential for developing and maintaining satisfying marital relations. Communication skill building provides the strongest component in preventive intervention programs.

5. Because conflict is a natural part of all intimate relationships, couples must learn equitable means of resolving their differences. The problem-solving process can be learned and applied across a wide variety of interpersonal conflicts, incorporating elements of compromise and conciliation to change conflict into cooperation and mutually satisfactory resolutions. Again, dealing with issues before they become destructive problems is the essence of prevention.

In summary, the behavioral-communication model is congruent with principles of preventive intervention for marital couples. When introduced early in couple relationships, couples can use the communication skills to maintain and enhance their relationship during the hassles of daily living and across the transitional periods in the family life cycle. It is within this framework that effective communication skills can facilitate the transitional processes for first time parents. The Bornstein and Bornstein behavioral communications model is applied within the family transitions framework to direct the cognitive behavioral skills program, PREP™, in assisting expectant couples with transitional processes.

Summary

More than 50 per cent of marriages end in divorce with profound effects on the psychological and physiological well-being of all family members. Because many of these

divorces occur in the early years of marriage after children are born, young children are affected as well as their parents. Many families are also affected by marital discord which precedes marital dissolution or continues on in marriages. Because there is a connection between marital stability and marital satisfaction, these concepts were examined here as a basis for selecting a preventive intervention program aimed at maintaining marital quality through teaching couples communication skills and conflict management. PREP™ was reviewed from its inception, through its establishment of a strong theoretical base. Documentation of the effect of PREP™ on marital quality and stability for couples was provided.

Efforts to intervene at periods of the life cycle known to be high risk for couple discord can potentially have long-lasting impact (Jacobson & Addis, 1993). The transition to parenthood is considered a high risk time in which couples are vulnerable to relationship stresses as the family is undergoing structural and role changes (Cowan & Cowan, 1992). They are also often highly motivated to seek and incorporate information and skills they perceive to be important to taking on the tasks associated with parenthood. At the same time when there is a predictable decline in couple satisfaction that occurs after the birth of the child (Belsky, 1988), the strength and well-being of the couple relationship is considered a key factor in family adaptation (Cowan & Cowan, 1992; Jacobson & Addis, 1993). Thus, family life may benefit from preventative intervention focused on the couple relationship in the transition to parenthood.

PREP™ was selected for use with expectant couples because of its simplicity and potential for incorporation into existing perinatal education programs offered to couples seeking preparation for childbirth and parenthood. The research question is, Does the cognitive-behavioral approach used by PREP™ make a difference in marital satisfaction and family functioning when taught prenatally to couples expecting their first child? This review of the literature provided substantive support for this investigation.

CHAPTER 3

METHODS

Introduction

The implicit hypothesis of this study is that the PREP™ intervention does maintain marital quality and communication quality during the transition to parenthood. The decline in marital quality across the transition to parenthood has been well documented. The processes involved in this family transition require good communication skills in order to negotiate the interpersonal conflicts that result from incorporating the baby into the family constellation. Because couples who are becoming parents almost always feel committed to remaining in the marriage, they should respond to an intervention aimed at communication skill building. This study was designed to answer the following research questions: (a) Is marital quality maintained as a result of treatment (PREP™ training) and time interaction? (b) Is marital communication maintained as a result of PREP™ training and time interaction? (c) Is there a 3 way interaction difference between PREP™ training, gender, and time? and (d) Is the pattern of change in marital quality and marital communication the same for both males and females across time regardless of treatment (PREP™ training)?

Design

A quasi-experimental design with repeated measures and a non-equivalent control group was used for this study. This design was employed: (a) to evaluate the effects of the PREP™ intervention by comparison of the pre-intervention measurements with post-

intervention measurements at two time points across the transition to parenthood; (b) to test the effectiveness of the intervention by comparing the PREP™ intervention group with a comparison group of couples experiencing the transition to parenthood; and (c) to test the relative effect of gender on the dependent variables. The experimental intervention, PREP™, was implemented after the first data collection point. The dependent variables were measured during pregnancy (Time 1, prior to the intervention for the experimental group), at six weeks post birth (Time 2) six months post birth (Time 3).

Quasi-experimental designs used to evaluate the effectiveness of an intervention have both strengths and weaknesses. Among the strengths, a repeated measures quasi-experimental design offers the ability to determine if the PREP™ intervention can make a difference in the quality of the marital relationship and perceived couple communication patterns during the transition to parenthood, the ability to account for certain other competing independent variables through a comparison group, and the ability to detect variations in the dependent variable scores of the intervention group compared to the comparison group over time. In addition, because gender differences in marital quality and marital communication across the transition to parenthood have been reported in the literature (Tomlinson, 1987; Belsky et al., 1983, 1985, 1990; McHale & Huston, 1985), the factorial design is useful for comparing responses of male and female members of the couples, both across treatment groups and across time. The dissertation design is described as a 2 X 2 X 2 repeated measures analysis of covariance, where the Time 1 measures are the covariates and the between groups factor is the treatment; the first within

groups factor is gender; and the second within subjects factor is time at two levels (six weeks post birth, and six months post birth). Additional dependent measures used in the PREP™ Project, though not part of this dissertation study, included Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), the Psychiatric Epidemiology Research Interview (PERI) Life Events Scale, the Symptoms of Stress Inventory (Thompson & Leckie, 1989), the Center for Epidemiologic Studies Depression Scale (Radloff, 1977), and the Depression Symptoms Rating Scale (Affonso, Lovett, Paul, & Sheptak, 1990). While the PREP™ Project will include data collection through one year postpartum, this dissertation study is limited to data collected through six months postpartum. Thus, the design for this dissertation study is a 2 X 2 X 2 repeated measures analysis of covariance.

While a standard experimental design with a control group and random assignment to groups is ideal, it is not always practical in real-life settings influenced by time, funding, availability of subjects and options for randomized controls, and sometimes by evolving program formats. An evaluative quasi-experimental design can incorporate some of the control techniques of an experimental design while working within a real-life setting. When it is necessary to depend on volunteer subjects, randomization within the sample subjects helps control some potential extraneous variables. The use of statistical analysis of differences between experimental and comparison groups before intervention can take into account significant differences. Structuring of the program presentation to minimize variation in exposure to the intervention can strengthen the effect size. Quasi-experiments

are ordinarily less intrusive, less artificial and more apt to be representative of the real world in which clients experience intervention programs. Quasi-experiments with a pretest provide some evidence for inferring that changes in dependent variables are due to the presumed independent variable.

It is the same lack of controls inherent in quasi-experimental designs that constitutes weaknesses of the design. The provision of controls is necessary to maximize the effect of the independent variable on the dependent variable, to minimize the effects of extraneous variables on the dependent variable, and to minimize measurement error (Kerlinger, 1986). Of major concern here is the lack of control over extraneous sources of variance that threaten the conclusion that the PREP™ intervention itself produced any measured changes in the outcome variables. Indeed, the complexity of the intervention program itself posed some loss of control in that the intervention was provided to three groups with four presenters, which introduced some variation in teaching style. Despite efforts to maintain the curricular format and content, some evolution of the content occurred as presenters incorporated couple evaluative feedback gathered at the end of each workshop into the succeeding workshops. In addition, there were some format changes as the presenters developed their own styles in the didactic portions of the workshop.

Sources of extraneous variance that can confound the effects of PREP™ on the outcome variables are especially critical for evaluation of the adequacy of the quasi-experimental design. Because the measurement periods extend from pregnancy through

the postpartal period, the events surrounding the birth of the child and incorporating the child into the family profoundly affect the couple relationship according to Cowan and Cowan (1992), comprising a maturation threat to internal validity of cause and effect (Cook & Campbell, 1979). Along with the birth, many other concurrent life events are often experienced by childbearing couples (Cowan, 1991). Data were gathered from all subjects regarding pregnancy, labor, postpartum, and newborn complications to provide a historical obstetric picture of the couples in the sample population. Maturational threats to internal validity of cause and effect are real in that the literature documents a known decline in marital satisfaction across time which is often accelerated by developmental transitions such as parenthood. Because these are known patterns likely experienced by both the intervention group and the comparison group, maturational effects, if they exist, should be apparent in both groups across time. This would be evident in the repeated measurements of the dependent variables.

Because the design involved repeated measures and because most of the measurement tools were repeated at each measurement point, the responses from earlier testing may have affected responses to later measurements regardless of the intervention. Some, though not all, of the measures used in this study had been evaluated for test-retest reliability in previously published research. It is also possible that the pretest measures of marital quality and communication quality for both groups themselves induced couples to explore their own relationship, confounding the potential effects of the communication skills taught as part of the PREP™ intervention. This reactivity would comprise a threat

to validity as would an interaction effect between the independent variable and testing (Woods & Catanzaro, 1988). Selection bias may have strongly impacted this study in terms of generalizability to the greater childbearing population, a threat to external validity, in that couples were recruited to voluntarily participate in a study involving their marital relationship. Couples seeking to improve their communication are likely to volunteer at a greater rate than couples who either believed their relationship was quite adequate or who already were too distressed in their relationship to commit to such a study project. Indeed, Lewis and Spanier (1979) found that couples with low marital quality and low commitment were apathetic about opportunities to improve their relationship. Again, assessment of the initial equivalency of these two groups was critical to establishing internal validity.

Because the purpose of this study was to evaluate the effectiveness of an intervention program, assumptions of evaluative designs are presented here. Brink and Wood (1989) identified the following assumptions of the evaluative design:

1. There are measurable objectives for the program that can be used as a basis for evaluation.
2. There are methods or tools available with which to measure the variables.
3. The objectives can be assigned priorities and weighted in a practical sense according to their value to the project.

4. Adequate control subjects can be provided so that a model of statistical difference can be used to establish whether or not the program made a difference (Brink & Wood, 1989, p. 225).

The following address these assumptions of the evaluative design. Program goals for PREP™ (Markman, Blumberg, & Stanley, 1991) were not stated in terms of specific measurable qualities. However, they did identify these goals for the program: (a) to develop and guide the practice of constructive communication and conflict resolution skills; (b) to clarify and modify the relationship beliefs and expectations; (c) to expand sexual/sensual knowledge and attitudes; (d) to explore the role of fun and friendship in intimate relationships, and (e) to have couples leave the program with an agreed-upon set of ground rules for handling disagreements and conflict that inevitably occur in relationships (Markman et al., 1989, p. 12).

While the PREP™ goals are not stated in terms of measurable objectives, aspects of marital quality and communication quality have been selected to evaluate the effect of PREP™ training on the couple relationship over the transition to parenthood in the context of this study. These measures were selected during the development of the PREP™ Project. The aims of the PREP™ Project were to: (a) implement PREP™ with the specific target population of married couples expecting the birth of their first child; (b) utilize these implementations of PREP™ to train consultants to assist with future implementations of PREP™; (c) test instruments under consideration for use in the comprehensive intervention study; (d) gather data on life events, communication, quality

of the couple relationship, social desirability, symptoms of stress, and depression for both the experimental and comparison groups; (e) examine the possible effects of PREP™ on the experimental group through comparison of pre- and post-intervention data; and (f) compare questionnaire data from the experimental and comparison groups.

The measurements selected for this dissertation investigation were intended to measure the following secondary level outcomes: (a) marital satisfaction and dyadic adjustment as measures of marital quality, and (b) dyadic perspective-taking, perceived confirmation, and conflict tactics as measures of communication. Repeated measurement of the dependent variables were obtained in early pregnancy prior to the intervention, at six weeks, and six months post birth. For both the intervention group and the comparison group, pretesting provided a baseline against which to measure change throughout the transition to parenthood. Change in the intervention group over and above changes noted in the comparison group may be attributable to the intervention when other potential influences are controlled. Pretest measures are useful to increase the sensitivity to the intervention, adding power to the design (Lipsey, 1990).

Instruments

In the following section, the instruments used to measure the outcome variables are described including psychometric profiles on each instrument. Rationale is provided for each instrument in relationship to the variables selected for measurement in this investigation. Examples of their use with populations in transition to parenthood, pregnancy, or new parenthood are included when available.

Demographic Data

Demographic data were collected on each individual (see Appendix B). These included age, gender, religion, ethnicity, level of education, occupation, annual household income, length of time in couple relationship with mate, due date of baby, obstetric history, number of siblings in family of origin, and any history of couple counseling. Also noted were source of recruitment, gestational age at Time 1 data collection, and infant age at Time 2.

Measures of Marital Quality and Marital Communication

The following measures were used to assess marital quality and selected aspects of communication. They comprise the dependent variable measures at Time 2 and Time 3 from which to determine the effects of the intervention and the interaction of the intervention with time. Time 1 pre-intervention data were used as covariates in the Repeated Measures Analysis of Covariance (ANCOVA), in order to account for differences between the intervention and the comparison groups at Time 1.

The Dyadic Adjustment Scale (DAS)

The DAS (Spanier, 1976) is a self-report instrument designed to assess the quality of dyadic relationships. Using four subscales derived from a factor analysis the following empirically verified components are measured: dyadic satisfaction, dyadic consensus, dyadic cohesion, and affectional expression. The Satisfaction subscale measures overall satisfaction and commitment to the relationship; the Consensus subscale reflects agreements in values and decision making; the Cohesion subscale measures the quality of

interaction; and the Affectional Expression subscale measures both the sexual relationship and the exchange of affectional behavior. Despite the underlying subscale structure, the scale scores used in the present study were the total scores as recommended by Spanier (1988).

The DAS reports each respondent's perception of the adjustment of the dyad. Partner differences are presumed to reflect differing perceptions of relationship functioning. The DAS is a 32-item, primarily Likert-style questionnaire utilizing 5-, 6-, and 7-point response formats and includes two yes/no items. The majority of the items use a 6-point format, with options scored from 0 to 5 (twenty of these scores are reversed), and ranging from either *always agree* to *always disagree* or from *all the time* to *never*. The total scale yields a composite score based on a theoretical scoring range from 0 to 151, with mean scores reported by its author for married and divorced samples of 114.8 and 70.7 respectively. Higher scores reflected better adjustment in the marital relationship. Spanier (1988) suggested a cut-off score of 100 to differentiate distressed and nondistressed couples in clinical practice although the concept of marital quality is considered by Spanier to be on a continuum.

The measure consists of items gleaned from existing measures and literature current at the time of its development. Psychometric procedures used to arrive at the final version included (a) a content analysis by a panel of judges, (b) item analyses to eliminate items with low variances and highly skewed response patterns and to ensure the inclusion of only those items able to discriminate between nondistressed and distressed (recently

divorced) couples, and (c) a factor analysis in order to confirm the presence of the conceptual dimensions of adjustment. The 32 items included within the scale comprise the four dimensions of adjustment: dyadic satisfaction (10 items), dyadic consensus (13 items), dyadic cohesion (5 items), and affectional expression (4 items). Each dimension is considered to be a property of the marital relationship or behavioral state. Cronbach's alpha was .96 for the total scale with the subscales ranging from .73 to .94. There was high correlation between the DAS and the Locke Wallace Marital Adjustment Test (LWMAT) (r = .88), though this may be explained in that 11 of the 32 items in the Spanier scale are contained in the 15 item LWMAT. The construct validity of the DAS has been well established by its use in over 1000 studies (Spanier, 1988). There are no readily available data on test-retest reliability or norms for the DAS.

Marital Satisfaction Scale (MSS)

The MSS (Roach, Frazier, & Bowden, 1981) is a self-report questionnaire designed to measure the level of satisfaction within one's own marriage. Within this context, marital satisfaction is defined as "the perception of one's marriage along a continuum of greater or lesser favorability at a given point in time" (Roach et al., 1981, p. 539). Marital satisfaction is considered an attitude in contrast to other measures of marital adjustment, success or happiness which are relatively fixed properties or behavioral states. Thus, items were selected as they index an opinion toward some aspect of one's marriage, reflecting affect rather than cognition.

The MSS is a 48-item questionnaire in which responses are on a 5-point scale ranging from *strongly agree* to *strongly disagree*, with 5 indicating the most favorable attitude. Scores for psychometric studies of this scale were obtained from an extended data base of 463 subjects. The mean score for this sample was 198.21 with a standard deviation of 29.68. The minimum possible score was 48 and the maximum possible score was 240 using the 1-5 scoring system. According to the author, a high degree of internal consistency was demonstrated with Cronbach's alphas averaging around .97 for a sample of 463 subjects. Criterion related validity was examined by contrasting the data from couples divorced for less that one year with a control group of intact couples. Highly significant differences were found between scores of these two groups. Test-retest reliability has been estimated for the MSS at 3 weeks after a pre-intervention testing to be $\underline{r} = .76$ (Roach et al., 1981).

Roach et al. used the Locke Wallace Marital Adjustment Test (LWMAT) (Locke & Wallace, 1959) to determine concurrent validity resulting in a validity coefficient of .79. There is no direct evidence of correlational scores between the Roach and Spanier scales. However, both are similarly correlated with the LWMAT. The correlation between the DAS and LWMAT was .86 among married respondents and .88 among divorced respondents. The MSS differs from the DAS in that Spanier's instrument focuses heavily on estimates of the frequencies and degrees of difference between spouses. Such estimations involve more cognitive and recall processes than affective or attitudinal responses. Because the MSS and the DAS measure different aspects of marital quality,

they are both used in this investigation. This study will include correlational evaluation of the MSS and the DAS within the analysis process.

Perspective-taking Scales

The Self Dyadic Perspective-taking Scale (SDPT)and Other Dyadic Perspective-taking Scale (ODPT) are two self-report paper and pencil measures that assess perspective-taking within the context of personal relationships (Long & Anderson, 1990). Perspective-taking has been defined as the ability to understand what the other individual is thinking, to put oneself in another's place, and intellectually to understand without vicariously experiencing the other's emotions (Hogan, 1969). Dyadic perspective-taking indicates whether or not one individual seeks to understand the point of view of the other person in the dyad (Long, 1990).

The SDPT contains 13 items assessing the use of perspective-taking by oneself within the context of a specific relationship and includes such items as, "Before criticizing my partner I try to imagine how I would feel in his/her place," and "I sometimes try to understand my partner better by imagining how things look from his/her perspective." Responses are totaled after reversing negatively stated scoring on one item. The ODPT contains 20 items assessing an individual's perceptions of the dyadic perspective-taking of their partner and includes such items as, "My partner is able to accurately compare his/her point of view with mine," and "When my partner is upset with me he/she tries to put him/herself in my shoes for awhile." Responses on the ODPT are totaled after reversing negatively stated scoring on eight items.

Individuals are asked to respond to each of the items, first on the SDPT, according to how well the statement predicts their own behavior toward their partner and, second on the ODPT, in terms of how well the action describes their partner's actions toward them. Responses are coded on a 5-point Likert-type scale ranging from *does not describe me (my partner) very well* (0) to *does describe me (my partner) very well* (4). A high score indicates higher levels of perspective-taking which is associated with a more positive dyadic relationship. The range of scores is 0 to 52 on the SDPT and 0 to 80 on the ODPT.

In factor analysis, both the SDPT and ODPT were determined to contain two factors: "strategies," which assesses a level of motivation and active behavioral participation in perspective-taking, and "cognizance," which represents a global understanding and awareness of a partner. This indicates that perspective-taking is a multidimensional phenomenon containing both an active behavioral component and a cognitive awareness dimension. Alpha coefficients for the SDPT were .89 and for the ODPT were .93-.95 in three preliminary studies using the tools (Long, 1990).

Due to the newness of these scales there are no reports in the literature of use with younger married or specifically with expectant couples and new parents. Nor are there reports of test-retest reliability. These two perspective-taking scales should provide evidence that the skills learned in the PREP™ intervention enhance competence with the perspective-taking dimension of marital communication.

Perceived Confirmation Scale (PCS)

The PCS is a self-report scale on which the respondent identifies the extent to which he/she feels confirmed or disconfirmed by the partner in conversations/communications held over the past week. Using Likert type statements, the scale was constructed with five items that are thought to reflect confirmation: interest, acceptance, respect, liking, and trust. Test-retest reliability is reported to be .70 in one study (Clarke, 1973, cited in Emde, 1991) and .74 and .92 in a second study by Cissna (1975, cited in Emde, 1991). Internal reliability of the PCS was examined by Cissna (1975) on a sample of 980 students and nonstudents who described feelings of perceived confirmation from three target persons in their lives: supervisors, lovers, and friends. These findings showed Cronbach's coefficient alpha for the target persons to be .82 for supervisors, .78 for lovers, and .75 for friends. Construct validity was determined by Jacobs (1973) through item/total correlations on scores from sixty subjects who assessed three target persons in their lives. Findings showed moderate to high correlations for each item. In this same study, 120 subjects experienced differing conditions of confirming and disconfirming communication in a laboratory setting. Analysis of variance yielded a statistically significant F ratio between those subjects who were confirmed compared to those who were not confirmed. The PCS was used in this study to determine whether there are differences in mean perceived confirmation scores between those who attended the PREP™ workshops and those who did not experience the intervention.

Conflict Tactics Scale (CTS)

The CTS (Straus, 1979), a multidimensional scale with three subscales, is a measure of the ways in which family members attempt to deal with conflict. The purpose is to measure the use of reasoning, verbal aggression, and violence as modes of dealing with conflict in relationships within the family. The Reasoning Scale taps the use of such tactics as rational discussion to resolve disputes and is a positive index of communication quality. The Verbal Aggression scale refers to the use of verbal and nonverbal acts to symbolically hurt the other. The Violence scale measures the use of physical force against the other. These two subscales are negative indexes of communication quality. The CTS was used in this study to evaluate changes in couple conflict tactics before and after the intervention and in contrast with the comparison group to determine if the intervention influences the ways spouses handle conflict.

The CTS consists of a list of actions which the spouse might take in a conflict with another member. The items start with those low in coerciveness (such as discussing the issue with another) and become gradually more coercive and aggressive toward the end of the list (such as slapping and hitting). The seven response categories ask for the number of times each action occurred during the past year, ranging from *Never* (score of 0) to *More than 20 times* (score of 6). Although the authors suggest one way to score the scale by summing the response values for the items making up each of the three CTS subscales, for this study each subscale was scored and analyzed separately. The subscales included

these items: Reasoning (items a, b, c, and d), Verbal Aggression (items e through j), and Violence (items k, l, and m, minor violence; items n through w, severe violence).

The strengths of the CTS are ease of administration and the possibility of deriving several types of scores that can be adapted according to the research purpose. Concerns about inaccuracy due to socially desirable responding have been addressed within the scale item content by attempting to "normalize" the behaviors by listing behaviors more common to all families first.

The CTS subscales have moderate to high internal consistency reliability. Alpha coefficients were high for the Verbal Aggression (.77 to .88) and Violence (.62 to .88) scales and relatively low for the reasoning scale (.50 to .76) (Schumm, Martin, Bollman & Jurich, 1982; Straus, 1979). Criterion-related validity has been tested by comparing the scores of self reports and reports on other family members regarding their own and the other's behaviors. Correlations were low for the Reasoning scale (-.12 to .19) and were relatively high for the Verbal Aggression (.43 to .51) and the Violence (.33 to .64) scales (Grotevant & Carlson, 1989). Criterion validity was tested in their study by comparing husband and wife reports about the other's behavior with their reports of their own behavior.

Straus (1979) cited evidence for construct validity when he described consistency between findings using the CST and other findings about family violence obtained through in-depth interviews. Correlations between CTS scores and other variables are consistent with relevant theories, for example, high reported family violence in cases of extreme

husband dominance or extreme wife dominance (Straus, 1979). Although Grotevant et al. (1989) suggest that more evidence of criterion-related validity is needed and the internal consistency of the Reasoning scale is less than adequate, they rate the psychometric properties of the CTS as generally good.

The CTS subscales were used to evaluate change in conflict resolution after PREP™ training. Differences in conflict resolution scores in comparison of the intervention and non-intervention groups were evaluated.

Participant Selection

Criteria for eligibility in the PREP™ project included the following parameters. The subjects for this study were required to be married couples living together, expecting their first child, able to communicate in English, and no more that 25 weeks gestation at the time of the intervention. Twenty-five weeks gestation was selected as a criterion to provide the intervention couples the opportunity to learn and practice the communication and problem solving skills prior to the third trimester when expectant parents' attentions become focused on preparation for the birth process. Also, many of the changes in roles and role expectations that can affect the couple relationship during the transition to parenthood begin well before the actual birth of the infant (Brown, 1986; Tomlinson, 1987). The criterion of gestational age was not adhered to because of strong requests by several couples to be included in the intervention workshops. Likewise, the couples volunteering in the east coast sample were not screened out of the study because of gestational age greater than 25 weeks at the Time 1 data collection.

Recruitment efforts were first begun with a brochure distributed to obstetrical care providers in the greater Seattle area and to couples registering for prenatal education programs in the area. When contacts from these sources were minimal, the investigators used various media resources including radio interviews, announcements, and advertisements. The majority of the recruits came from these public announcement sources. While all of the intervention subjects (36 couples) were from Washington, some of the comparison couples (8 couples) were from Washington and others (19 couples) came from Maryland where a childbirth educator recruited volunteers from among her clients.

The couples from Washington who contacted the PREP™ Project principal investigator were assigned to intervention or comparison group, first by random assignment procedures and later by convenience assignment. Originally, the plan for subject assignment was that couples inquiring about the PREP™ Project would be randomly assigned to the intervention and the control (comparison) group. However, because of project arrangements made with consultants trained to work with the intervention couples attending these workshops, random assignment was discontinued part way into the study so that the workshops had a sufficient number. After the enrollment goal was met for the three PREP™ workshops, additional subjects were assigned to the comparison group. Additional comparison subjects were added from Maryland, where a childbirth educator volunteered to recruit comparison subjects registering for her childbirth education classes. Since both Washington state groups were drawn from the

same sources, few differences in the demographics of experimental and comparison groups were expected. Differences between Washington state comparison group and Maryland group were anticipated to be greater.

Protection of Human Rights

Each individual was informed that responses would be confidential. Subject names appeared on the consent form (see Appendix A) and on a separate piece of paper kept only for the purpose of sending additional questionnaires. Any identifying information was kept separately from the questionnaires and the subjects were identified only by code numbers. All information was kept confidential and accessible only to the investigators and their assistants for analysis purpose. Only the principal investigator had access to the list of participants' names and corresponding code numbers which were kept in a locked place when not in use and will be retained for up to 10 years, at which point the identifying information will be destroyed. Information gathered was shared with no one else, including clients' health care providers. Participation in the study was completely voluntary. Subjects were informed that they could stop participation and withdraw at any time without penalty or loss of benefits. Subjects were paid $10.00 for each completed and returned set of questionnaires.

Subjects were informed of possible risks, stress, or discomfort related to completing questionnaires about life experiences, symptoms of stress, and their couple relationship. Completing questionnaires about these personal areas of their relationship could cause feelings of self-consciousness or discomfort from thinking about things that

may be unpleasant. The principal investigator was available to discuss concerns with subjects and make appropriate referrals if desired or indicated.

The PREP™ Project was approved by the University of Washington Human Subjects Review Committee, and by Swedish Hospital Medical Center Institutional Review Board. This dissertation study was approved by the Oregon Health Sciences University Institutional Review Board.

Procedures

When interested couples called the principal investigator, procedures were explained by phone and informed consent forms were mailed out to each of the spouses in a couple along with the Time 1 Booklet of questionnaires. Couples who verbally consented over the phone to participate were assigned to the intervention group or a comparison group and then requested to complete and return the consent form and Time 1 Booklet as soon as possible and, for the intervention group, also prior to attending the PREP™ workshop. The consent form was signed and returned with the first booklet. Times 2 and 3 data were collected at 6 weeks post birth and six months post birth, respectively. After each couple completed and returned the booklet of Time 1 measures, those in the intervention group were scheduled to attend the PREP™ workshop. The PREP™ workshops were provided for three groups of 10 to 15 couples approximately one month apart. The first workshop was given in two 2-1/2 hour consecutive evening sessions followed by an six hour session on Saturday. Evaluations indicated that this particular format was quite stressful and tiring for expectant couples. The last two

sessions were carried out on two consecutive Saturday sessions of six hours each. The sessions were presented as described in the PREP™ Leadership manual and explained in the next section (Markman, Blumberg, & Stanley, 1991).

Both the intervention and comparison couples were called by phone 1 to 2 weeks after the infant due date provided with Time 1 data. When the date of their infant's birth was known, couples were then mailed a second series of paper and pencil research instruments (Time 2 Booklet) at around 5 weeks post birth to be returned at approximately 6 weeks after the birth of the infant. Time 3 booklets were mailed to couples at approximately 6 months post birth. Individuals were paid $10.00 for the return of each completed booklet of questionnaires.

Intervention Program

Training of PREP™ leaders and consultants

A project staff training seminar by PREP™, Incorporated, was provided by a psychologist/ professor of marital and family therapy from the Center for Marital and Family Studies at the University of Denver and a doctorally prepared nurse marital counselor. Training participants were predominately nurse educators and practitioners who worked with families. The training seminar consisted of 12 hours of PREP™ content along with the rationale for the inclusion and format of the content. A second portion of the seminar was an actual PREP™ workshop for couples presented by the leader from the Center for Marital and Family Studies. Volunteer couples from the community attended the workshop and those participating in the leadership training took the roles of

consultants to the couples in the skills practice sessions. The workshop required a consultant to work one on one with a couple to provide corrective feedback and support as each couple applied the techniques in their practice sessions.

Four nurse educators, including the author, then conducted a practice workshop to train consultants for the intervention sessions. Consultant trainees role-played couples with a third trainee practicing the consultant role. Once consultants were trained, three intervention workshops were scheduled and the study was publicized to recruit couples to be part of the study.

PREP™ Program

The author and three other nurse educators acted as the presenters and leader-facilitators for the PREP™ workshops. The format for presentation of content consists of ten lecture sessions each lasting from 20 to 60 minutes. Content of the sessions was presented in Chapter 2. A sample schedule is provided in the appendix (see Appendix C). Some sessions were followed by a break out session where each couple had the opportunity to practice the skills taught during the previous session. Consultants were assigned to individual couples during the skills practice sessions to guide the couples through practice of the assigned exercises. The consultant's role was to facilitate the couple's learning of communication skills through positive feedback and redirecting couples to correctly use the skills important to the particular session (see Appendix D). The consultants were to minimize three-way interactions and were not to take a therapist role with couples. PREP™ leaders circulated to observe consultants and couples in

process providing consultation to the couple and consultant when questions or concerns arose.

The program was taught closely following the concepts and content laid out in the Leader's Manual (Markman, Blumberg, & Stanley, 1991). Wherever appropriate, the issues and concerns of expectant couples were used as examples to illustrate the concepts, by incorporating them into the role-playing and modeling of techniques. Couples were provided handouts and a copy of A couple's guide to communication (Gottman, Notarius, Gonzo, & Markman, 1976), a text often used with the course.

Methodological Considerations

To implement the design selected for this study, a repeated measures analysis of covariance (ANCOVA) was used. Measurement scores from Time 1 gathered during pregnancy prior to implementation of PREP™ for the intervention group were entered as covariants. The between subjects factor was the treatment and the within subjects factors were gender and time of measurement. This statistical design examined the three main effects: 1) PREP™ group means versus no-PREP™ group means on the dependent variables; 2) male versus female means on the dependent variables; and 3) a comparison of the means on the dependent variables for the second and third times of measurement. These factors were then analyzed for interaction, three first-order interactions among combinations of two factors taken together: (a) intervention by gender, (b) gender by time, and (c) intervention by time. The three-way interaction, the second-order interaction, among intervention, gender, and times was also analyzed. This analysis was

carried out for each of the six dependent variables to answer the following research questions:

1. Is marital quality maintained as a result of treatment (PREP™ training) and time interaction?

2. Is marital communication maintained as a result of PREP™ training and time interaction?

3. Is there a three-way interaction difference between PREP™ training, gender, and time?

4. Is the pattern of change in marital quality and marital communication the same for both males and females across time regardless of treatment (PREP™ training)?

Statistical analyses were carried out using the SPSS Information Analysis System. Baseline data collected included a range of demographic variables and life stress. Preliminary analyses included frequencies of these variables and correlations of the various dependent variables looking particularly for differences between the intervention and comparison groups. Within the comparison group, the couples from the Eastern Central coastal state were compared with the Northwest comparison group to evaluate any differences.

Analysis of data from all dependent variables was done to determine the distribution of scores, means, and standard deviations. These were necessary to determine how data from the measures fit the assumptions of ANCOVA which include normal distribution, homogeneity of variance, and statistical independence of observed scores.

The statistical assumptions required in the repeated measures ANCOVA must be applied to the mean scores for the groups as well as mean scores for individuals. The homogeneity of treatment-difference variance assumption is that all between block variances are equal to each other and all covariances are equal to each other. When there is compound symmetry between these blocks, the homogeneity of treatment-differences variance is satisfied. Thus, correlations for each dependent variable across time and gender for each treatment and among the dependent variables at each measurement time were evaluated.

In a repeated measures design, it is necessary to control for preexisting differences between groups at the Time 1 baseline measure in order to more accurately evaluate the differences between the intervention and comparison groups in post-intervention outcomes. Because experimental and control groups were not randomly assigned prior to beginning the intervention, the use of the baseline data as covariates adjusted for some of the initial differences between the comparison and intervention groups. This analysis removed from the unexplained variance and from the treatment effects any variability that was associated with variability in the Time 1 covariate.

To test the research questions a repeated measures ANCOVA was used to look for interaction effects. Combining the dependent variable measurement scores into a composite variable could be done using a repeated measures multivariate analysis of covariance program. However, sample sizes per group were too limited for statistical accuracy in this dissertation study.

Further analyses included evaluation of covariance in the dependent variables. Correlations among the dependent variables was a real concern in analyzing data from marital couples. Likewise there were potential conceptual overlaps in tools measuring marital quality and communication.

CHAPTER 4

RESULTS

Introduction

In this quasi-experimental study, expectant couples who completed the PREP™ workshop were compared with expectant couples who were not exposed to the PREP™ intervention. All couples completed measurement tools used to index changes in marital quality and communication quality during pregnancy, at six weeks post birth and at six months post birth. These measurement tools provide data for the dependent variables, two indices of marital quality: (a) Marital Satisfaction Scale (MSS), and (b) Dyadic Adjustment Scale (DAS); and four indices of marital communication patterns: (a) the Self Dyadic Perspective-taking Scale (SDPT), (b) the Other Dyadic Perspective-taking Scale (ODPT), (c) the Perceived Confirmation Scale (PCS), and (d) the six subscales of the Conflict Tactics Scale (CTS) which include both a self report and a report of the other spouse's behaviors. These subscales in the CTS were scored separately to evaluate reasoning, verbal aggression, and violence tactics used by self and other to resolve conflict. For each of the dependent measures used in this study, the findings of the repeated measures ANCOVA were used to answer the four research questions.

Characteristics of the Men and Women Participating in the Study

The subjects for this study were 43 couples (86 individuals) expecting their first child who were recruited from obstetric care providers, word of mouth, and public media in Seattle, Washington and Maryland. The recruitment materials stated couples had to be

married, living together, able to communicate in English, expecting the birth of a first child, and not more than 25 weeks pregnant to be included in the study.

The sample size was related to the number of couples interested and available to attend the three PREP™ workshops scheduled approximately six weeks apart over a four month period of time. The maximum enrollment per workshop was set at 15 couples (30 subjects). The sample for this study included only the 43 couples for which data were available from Time 1, 2 and 3. There were 25 intervention couples (74% of those who completed Time 1 booklets and attended PREP™) and 18 comparison couples (69% of those who completed Time 1 booklets). There was moderate attrition in the larger sample of the PREP™ Project. Within those assigned to the intervention group, one couple dropped because they experienced a miscarriage. One couple was dropped when the husband did not complete the pre-intervention booklet. Thirty-four couples in all attended the three PREP™ workshops. Two couples were dropped after beginning the workshop, one couple indicated they found the program too basic, the husband of the second couple became ill and was unable to attend the second Saturday session. Twenty-six comparison couples completed Time 1 booklets. Four intervention couples failed to return Time 2 booklets, and four comparison couples also did not return Time 2 booklets. Three intervention couples and four comparison couples did not complete Time 3. Couples who may have completed booklets at some times but not others will remain in the larger sample of the PREP™ Project. Demographic data is reported in Tables 1, 2, and 3.

The women's ages ranged from 18 to 40 years. Men's ages ranged from 21 to 48 years. The mean ages for the intervention group and the comparison group were not significantly different for either women or men: intervention women were 30.7 years; comparison women, 29.4 years; intervention men were 33.3 years; and comparison men, 32.1 years. The participants were predominately Caucasian, ranging from 77.7% to 94.4%. When male and females within the same couple differed on reporting length of time in the relationship, the female's report was used. The number of years the couples had been in their relationships ranged from one half to 14, with the intervention couples averaging six years and the comparison couples 4.7 years. Four spouses in the intervention group and four spouses in the comparison group had been previously married.

The sample was well educated with 80% of intervention husbands and 76% of their wives having bachelors or higher degrees and, in the comparison group, 61.1% of men and 55.6% of the wives had bachelor's or higher degrees. Annual family income ranged from $17,500 to $140,000, with mean salaries of $56,000 for the intervention couples and $53,487 for the comparison couples. Since there was some disparity between the male and female members of the same couple on reported income, an arbitrary decision was made to accept the male's report for the purposes of this research.

The gestational age at the time of completion of the Time 1 instruments ranged from 7 to 35 weeks in the intervention group with gestational age being 25 weeks or less for 92% of these couples and the average gestational age was 16 weeks. One couple was

Table 1

Demographic Characteristics of Intervention Couples

	males (n=25)		females (n=25)	
Characteristic	Range	Mean	Range	Mean
Age (years)	24-48	33.3	23-40	30.7
	Frequency	Percent	Frequency	Percent
Ethnicity				
Caucasian	21	84	23	92
Latino	1	4	0	0
Asian/Pacific Island	1	4	2	8
American Indian	0	0	0	0
Mixed/other	0	0	0	0
missing data	2	8		
Education				
High school	1	4	0	0
Technical training	0	0	0	0
Part college	3	12	4	16
Associate degree	0	0	2	8
Bachelors degree	9	36	10	40
Some grad school	2	8	5	20
Graduate degree	7	28	4	16
Doctorate	2	8	0	0
missing	1	4		
	Range	Mean	Range	Mean
Years in relationship*			2-14	6
Family income**	$22,000-100,000	$53,478		
	Frequency	Percent	Frequency	Percent
Previously married	2	8	2	8
		Mean		Mean
Weeks pregnant	84%<25wks	16.36	92%<25wks	15.72
	Frequency	Percent	Frequency	Percent
Previous conceptions	11	44	12	48
Outcome of previous conceptions				
miscarriage	5	20	6	50
abortion	5	20	6	50
child in previous marriage.	1	4	0	0

*Based on data from females only

**Based on data from males only

Table 2
Demographic Characteristics of Comparison Couples at Time 1

	males (n=18)		females (n=18)	
Characteristic	Range	Mean	Range	Mean
Age (years)	22-41	32.1	18-36	29.4
	Frequency	Percent	Frequency	Percent
Ethnicity				
Caucasian	17	94.4	14	77.7
Latino	0	0	1	5.6
Asian/Pacific Island	0	0	1	5.6
American Indian	1	5.6	1	5.6
Mixed/other	0	0	1	5.6
missing data	0	0	0	0
Education				
High school	2	11.1	3	16.7
Technical training	1	5.6	0	0
Part college	3	16.7	4	22.2
Associate degree	1	5.6	1	5.6
Bachelors degree	8	44.4	8	44.4
Some grad school	2	11.1	1	5.6
Graduate degree	1	5.6	1	5.6
Doctorate	0	0	0	0
	Range	Mean	Range	Mean
Years in relationship*			.5-11	4.7
Family income**	17,500-140,000	56,000		
	Frequency	Percent	Frequency.	Percent
Previously married	1	5.6	3	15
		Mean		Mean
Weeks pregnant	38.9%<25 wks.	28.22	44%<25 wks.	27.28
	Frequency	Percent	Frequency	Percent
Previous conceptions	9	50	11	61.1
Outcome of previous conceptions				
miscarriage	7	38.9	8	44.4
abortion	1	5.6	3	16.7
adoption	1	5.6		

*Based on data from females only
**Based on data from males only

Table 3
Demographic Characteristics of Perinatal Experience for Couples at Time 2

Characteristics	Intervention Couples (n=25) Frequency	Percent	Comparison Couples (n=18) Frequency	Percent
Baby's gender				
female	12	48	11	61
male	13	52	7	38.9
Pregnancy complication	2	8	4	22
Pregnancy Induced Hypertension			2	11
Intrauterine growth retardation	1		1	5.6
unspecified	1		1	5.6
Vaginal birth	18	72	13	72
C-section	7	28	5	27.8
Labor complications	5	20	3	16.7
Preterm labor	1	4		
Breech/CS	1	4	2	11
Fetal distress/CS	1	4		
Hemorrhage	1	4		
Failure to progress/CS	1	4		
Spontaneous rupture of membranes>12hrs/CS			1	5.6
Baby Complications	6	24	3	16.7
Congenital anomalies/GU	1	4		
Prematurity	3	12	1	5.6
Elevated bilirubin	1	4		
Hypoglycemia	1	4		
Congenital hip dislocation			1	5.6
Fracture of collar bone			1	5.6
Baby hospitalized	4	16	1	5.6

26 weeks pregnant. Another couple, who was 35 weeks pregnant, expressed a strong desire to attend the workshop and the researchers decided to accept them into the study. The comparison couples ranged from 15 to 39 weeks gestational age at Time 1, with 44% of the couples less than 25 weeks gestation. When there were discrepancies in reported gestational age between members of a couple, this was because spouses may have completed instrument booklets at slightly different times. Also, women were presumed to more likely be accurate about length of gestation.

Of the intervention women, 48% indicated that they had had previous conceptions compared with 61.1% of comparison women. Of these previous conceptions, six (50%) resulted in "miscarriage" and six in "abortion" (50%) for intervention women, while comparison women experienced 8 miscarriages (44.4%) and 3 abortions (16.7%). Two husbands reported having a previous child, one in a prior marriage and the other had one child who was adopted out.

Because this intervention aimed at enhancing the couple relationship, the information was gathered about the couple's past history of marital counseling. Twenty-five percent of couples (13 females and 14 males in the intervention group, and 4 females and 5 males in the comparison group) indicated they had undergone previous marital counseling. Reasons given for this therapy included: premarital counseling ($\underline{n}$ = 6, 24% of intervention couples; $\underline{n}$ = 1 husband and 4 wives among the comparison couples.); marriage counseling ($\underline{n}$ = 5 husbands and 3 wives among the intervention couples; $\underline{n}$ = 1 husband and wife in the comparison group). Several individuals had personal counseling

for various reasons including childhood problems, infertility problems, in-law problems, and unspecified concerns. Three men ($\underline{n}$ = 2 intervention and $\underline{n}$ = 1 comparison) and 5 women ($\underline{n}$ = 2 intervention and $\underline{n}$ = 3 comparison) reported having been previously married.

Intervention couples completed the Time 2 booklets between 4 to 9 weeks post birth, with the majority sending them in at six weeks after birth. The comparison couples returned booklets between 5 and 8 weeks, most doing so at six weeks. Intervention couples had twelve girls (48%) and thirteen boys (52%) compared with 11 girls (61.1%) and 7 boys (38.9%) in the comparison group. Pregnancy problems occurred in 8% ($\underline{n}$ = 2) of intervention females compared with 22% ($\underline{n}$ = 4) of comparison females. Cesarean sections occurred at approximately 28% in both groups with 20% ($\underline{n}$ = 5) of intervention and 16.7% ($\underline{n}$ = 3) of comparisons indicating they had experienced labor complications. Twenty four per cent ($\underline{n}$ = 6) of the intervention babies experienced some complications at birth, four of which required additional hospitalization. One intervention baby had serious multiple congenital anomalies of the genitourinary tract. Three babies (16.7%) born to comparison couples had complications, one requiring additional hospitalization.

Because subjects were not randomly assigned to intervention and control groups, student t-tests were performed to determine if significant differences existed between the two groups on selected demographic variables and on mean scores on Time 1 dependent variables. A difference existed in number of weeks pregnant ($\underline{t}$ = -5.34, $\underline{df}$ = 39, $\underline{p}$ = .000). The mean weeks pregnant were 16 weeks for intervention couples and 27 weeks

for comparison couples at Time 1. Intervention and comparison subjects were significantly different in two ways on demographic variables. Comparison women had a significantly lower level of education ($t = 2.18$, $df = 32$, $p = .036$) than intervention women. Intervention men also reported significantly more previous couple therapy (men, $t = -2.08$, $df = 40$, $p = .044$) than comparison men. The remaining demographic indices between the intervention and comparison groups were not significantly different. A second set of t-tests was run to assess for demographic differences between comparison subjects from Seattle and Maryland. No differences existed between the Seattle and Maryland groups on any of the demographic variables.

Data Analysis

This study was designed to answer four research questions: (a) Is marital quality maintained as a result of treatment (PREP™ training) and time interaction? (b) Is marital communication maintained as a result of PREP™ training and time interaction? (c) Is there a three-way interaction difference between PREP™ training, gender, and time? and (d) Is the pattern of change in marital quality and marital communication the same for both males and females across the transition to parenthood regardless of PREP™ training?

Self-report questionnaire data were analyzed using the Statistical Package for the Social Sciences (SPSS) on the VAX mainframe computer at University of Washington. Descriptive statistics were used to describe the sample and evaluate the mean scores and distributions of scores on all variables. Cronbach's alpha coefficient was calculated to index internal consistency for all instruments.

To address the research questions, a three-way repeated measures ANCOVA of treatment (PREP™ intervention/no PREP™ intervention) by gender (male/female) by time (six weeks post birth/six months post birth) was done using the Time 1 (pregnancy) instrument scores as covariates. These dependent variable scores were indexed by the self-reported measures of the MSS, DAS, SDPT, ODPT, PCS, and the three subscales each of the Self-CTS and Other-CTS. This method of analysis tests for three main effects, treatment, gender, and time; three two-way interactions, treatment by gender, treatment by time, and gender by time; and one three-way interaction, treatment by gender by time. Results of these analyses will be presented in tables, however, only those which are related to the research questions will be discussed. The critical value for statistical significance was p = or < .05. However, p values that approached criterion are also reported because such findings indicate trends, suggesting the need for further study. Marital quality and marital communications will be addressed separately.

Psychometric Performance of the Instruments

Internal consistency reliability estimates (Cronbach's alpha coefficient) were computed for all of the measures used in the study. The alphas for all scales at the first three time points in the larger PREP™ study are shown in Table 4. Except for the PCS and the CTS Reasoning subscale for both self and other, all scales exceeded the criterion of .80 for internal consistency recommended by Nunnally (1978) as adequate for most research.. The PCS internal consistency coefficients were .62 at Time 1 and .69 at Time 2 but exceeded the criterion at Time 3 with a coefficient of .81. The coefficients on the CTS

Reasoning scale for self was .64 at Time 2 but was .72 and .76 at Times 1 and 3, respectively. The Reasoning scale for other was .68 at both Time 1 and Time 2 but achieved .74 at Time 3.

Table 4

Psychometric Data on Instruments

	Cronbach's Alpha Coefficient					
Instruments	Time 1		Time 2		Time 3	
		n		n		n
Marital Satisfaction Scale	.96	111	.97	99	.97	82
Dyadic Adjustment Scale	.90	116	.93	96	.93	88
Self Dyadic Perspective-taking	.90	123	.93	101	.98	88
Other Dyadic Perspective-taking	.94	118	.90	99	94	87
Perceived Confirmation Scale	.62	125	.69	101	.81	91
Conflict Tactic Scale-Self	.72	121	.64	101	.76	99
Reasoning-Self	.85	121	.85	101	.87	99
Verbal Aggression-Self	.82	123	.90	102	.91	99
Violence Subscale-Self						
Conflict Tactic Scale-Other	.68	124	.68	102	.74	99
Reasoning-Other	.89	122	.86	101	.91	99
Verbal Aggression-Other	.82	121	.87	101	.85	99
Violence-Other						

Note: Sample for psychometrics are from PREP™ Project from which this study sample was drawn.

Marital Quality

Research questions dealing with marital quality will be discussed in this section. First the question, Is marital quality maintained as a result of PREP™ training and time interaction? will be addressed. Marital quality was assessed using two self report measures: MSS

scores as a measure of general marital satisfaction and DAS scores as a measurement of marital adjustment. On the ANCOVA, the two way interaction of treatment by time showed no significant effects on either the MSS ($F = .19$, $df = 40/1$, $p = .67$) or the DAS ($F = 1.93$, $df = 38/1$, $p = .17$) (see mean scores and ANCOVA summary tables for the MSS and DAS in Tables 5, 6, 7, and 8). Thus, significant changes in the scores on these measures of marital quality as a result of PREP™ training over time were not apparent at six weeks and six months post birth, suggesting that marital quality was maintained for both the intervention and comparison groups, showing no differential effect of treatment across time effect.

Scores were examined for trends. The pattern of change in the mean scores of the marital quality measures revealed a slight trend suggesting maintenance of marital quality for the intervention group when compared with the comparison group (see Tables 5 and 7). The comparison males' scores steadily declined, while the intervention males demonstrated an increase in their mean scores from pregnancy to six weeks post birth. Comparison males started with a higher mean MSS score (207.07) than intervention males (196.73). From pre-intervention measures during pregnancy to the six month post birth measurement, the comparison males dropped 9.27 points on their mean scores compared to a drop of only 4.91 points for intervention males. Mean scores on the MSS for women dropped more for the comparison females than for the intervention females for the same period of time. It can be noted that, while there was minimal decline in scores for females from pregnancy to six weeks post birth, there was a drop of 5.51 points for the

Table 5

Means of Total Scores on Marital Satisfaction Scale

Possible range: 48-240		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	196.73	201.80	191.82
	SD	24.42	25.94	28.16
Comparison (n = 18)	M	207.07	205.22	197.80
	SD	28.73	34.39	32.10
Females				
Intervention (n = 25)	M	206.65	206.06	200.55
	SD	26.12	29.19	24.95
Comparison (n = 18)	M	213.92	211.50	201.20
	SD	19.88	22.12	35.01

Table 6

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for Marital Satisfaction Scale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	10.11	39	.26		
treatment (Intervention/no intervention)	.59	1	.59	2.28	.139
Tests involving gender within-subjects effect					
Within cells	5.26	39	.13		
gender (male/female)	.00	1	.00	.04	.852
treatment by gender	.00	1	.00	.00	.946
Tests involving time within-subjects effect					
Within cells	2.71	40	.07		
time (6 weeks post birth/6 months post birth)	1.15	1	1.15	16.93	.000
treatment by time	.01	1	.01	.19	.665
Tests involving gender by time within-subjects effect					
Within cells	1.62	40	.04		
gender by time	.01	1	.01	.19	.668
treatment by gender by time	.08	1	.08	1.92	.173

Table 7

Means of Total Scores on Dyadic Adjustment Scale

Possible range: 0-151		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	110.706	112.589	110.61
	SD	11.553	11.85	13.11
Comparison (n = 18)	M	118.27	120.81	114.72
	SD	15.43	14.66	17.80
Females				
Intervention (n = 25)	M	115.80	116.84	115.37
	SD	12.14	16.17	12.89
Comparison (n = 18)	M	120.44	121.48	118.89
	SD	12.42	13.00	15.89

Table 8

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for Dyadic Adjustment Scale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	4694.88	37	126.89		
treatment (Intervention/no intervention)	19.81	1	19.81	.16	.695
Tests involving gender within-subjects effect					
Within cells	2816.01	37	76.11		
gender (male/female)	22.69	1	22.69	.30	.965
treatment by gender	.15	1	.15	.00	.965
Tests involving time within-subjects effect					
Within cells	1691.05	38	44.50		
time (6 weeks post birth/6 months post birth)	317.75	1	317.75	7.14	.011
treatment by time	86.10	1	86.10	1.93	.172
Tests involving gender by time within-subjects effect					
Within cells	609.08	38	16.03		
gender by time	22.98	1	22.98	1.43	.239
treatment by gender by time	8.69	1	8.69	.54	.466

intervention females and a somewhat greater drop (10.30) for the comparison females from six weeks post birth to six months post birth. Even though the ANCOVA on the MSS did not demonstrate significant time by treatment differences, there was a slight trend toward showing an intervention effect (maintenance of marital quality) on this measure of general marital satisfaction over time.

The comparison couples had significantly higher mean DAS scores at Time 1 as assessed by the t-test of group means between the intervention males and females and comparison males and females ($t = -3.10$, $df = 75$, p.003). The means of the intervention and comparison men's DAS demonstrated parallel increases in scores between pregnancy and six weeks post birth but a 6.09 point drop for comparison males while the intervention males modestly dropped only 2.17 points from their 6 weeks post birth to the six month measurement. The mean scores for both groups of women on the DAS demonstrated a parallel pattern between the groups, showing a very slight increase at six weeks and dropping to slightly below the pregnancy measures by six months. Again there was a slight trend for an intervention effect (maintenance of marital adjustment) over time for males while there was almost no difference in the pattern for females. Though all the means for comparison women started higher than the intervention women's mean scores, the two patterns were similar on this measure of marital adjustment. Graphed means scores for both the MSS and DAS are in Appendix L.

For the research question, Is there a three-way interaction difference between PREP™ training, gender, and time? the ANCOVA results on marital quality showed no

significant interaction among treatment, gender, and time on with the MSS ($F = 1.92$, $df = 40/1$, $p = .17$) and the DAS ($F = .54$, $df = 38/1$, $p = .47$). Addressing the research question, Is the pattern of change in marital quality the same for both males and females across time regardless of treatment (PREP™ training)? the findings were not significant for time with gender (MSS: $F = .19$, $df = 40/1$, $p = .67$; DAS: $F = 1.43$, $df = 38/1$, $p = .24$) (see Tables 6 and 8). Men's and women's patterns of marital quality were similar across time regardless of treatment.

In reviewing the data from the ANCOVA (Tables 6 and 8), it was noted that there was a significant main effect for time on both measures (MSS: $F = 16.93$, $df = 40/1$, $p = .000$; DAS: $F = 7.14$, $df = 38/1$, $p = .011$). Because there was a time effect, further analysis using a 2 by 2 ANOVA (treatment by time) was run separately on males and then females. The main effect of time was statistically significant on both the MSS ($F = 7.07$, $df = 82/2$, $p = .001$) and DAS ($F = 4.99$, $df = 80/2$, $p = .009$) for males. For females, the main effect of time on the MSS ($F = 5.82$, $df = 80/2$, $p = .004$) was significant; however, the DAS did not show a significant main effect for time ($F = .17$, $df = 78/2$, $p = .406$).

Marital Communication

The PREP™ intervention also included communication techniques constructed to maintain or enhance marital communication skills. The second research question asked, Is marital communication maintained as a result of PREP™ training and time interaction? In this dissertation study, the SDPT, ODPT, PCS and the CTS subscales (Self and Other Reasoning, Verbal Aggression, and Violence) were used as dependent variable measures

of marital communication. Higher scores on the SDPT, ODPT, and PCS scales would indicate better quality communication skills. The subscales of the CTS were used to measure the subject's perception of self and perception of the other's use of tactics to resolve conflict. The Self and Other CTS Reasoning subscales were scored such that higher scores reflected the subject's perception of self and partner's increased use of reasoning tactics to resolve conflict. The CTS Verbal Aggression and Violence subscales measured frequency of negative behaviors such that higher scores indicated increased use of negative tactics by self or one's spouse to resolve conflicts. Subjects reported the frequency of their own and their partner's verbal aggression and violent behaviors. On the Verbal Aggression and Violence subscales, lower scores indicated fewer negative behaviors. Enhanced communication skills would be reflected in higher reasoning subscale scores and lower verbal aggression and violence subscale scores across the three time periods. The mean scores on the marital communication measures are shown in Tables 9, 11, 13, 15, 17, 19, 21, 23, and 25. Graphed means are in Appendix L.

The research question regarding maintenance in marital communication as a result of PREP™ training and time interaction was addressed using repeated measures ANCOVA to examine the two-way interaction. There were no significant two-way interactions of treatment with time on the SDPT ($F = .95$, $df = 40/1$, $p = .335$) (see Table 10), ODPT ($F = .02$, $df = 40/1$, $p = .898$) (see Table 12), and the PCS ($F = 1.72$, $df = 39/1$, $p = .198$) (see Table 14). None of the two-way interactions of treatment and time were significant on the CTS subscales: Reasoning Self ($F = .03$, $df = 41/1$, $p = .862$) (see

Table 16), Verbal Aggression Self (F = .06, df = 41/1, p = .806) (see Table 18), Violence Self (F = .78, df = 41/1, p = .381) (see Table 20), Reasoning Other (F = .47, df = 41/1, p = .497) (see Table 22), Verbal Aggression Other (F = .12, df = 41/1, p = .652) (see Table 24), and Violence Other (F = 2.34, df = 39/1, p = .134) (see Table 26). Thus, there were non-significant differences in marital communication patterns as evidenced by these selected communication measures between the intervention and comparison groups across time.

Further analysis showed a significant treatment main effect for the CTS Reasoning Other subscale (F = 5.61; df = 40/1, p = .023) and a strong trend for the CTS Verbal Aggression Other Subscale (F = 3.98, df = 40/1, p = .053). Both males and females in the intervention group reported that their spouse used more reasoning behaviors at Times 2 and 3 than at the pre-intervention data collection point. Verbal Aggression decreased for both males and females in the intervention group at Time 2, but rose slightly at Time 3 for the males. Comparison females increased in verbal aggression scores at Time 2 while comparison males' scores remained unchanged. Both comparison male and female scores remained the same at Time 3 as at Time 2. There was no apparent differences in spouses' perception of marital communication as indexed by these measurement tools as a result of the interaction of PREP™ training and time with the exception of a significant treatment effect on the CTS Reasoning Other scale.

The third research question addressed was, Is there a three-way interaction difference between PREP™ training, gender, and time? In regard to the marital

Table 9

Means of Total Scores on Self-Dyadic Perspective Taking Scale

Possible range: 0-65		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	32.80	34.60	32.65
	SD	8.27	6.66	7.96
Comparison (n = 18)	M	34.06	34.94	34.33
	SD	7.26	8.80	8.54
Females				
Intervention (n = 25)	M	37.12	36.12	34.56
	SD	8.44	11.42	9.76
Comparison (n = 18)	M	36.50	36.28	35.61
	SD	8.27	8.41	7.00

Table 10

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for Self-Dyadic Perspective Taking Scale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	3895.08	39	99.87		
treatment (Intervention/no intervention)	20.31	1	20.31	.20	.654
Tests involving gender within-subjects effect					
Within cells	3431.87	39	88.00		
gender (male/female)	6.53	1	6.53	.07	.787
treatment by gender	7.68	1	7.68	.09	.769
Tests involving time within-subjects effect					
Within cells	601.01	40	15.03		
time (6 weeks post birth/6 months post birth)	62.07	1	62.07	4.13	.049
treatment by time	14.29	1	14.29	.95	.335
Tests involving gender by time within-subjects effect					
Within cells	806.65	40	20.17		
gender by time	.07	1	.07	.00	.952
treatment by gender by time	.01	1	.01	.00	.983

Table 11

Means of Total Scores on Other-Dyadic Perspective Taking Scale

Possible range: 0-80		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	48.16	50.86	47.98
	SD	12.25	10.82	13.35
Comparison (n = 18)	M	48.95	51.17	46.32
	SD	12.59	15.13	12.86
Females				
Intervention (n = 25)	M	54.60	58.79	54.12
	SD	16.78	16.32	14.32
Comparison (n = 18)	M	51.05	51.31	47.89
	SD	18.13	15.46	16.84

Table 12

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for Other-Dyadic Perspective Taking Scale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	5097.63	39	130.71		
treatment (Intervention/no intervention)	233.90	1	233.90	1.79	.189
Tests involving gender within-subjects effect					
Within cells	3128.93	39	80.23		
gender (male/female)	32.88	1	32.88	.41	.526
treatment by gender	86.09	1	86.09	1.07	.307
Tests involving time within-subjects effect					
Within cells	2341.62	40	58.54		
time (6 weeks post birth/6 months post birth)	652.52	1	652.52	11.15	.002
treatment by time	.97	1	.97	.02	.898
Tests involving gender by time within-subjects effect					
Within cells	1177.69	40	29.44		
gender by time	3.89	1	3.89	.13	.718
treatment by gender by time	42.75	1	42.75	1.45	.235

Table 13

Means of Total Scores on Perceived Confirmation Scale

Possible range: 4-20		Pregnancy	6 weeks post birth	6 months post birth
Male				
Intervention (n = 25)	M	18.92	18.58	18.12
	SD	1.14	2.34	2.49
Comparison (n = 18)	M	18.83	17.72	17.35
	SD	2.33	2.56	3.04
Female				
Intervention (n = 25)	M	18.48	17.96	18.68
	SD	1.94	2.15	1.95
Comparison (n = 18)	M	19.00	18.77	17.94
	SD	1.37	1.33	2.58

Table 14

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for Perceived Confirmation Scale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	234.27	38	6.16		
treatment (Intervention/no intervention)	12.89	1	12.89	2.09	.156
Tests involving gender within-subjects effect					
Within cells	112.11	38	2.95		
gender (male/female)	10.60	1	10.60	3.59	.066
treatment by gender	.59	1	.59	.20	.658
Tests involving time within-subjects effect					
Within cells	125.85	39	3.23		
time (6 weeks post birth/6 months post birth)	1.37	1	1.37	.43	.518
treatment by time	5.54	1	5.54	1.72	.198
Tests involving gender by time within-subjects effect					
Within cells	100.12	39	2.57		
gender by time	1.39	1	1.39	.54	.466
treatment by gender by time	4.44	1	4.44	1.73	.196

Table 15

Means of Total Scores on Conflict Tactics Reasoning Self Subscale

Possible range: 0-24		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	11.44	14.00	13.92
	SD	4.95	4.67	5.14
Comparison (n = 18)	M	12.89	12.44	12.50
	SD	4.40	4.33	4.74
Females				
Intervention (n = 25)	M	12.56	12.80	13.56
	SD	4.90	4.05	3.78
Comparison (n = 18)	M	10.667	12.17	12.44
	SD	4.86	4.49	4.83

Table 16

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Reasoning Self Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	626.31	40	15.66		
treatment (Intervention/no intervention)	45.20	1	45.20	2.89	.097
Tests involving gender within-subjects effect					
Within cells	714.45	40	17.86		
gender (male/female)	1.91	1	1.91	.11	.746
treatment by gender	46.32	1	46.32	2.59	.115
Within cells	423.86	41	10.34		
time (6 weeks post birth/6 months post birth)	2.69	1	2.69	.26	.613
treatment by time	.31	1	.31	.03	.862
Tests involving gender by time within-subjects effect					
Within cells	308.62	41	4.53		
gender by time	2.95	1	2.95	.39	.535
treatment by gender by time	1.00	1	1.00	.13	.718

Table 17

Means of Total Scores on Conflict Tactics Verbal Aggression Self Subscale

Possible range: 0-36		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	9.16	9.36	9.96
	SD	6.73	7.19	7.03
Comparison (n = 18)	M	9.00	7.17	7.94
	SD	5.22	5.21	5.16
Females				
Intervention (n = 25)	M SD	14.04	13.84	13.08
		9.89	9.63	10.86
Comparison (n = 18)	M SD	12.06	12.61	12.33
		5.01	8.25	8.15

Table 18

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Verbal Aggression Self Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	1808.04	40	45.20		
treatment (Intervention/no intervention)	15.26	1	15.26	.34	.565
Tests involving gender within-subjects effect					
Within cells	1645.55	40	41.14		
gender (male/female)	121.21	1	121.21	2.95	.094
treatment by gender	49.03	1	49.03	1.19	.282
Tests involving time within-subjects effect					
Within cells	762.96	41	18.61		
time (6 weeks post birth/6 months post birth)	.30	1	.30	.02	.899
treatment by time	1.14	1	1.14	.06	.806
Tests involving gender by time within-subjects effect					
Within cells	483.68	41	11.80		
gender by time	15.27	1	15.27	1.29	.262
treatment by gender by time	.24	1	.24	.02	.887

Table 19

Means of Total Scores on Conflict Tactics Violence Self Subscale

Possible range: 0-66		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	.48	.32	.64
	SD	1.48	1.25	1.71
Comparison (n = 18)	M	.89	.83	.67
	SD	1.81	2.07	1.75
Females				
Intervention (n = 25)	M	1.72	1.64	2.04
	SD	4.38	4.62	5.15
Comparison (n = 18)	M	1.11	2.33	2.61
	SD	2.72	8.04	7.78

Table 20

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Violence Self Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	639.39	40	15.98		
treatment (Intervention/no intervention)	14.38	1	14.38	.90	.349
Tests involving gender within-subjects effect					
Within cells	318.97	40	7.97		
gender (male/female)	14.02	1	14.02	1.76	.192
treatment by gender	29.40	1	29.40	3.69	.062
Tests involving time within-subjects effect					
Within cells	50.70	41	1.24		
time (6 weeks post birth/6 months post birth)	1.81	1	1.81	1.46	.234
treatment by time	.97	1	.97	.78	.381
Tests involving gender by time within-subjects effect					
Within cells	49.07	41	1.20		
gender by time	.72	1	.72	.60	.443
treatment by gender by time	.35	1	.35	.29	.593

Table 21

Means of Total Scores on Conflict Tactics Reasoning Other Subscale

		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	11.00	13.08	12.8
	SD	5.58	5.29	4.67
Comparison (n = 18)	M	12.94	10.94	11.5
	SD	3.78	3.78	5.39
Females				
Intervention (n = 25)	M	10.12	12.04	12.08
	SD	3.54	4.08	3.90
Comparison (n = 18)	M	10.39	12.89	10.67
	SD	4.18	5.06	4.41

Table 22

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Reasoning Other Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	887.53	40	22.19		
treatment (Intervention/no intervention)	124.57	1	124.57	5.61	.023
Tests involving gender within-subjects effect					
Within cells	575.92	40	14.40		
gender (male/female)	13.95	1	13.95	.97	.331
treatment by gender	48.78	1	48.78	3.39	.073
Tests involving time within-subjects effect					
Within cells	465.64	41	11.36		
time (6 weeks post birth/6 months post birth)	9.51	1	9.51	.84	.365
treatment by time	5.33	1	5.33	.47	.497
Tests involving gender by time within-subjects effect					
Within cells	389.14	41	9.49		
gender by time	15.80	1	15.80	1.67	.204
treatment by gender by time	25.11	1	25.11	2.65	.112

Table 23

Means of Total Scores on Conflict Tactics Verbal Aggression Other Subscale

		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	13.92	11.04	12.32
	SD	12.27	8.53	9.89
comparison (n = 18)	M	11.11	11.33	11.06
	SD	7.96	8.53	7.80
Females				
Intervention (n = 25)	M	10.40	8.92	8.60
	SD	9.35	8.25	9.08
Comparison (n = 18)	M	7.39	8.89	8.83
	SD	5.60	8.39	8.10

Table 24

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Verbal Aggression Other Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	1848.11	40	46.20		
treatment (Intervention/no intervention)	183.99	1	183.99	3.98	.053
Tests involving gender within-subjects effect					
Within cells	1157.93	40	28.95		
gender (male/female)	52.69	1	52.69	1.82	.185
treatment by gender	4.63	1	4.63	.16	.691
Tests involving time within-subjects effect					
Within cells	868.4	41	21.18		
time (6 weeks post birth/6 months post birth)	1.03	1	1.03	.05	.827
treatment by time	4.38	1	4.38	.12	.652
Tests involving gender by time within-subjects effect					
Within cells	373.28	41	9.10		
gender by time	4.97	1	4.97	.55	.464
treatment by gender by time	8.69	1	8.69	.95	.334

Table 25

Means of Total Scores on Conflict Tactic Violence Other Subscale

		Pregnancy	6 weeks post birth	6 months post birth
Males				
Intervention (n = 25)	M	1.78	.83	1.87
	SD	3.69	2.39	5.39
Comparison (n = 18)	M	2.28	3.39	2.22
	SD	5.17	7.36	4.70
Females				
Intervention (n = 25)	M	.65	.39	.61
	SD	1.15	1.08	1.67
Comparison (n = 18)	M	.28	1.33	1.44
	SD	.83	2.89	3.03

Table 26

2 X 2 X 2 Repeated Measures ANCOVA Summary Table for CTS Violence Other Subscale

Source	SS	df	MS	F	p
Test of Between-Subjects Effect					
Within cells	835.72	38	21.99		
treatment (Intervention/no intervention)	50.00	1	50.00	2.27	.140
Tests involving gender within-subjects effect					
Within cells	179.98	38	4.74		
gender (male/female)	1.01	1	1.01	.21	.647
treatment by gender	.01	1	.01	.00	.962
Tests involving time within-subjects effect					
Within cells	225.84	39	5.79		
time (6 weeks post birth/6 months post birth)	.11	1	.11	.02	.893
treatment by time	13.55	1	13.55	2.34	.134
Tests involving gender by time within-subjects effect					
Within cells	72.73	39	1.86		
gender by time	.52	1	.52	.28	.602
treatment by gender by time	11.17	1	11.17	5.99	.019

communication measures, the repeated measures ANCOVA found no significant three-way interaction effects on SDPT ($F = .00$, $df = 40/1$, $p = .983$), ODPT ($F = 1.45$, $df = 40/1$, $p = .235$) and PCS ($F = 1.73$, $df = 39/1$, $p = .196$). The following CTS subscales showed no significant three-way interaction effects: Reasoning Self ($F = .13$, $df = 41/1$, $p = .718$), Verbal Aggression Self ($F = .02$, $df = 41/1$, $p = .887$), Violence Self ($F = .29$, $df = 41/1$, $p = .593$), Reasoning Other ($F = 2.65$, $df = 41/1$, $p = .112$), and Verbal Aggression Other ($F = .95$, $df = 41/1$, $p = .334$). The analysis did demonstrate a significant three way interaction effect on scores for the CTS Violence Other subscale ($F = 5.99$, $df = 39/1$, $p = .019$). Thus, only the CTS Violence Other subscale was affected significantly by the three-way interaction of treatment, gender, and time.

The fourth research question asked, Is the pattern of change in marital communication the same for both males and females across time regardless of PREP™ training? There were no significant two-way interaction effects of gender and time on the SDPT ($F = .00$, $df = 40/1$, $p = .952$), ODPT ($F = .13$, $df = 40/1$, $p = .718$), and the PCS ($F = .54$, $df = 39/1$, $p = .466$). The gender with time interaction effects were not significant on any of the CTS subscales: Reasoning Self ($F = .39$, $df = 41/1$, $p = .535$), Verbal Aggression Self ($F = 1.29$, $df = 41/1$, $p = .262$), Violence Self ($F = .60$, $df = 41/1$, $p = .443$), Reasoning Other ($F = 1.67$, $df = 41/1$, $p = .204$), Verbal Aggression Other ($F = .55$, $df = 41/1$, $p = .464$), and Violence Other ($F = .28$, $df = 39/1$, $p = .602$). Thus, men and women, regardless of PREP™ intervention or no intervention, demonstrated the same

pattern of perceptions about their communication and conflict tactics across time as measured at six weeks and six months post birth.

Further Analysis

Further analysis of dependent variable scores was used to evaluate three aspects of scale performance for use in a further study. Because of potential conceptual overlap in the dependent variables used to measure both marital quality and communication quality, the first analysis involved Pearson's product moment correlations done among dependent variables. Correlations among the repeated measures of the dependent variables were also done to examine them for patterns of change indicating the performance of each instrument for construct validity as well as determine whether trends in the correlation would imply possible treatment effects, the second aspect of scale performance. Male and female measures were potentially interdependent because the male and female samples included marital couples reporting on the same relational interactions. Thus, Pearson's correlations were also carried out to estimate the relationship between the two genders in this sample, the third aspect. Of special interest were male and female reports of self and other on the perspective-taking and conflict tactic instruments.

Conceptual Overlap

There was concern that the communication variable measures may have conceptually overlapped with the marital quality measures. Time 1 Correlations between the marital quality measures and the communication variables (shown in Table 27) were used to identify any overlap. Marital satisfaction as measured by the MSS correlated

strongly with the ODPT for both males and females at Time 1, Time 2, and Time 3. The MSS and PCS correlated strongly at all three times for the intervention and comparison males, and the comparison females and at only Time 1 and Time 2 for intervention females. There were significant but moderate correlations between the MSS and SDPT for intervention females at all times and for correlation females at Time 1 only. The DAS significantly correlated moderately with the SDPT, ODPT, and PCS for 32 of the 36 correlations. Exceptions included intervention males between DAS and SDPT at Time 1 and for the comparison females at Time 3, and between the DAS and PCS at Time 2 for intervention males and at Time 3 for comparison females.

The CTS subscales negatively correlated with the MSS and DAS for the most part, even on the Reasoning subscales. Significant correlations occurred between the MSS and the CTS Verbal Aggression Self for intervention females and for comparison females at Time 1 only. Correlations between the MSS and the CTS Violence Self subscales correlated significantly only for intervention females. The DAS correlated significantly with the CTS Reasoning subscale for intervention males at Time 1, with the CTS Verbal Aggression subscale for intervention and comparison females only. A significant correlation between the DAS and the CTS Violence Self subscale was also noted at Time 3 for intervention females. In summary, the significant MSS and DAS correlations with the SDPT, ODPT and PCS were moderate with no correlations above $\underline{r} = .90$. The CTS subscales negatively correlated with the marital quality measures in the majority of instances.

Table 27:

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures

		SDPT			ODPT			PCS		
		r	n	p	r	n	p	r	n	p
Intervention Males										
MSS	Time 1	0.11	25	0.588	0.69	25	0.000	0.80	25	0.000
	Time 2	0.07	25	0.745	0.66	25	0.000	0.51	25	0.011
	Time 3	0.52	24	0.009	0.74	24	0.000	0.78	25	0.000
Intervention Females										
MSS	Time 1	0.42	25	0.037	0.88	25	0.000	0.55	25	0.005
	Time 2	0.87	25	0.000	0.86	25	0.000	0.68	25	0.000
	Time 3	0.73	24	0.000	0.74	24	0.000	0.28	24	0.186
Comparison Males										
MSS	Time 1	0.39	18	0.111	0.66	18	0.003	0.83	18	0.000
	Time 2	0.52	18	0.027	0.71	18	0.001	0.78	18	0.000
	Time 3	0.52	18	0.026	0.63	18	0.005	0.83	17	0.000
Comparison Females										
MSS	Time 1	0.54	18	0.021	0.81	18	0.000	0.82	18	0.000
	Time 2	0.30	18	0.229	0.78	18	0.000	0.65	18	0.003
	Time 3	0.00	18	0.992	0.69	18	0.001	0.47	18	0.048

MSS = Marital Satisfaction Scale; SDPT = Self Dyadic Perspective Taking Scale; ODPT = Other Dyadic Perspective Taking Scale; PCS = Perceived Confirmation Scale.

Table 27

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures (cont.)

		SDPT			ODPT			PCS		
		r	n	p	r	n	p	r	n	p
Intervention Males										
DAS	Time 1	0.38	25	0.062	0.66	25	0.000	0.65	25	0.000
	Time 2	0.32	25	0.124	0.56	25	0.004	0.18	24	0.403
	Time 3	0.65	24	0.001	0.60	24	0.002	0.57	25	0.003
Intervention Females										
DAS	Time 1	0.44	25	0.029	0.80	25	0.000	0.39	25	0.052
	Time 2	0.81	25	0.000	0.69	25	0.000	0.47	25	0.019
	Time 3	0.72	23	0.000	0.61	23	0.002	0.49	23	0.019
Comparison Males										
DAS	Time 1	0.48	18	0.043	0.64	18	0.005	0.73	18	0.001
	Time 2	0.64	17	0.006	0.66	17	0.004	0.65	17	0.005
	Time 3	0.53	18	0.024	0.64	18	0.004	0.76	17	0.000
Comparison Females										
DAS	Time 1	0.57	18	0.014	0.77	18	0.000	0.58	18	0.011
	Time 2	0.52	18	0.028	0.77	18	0.000	0.65	18	0.004
	Time 3	-0.08	18	0.742	0.74	18	0.000	0.38	18	0.116

DAS = Dyadic Adjustment Scale; SDPT = Self Dyadic Perspective Taking Scale; ODPT = Other Dyadic Perspective Taking Scale; PCS = Perceived Confirmation Scale.

Table 27

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures (cont.)

		CTSRS			CTSVAS			CTSVIS		
		r	n	p	r	n	p	r	n	p
Intervention Males										
MSS	Time 1	-0.35	25	0.088	-0.14	25	0.518	0.01	25	0.955
	Time 2	-0.48	25	0.016	-0.28	25	0.173	-0.12	25	0.572
	Time 3	-0.60	25	0.002	-0.35	25	0.090	-0.04	25	0.840
Intervention Females										
MSS	Time 1	-0.08	25	0.705	-0.47	25	0.016	-0.41	25	0.043
	Time 2	-0.10	25	0.634	-0.55	25	0.004	-0.41	25	0.040
	Time 3	-0.18	24	0.407	-0.69	24	0.000	-0.49	24	0.015
Comparison Males										
MSS	Time 1	0.02	18	0.937	-0.40	18	0.100	-0.41	18	0.090
	Time 2	0.14	18	0.570	-0.39	18	0.111	-0.08	18	0.743
	Time 3	0.01	18	0.974	-0.23	18	0.368	-0.05	18	0.836
Comparison Females										
MSS	Time 1	0.00	18	0.987	-0.58	18	0.011	0.22	18	0.373
	Time 2	-0.30	18	0.229	-0.31	18	0.214	0.17	18	0.511
	Time 3	-0.14	18	0.585	-0.29	18	0.237	0.04	18	0.888

MSS = Martial Satisfaction Scale; CTSRS = Conflict Tactic Scale Reasoning Self; CTSVAS = CTS Verbal Aggression Self; CTSVIS = CTS Violence Self.

Table 27

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures (cont.)

		CTSRS			CTSVAS			CTSVIS		
		r	n	p	r	n	p	r	n	p
Intervention Males										
DAS	Time 1	-0.52	25	0.008	-0.33	25	0.109	-0.01	25	0.973
	Time 2	-0.34	25	0.092	-0.24	25	0.251	-0.03	25	0.903
	Time 3	-0.55	25	0.005	-0.38	25	0.062	0.01	25	0.963
Intervention Females										
DAS	Time 1	-0.23	25	0.273	-0.53	25	0.007	-0.32	25	0.120
	Time 2	-0.07	25	0.752	-0.52	25	0.008	-0.31	25	0.133
	Time 3	-0.33	23	0.129	-0.65	23	0.001	-0.49	23	0.017
Comparison Males										
DAS	Time 1	0.11	18	0.652	-0.44	18	0.065	-0.42	18	0.079
	Time 2	0.22	17	0.396	-0.26	17	0.321	0.07	17	0.783
	Time 3	0.20	18	0.432	-0.21	18	0.413	-0.16	18	0.536
Comparison Females										
DAS	Time 1	-0.30	18	0.231	-0.70	18	0.001	-0.09	18	0.717
	Time 2	-0.48	18	0.044	-0.42	18	0.080	-0.07	18	0.776
	Time 3	0.09	18	0.710	-0.54	18	0.022	-0.38	18	0.118

DAS = Dyadic Adjustment Scale; CTSRS = Conflict Tactic Scale Reasoning Self; CTSVAS = CTS Verbal Aggression Self; CTSVIS = CTS Violence Self.

Table 27

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures (cont.)

		CTSRO			CTSVAO			CTSVIO		
		r	n	p	r	n	p	r	n	p
Intervention Males										
MSS	Time 1	-0.15	25	0.488	-0.42	25	0.038	-0.23	25	0.268
	Time 2	-0.43	25	0.032	-0.44	25	0.028	-0.57	25	0.003
	Time 3	-0.44	25	0.030	-0.59	25	0.002	-0.49	25	0.012
Intervention Females										
MSS	Time 1	0.02	25	0.907	-0.43	25	0.034	-0.04	24	0.858
	Time 2	-0.15	25	0.467	-0.51	25	0.009	0.01	25	0.971
	Time 3	0.06	24	0.793	-0.70	24	0.000	-0.40	23	0.060
Comparison Males										
MSS	Time 1	-0.13	18	0.603	-0.55	18	0.018	-0.61	18	0.008
	Time 2	0.24	18	0.340	-0.36	18	0.139	-0.36	18	0.143
	Time 3	-0.06	18	0.817	-0.59	18	0.010	-0.42	18	0.079
Comparison Females										
MSS	Time 1	0.17	18	0.503	-0.37	18	0.130	-0.23	18	0.351
	Time 2	0.20	18	0.424	-0.55	18	0.019	-0.28	18	0.253
	Time 3	-0.19	18	0.445	-0.61	18	0.007	-0.30	18	0.220

MSS = Marital Satisfaction Scale; CTSRO = Conflict Tactics Scale Reasoning Other; CTSVAO = CTS Verbal Aggression Other; CTSVIO = CTS Violence Other.

Table 27

Pearson's Correlations between Marital Quality Measures and Marital Communications Measures (cont.)

		CTSRO			CTSVAO			CTSVIO		
		r	n	p	r	n	p	r	n	p
Intervention Males										
DAS	Time 1	-0.40	25	0.045	-0.48	25	0.014	-0.35	25	0.091
	Time 2	-0.44	25	0.027	-0.35	25	0.085	-0.49	25	0.014
	Time 3	-0.47	25	0.019	-0.60	25	0.002	-0.61	25	0.001
Intervention Females										
DAS	Time 1	-0.12	25	0.005	-0.54	25	0.005	-0.14	24	0.520
	Time 2	-0.17	25	0.412	-0.52	25	0.007	-0.08	25	0.703
	Time 3	-0.14	23	0.529	-0.72	23	0.000	-0.51	22	0.014
Comparison Males										
DAS	Time 1	-0.11	18	0.675	-0.48	18	0.045	-0.49	18	0.040
	Time 2	0.15	17	0.563	-0.30	17	0.243	-0.20	17	0.440
	Time 3	0.09	18	0.732	-0.59	18	0.010	-0.49	18	0.037
Comparison Females										
DAS	Time 1	-0.11	18	0.666	-0.61	18	0.007	-0.52	18	0.026
	Time 2	-0.08	18	0.757	-0.54	18	0.020	-0.26	18	0.290
	Time 3	0.31	18	0.215	-0.77	18	0.000	-0.65	18	0.004

DAS = Dyadic Adjustment Scale; CTSRO = Conflict Tactics Scale Reasoning Other; CTSVAO = CTS Verbal Aggression Other; CTSVIO = CTS Violence Other.

Construct validity

Additional analyses were carried out to evaluate construct validity for each of the measurement tools by examining the Pearson's product moment correlations to determine the stability or change in size of the correlation coefficients over time. For each dependent variable score, the patterns of three correlations (between Time 1 and Time 2, Time 1 and Time 3, and Time 2 and Time 3) were examined for both the intervention and the comparison groups. These correlations are listed in Table 27. Examination of these correlations was guided by four assumptions. The scores of each subject on a given variable should correlate highly across time if there is no reason to change. Conversely, the theoretical framework suggested that the independent variable should affect the dependent variables. The research design suggested that the effect of the independent variable would be seen as a disruption in the stability of the correlations across Time 1 to Time 2 and Time 1 to Time 3 for intervention subjects. There was little theoretical reason to expect that the stability of the Time 2 and Time 3 correlation would be affected much for either group unless the intervention group tended to regress toward their previous Time 1 score. However, the treatment-by-time effect is unknown.

Because the PREP™ intervention administered after the Time 1 measurement was implemented to maintain marital quality and marital communication, the scores of the intervention subjects should not correlate as highly as the scores of the comparison group. To test whether the across-time correlations of the intervention group are significantly different from the across-time correlations of the comparison group, the Fisher's z_r

transformation (Ferguson & Takane, 1989) was done on correlation coefficients matched by group, gender and time interval for each instrument (see Table 28). The Fisher's z_r formula creates a unit-normal-curve deviate that indicates whether there is a significant difference between two correlation coefficients that are independent of each other, such as those obtained from the intervention and the comparison groups. The Fisher's z_r tested for significant differences between these two groups for the following sets of correlations: Time 1 with Time 2, Time 1 with Time 3, and Time 2 with Time 3 for all dependent variables. Values of 1.96 and 2.58 are required for significance at $p = .05$ and .01 levels.

Statistically significant differences were demonstrated in only 13 of the 66 Fisher's z_r calculated in this analysis (see Table 28). Of these scores five were in the direction theoretically expected and eight were not. One of the five theoretically predicted scores, the women's scores on the SDPT between Time 1 and Time 3, correlated more highly in the comparison group ($r = .81$, $z_r = 1.127$) than in the intervention group ($r = .34$, $z_r = .354$) with a z_r score of -2.3 ($p > .05$). This indicated that there was a greater shift in scores between Time 1 and Time 3 for the intervention group possibly implying a treatment effect by the PREP™ intervention. All remaining significant differences were found in the CTS subscales. Four of these twelve significant differences were in the direction theoretically expected if PREP™ had effected changes in scores between the time points. These four CTS subscales were the women's Reasoning Self scores at Times 1 to 3 ($z_r = -2.658$, $p > .01$), men's Violence Self at Times 2 to 3 ($z_r = -2.416$, $p > .05$),

women's Violence Self scores at Times 2 to 3 (z_r = -2.688, p > .01), and women's Violence Other scores at Times 2 to 3 (z_r = -2.949, p > .01). The eight significant CTS subscales that did not perform as theoretically predicted were women's Verbal Aggression Self scores on all three correlations, men's Violence Self scores at Times 1 to 3, men's Verbal Aggression Other scores at Times 1 to 2 and Times 1 to 3, men's Violence Other scores at Times 2 to 3, and women's Violence Other at Times 1 to 2.

Patterns within Scales

Determination of patterns within the performance of the scales used in this dissertation study held relevance to the usefulness of the instruments in the continuing PREP™ Project. Instruments which demonstrated statistically significant patterns in theoretically anticipated directions as well as those that showed trends in the expected directions would merit consideration for continued use in the study.

While there were no significant correlations in the marital satisfaction measures across time, one unexpected pattern was that, while all the correlations calculated from men's scores were in the direction predicted for both marital quality measures, all women's scores on these measures were not. The SDPT and ODPT performed as theoretically expected with the exception of female scores between Times 2 and 3 on both scales. The PCS performed more often in the direction expected for males. Even though these findings were not significant, the patterns demonstrated trends that merit further analyses.

Table 28

Fisher z_r Scores for Dependent Variable Measures for Intervention and Comparison Couples Between Times 1 and 2, Times 1 and 3, and Times 2 and 3.

Formula: Fisher's $z_r=(z_r1-z_r2)/\text{square root of } [(1/(N1-3)+1/(N2-3)]$.
*Value of + or -1.96 is required for significance at the 0.05 level.
**Value of + or - 2.58 is required for significance at the 0.01 level.

	Intervention			Comparison				
	r	Z_r	N	r	Z_r	N	z	direction expected
Male Total Mean Scores for Marital Satisfaction Scale								
MSS Time 1/2	0.75	0.962	25	.85	1.238	18	-0.824	YES
MSS Time 1/3	0.83	1.172	25	.88	1.376	18	-0.609	YES
MSS Time 2/3	0.87	1.333	25	.92	1.589	18	-0.765	YES
Female Total Mean Scores for Marital Satisfaction Scale								
MSS Time 1/2	0.86	1.293	25	.76	0.996	18	0.887	NO
MSS Time 1/3	0.79	1.058	24	.70	0.867	18	0.565	NO
MSS Time 2/3	0.86	1.274	24	.85	1.256	18	0.053	NO
Male Total Mean Scores for Dyadic Adjustment Scale								
DAS Time 1/2	0.72	0.908	25	.84	1.221	17	-0.916	YES
DAS Time 1/3	0.80	0.865	25	.91	1.499	18	-1.893	YES
DAS Time 2/3	0.87	1.333	25	.89	1.422	17	-0.260	YES
Female Total Mean Scores for Dyadic Adjustment Scale								
DAS Time 1/2	0.84	1.221	25	.78	1.058	18	0.487	NO
DAS Time 1/3	0.80	1.099	23	.80	1.099	18	0.000	NO
DAS Time 2/3	0.89	1.447	23	.83	1.204	18	0.711	NO

Table 28

Fisher z_r Scores for Dependent Variable Measures for Intervention and Comparison Couples Between Times 1 and 2, Times 1 and 3, and Times 2 and 3. (cont.)

	Intervention			Comparison				
	r	Z_r	N	r	Z_r	N	z	direction expected
Male Total Mean Scores for Self Dyadic Perspective Taking Scale								
SDPT Time 1/2	0.66	0.793	25	.67	0.811	18	-0.054	YES
SDPT Time 1/3	0.41	0.442	24	.69	0.858	18	-1.231	YES
SDPT Time 2/3	0.73	0.918	24	.76	0.996	18	-0.231	YES
Female Total Mean Scores for Self Dyadic Perspective Taking Scale								
SDPT Time 1/2	0.46	0.497	25	.67	0.811	18	-0.938	YES
SDPT Time 1/3	0.34	0.354	25	.81	1.127	18	-2.309 *	YES
SDPT Time 2/3	0.86	1.293	25	.65	0.784	18	1.520	NO
Male Total Mean Scores for Other Dyadic Perspective Taking Scale								
ODPT Time 1/2	0.74	0.95	25	.90	1.499	18	-1.640	YES
ODPT Time 1/3	0.71	0.877	24	.74	0.962	18	-0.251	YES
ODPT Time 2/3	0.72	0.903	24	.80	1.099	18	-0.580	YES
Female Total Mean Scores for Other Dyadic Perspective Taking Scale								
ODPT Time 1/2	0.79	1.071	25	.85	1.256	18	-0.552	YES
ODPT Time 1/3	0.77	1.02	25	.87	1.313	18	-0.875	YES
ODPT Time 2/3	0.83	1.188	25	.81	1.113	18	0.224	NO
Male Total Mean Scores for Perceived Confirmation Scale								
PCS Time 1/2	0.50	0.556	24	.79	1.071	18	-1.523	YES
PCS Time 1/3	0.57	0.648	25	.72	0.908	17	-0.760	YES
PCS Time 2/3	0.63	0.75	24	.54	0.604	17	0.423	NO

Table 28

Fisher z_r Scores for Dependent Variable Measures for Intervention and Comparison Couples Between Times 1 and 2, Times 1 and 3, and Times 2 and 3. (cont.)

	Intervention			Comparison				
	r	Z_r	N	r	Z_r	N	z	direction expected
Female Total Mean Scores for Perceived Confirmation Scale								
PCS Time 1/2	0.49	0.543	25	.63	0.733	18	-0.567	YES
PCS Time 1/3	0.64	0.75	25	.30	0.31	18	1.314	NO
PCS Time 2/3	0.40	0.43	25	.25	0.277	18	0.457	NO
Male Mean Scores on Conflict Tactics Reasoning Self Subscale								
CTSRS Time 1/2	0.58	0.662	25	.79	1.058	18	-1.183	YES
CTSRS Time 1/3	0.68	0.829	25	.66	0.793	18	0.108	NO
CTSRS Time 2/3	0.65	0.775	25	.52	0.583	18	0.573	NO
Female Mean Scores on Conflict Tactics Reasoning Self Subscale								
CTSRS Time 1/2	0.60	0.693	25	.56	0.64	18	0.158	NO
CTSRS Time 1/3	0.27	0.282	25	.82	1.172	18	-2.658 **	YES
CTSRS Time 2/3	0.60	0.735	25	.43	0.454	18	0.839	NO
Male Mean Scores on Conflict Tactics Verbal Aggression Self Subscale								
CTSVAS Time 1/2	0.78	1.058	25	.59	0.678	18	1.135	NO
CTSVAS Time 1/3	0.76	0.996	25	.59	0.685	18	0.929	NO
CTSVAS Time 2/3	0.76	1.008	25	.54	0.611	18	1.186	NO
Female Mean Scores on Conflict Tactics Verbal Aggression Self Subscale								
CTSVAS Time 1/2	0.86	1.293	25	.40	0.424	18	2.595 **	NO
CTSVAS Time 1/3	0.85	1.256	25	.53	0.59	18	1.989 *	NO
CTSVAS Time 2/3	0.89	1.398	25	.61	0.701	18	2.082 *	NO

Table 28

Fisher z_r Scores for Dependent Variable Measures for Intervention and Comparison Couples between Times 1 and 2, Times 1 and 3, and Times 2 and 3. (cont.)

	Intervention			Comparison				
	r	Z_r	N	r	Z_r	N	z	direction expected
Male Mean Scores on Conflict Tactics Violence Self Subscale								
CTSVIS Time 1/2	0.86	1.313	25	.62	0.733	18	1.732	NO
CTSVIS Time 1/3	0.90	1.472	25	.62	0.725	18	2.231 *	NO
CTSVIS Time 2/3	0.88	1.376	25	.98	2.185	18	-2.416 *	YES
Female Mean Scores on Conflict Tactics Violence Self Subscale								
CTSVIS Time 1/2	0.96	2.014	25	.96	1.946	18	0.203	YES
CTSVIS Time 1/3	0.94	1.697	25	.96	1.946	18	-0.744	YES
CTSVIS Time 2/3	0.89	1.398	25	.98	2.298	18	-2.688 **	YES
Male Mean Scores on Conflict Tactics Reasoning Other Subscale								
CTSRO Time 1/2	0.71	0.877	25	.69	0.848	18	0.087	NO
CTSRO Time 1/3	0.61	0.701	25	.72	0.903	18	-0.603	YES
CTSRO Time 2/3	0.53	0.59	25	.64	0.758	18	-0.502	YES
Female Mean Scores on Conflict Tactics Reasoning Other Subscale								
CTSRO Time 1/2	0.35	0.36	25	.45	0.485	18	-0.373	YES
CTSRO Time 1/3	0.36	0.371	25	.57	0.648	18	-0.827	YES
CTSRO Time 2/3	0.29	0.293	25	.61	0.701	18	-1.218	YES

Table 28

Fisher z_r Scores for Dependent Variable measures for intervention and comparison couples between Times 1 and 2, Times 1 and 3, and Times 2 and 3. (cont.)

	Intervention			Comparison				
	r	Z_r	N	r	Z_r	N	z	direction expected
Male Mean Scores on Conflict Tactics Verbal Aggression Other Subscale								
CTSVAO Time 1/2	0.85	1.256	25	.47	0.504	18	2.246 *	NO
CTSVAO Time 1/3	0.83	1.204	25	.76	0.497	18	2.111	NO
CTSVAO Time 2/3	0.79	1.058	25	.59	0.67	18	1.159	NO
Female Mean Scores on Conflict Tactics Verbal Aggression Other Subscale								
CTSVAO Time 1/2	0.83	1.188	25	.78	1.045	18	0.427	NO
CTSVAO Time 1/3	0.89	1.422	25	.86	1.274	18	0.442	NO
CTSVAO Time 2/3	0.90	1.472	25	.88	1.354	18	0.352	NO
Male Mean Scores on Conflict Tactics Violence Other Subscale								
CTSVIO Time 1/2	0.70	0.877	25	.84	1.204	18	-0.977	YES
CTSVIO Time 1/3	0.62	0.725	25	.76	1.008	18	-0.845	YES
CTSVIO Time 2/3	0.98	2.298	25	.89	1.447	18	2.541 *	NO
Female Mean Scores on Conflict Tactics Violence Other Subscale								
CTSVIO Time 1/2	0.88	1.376	24	.08	0.08	18	3.834 **	NO
CTSVIO Time 1/3	0.26	0.261	23	.16	0.161	18	0.293	NO
CTSVIO Time 2/3	0.27	0.277	24	.85	1.274	18	-2.949 **	YES

The CTS Reasoning Self subscale did not respond as expected when testing four of the six Fisher's z_r transformations, with the exceptions of men's CTS Reasoning Self correlations at Times 1 to 2, and the women's CTS Reasoning Self scores between Time 1 and Time 3, the latter differing significantly between the intervention and comparison groups ($z_r = 2.658$, $p > .01$). The CTS Reasoning Other correlations changed in the direction expected in five of the six correlation coefficients with only the men's CTS Reasoning Other correlations differing at Times 1 to 2, though none of the six differed significantly between the intervention and comparison groups. The CTS Verbal Aggression Self and Other subscales for both men and women did not respond in the direction predicted for any of the time intervals. The women's Verbal Aggression Self correlations were significantly different between the intervention and comparison groups at all three time intervals (T1-T2: $z_r = 2.595$, $p > .01$; T1-T3: $z_r = 1.989$, $p > .05$; T2-T3: $z_r = 2.082$, $p > .05$). The men's Verbal Aggression Other correlations were significantly different from Time 1 to Time 2 ($z_r = 2.246$, $p > .05$) and Time 1 to Time 3 ($z_r = 2.111$, $p > .05$). The CTS Violence Self subscale scores differed as expected at four of the time intervals, with the exceptions of men's scores at Times 1 to 2 and Times 1 to 3. There were significant differences occurring for men's correlations at Time 1 to Time 3 ($z_r = 2.231$, $p > .05$) not in the predicted direction and at Time 2 to Time 3 ($z_r = 2.416$, $p > .05$) and for women's at Time 2 to Time 3 ($z_r = 2.688$, $p > .01$) in the predicted direction. The Time 2 to 3 correlations were not anticipated in that less shift was expected in these correlations since the greatest change in the intervention group was

expected in the first two time intervals. The CTS Violence Other subscale scores differed as expected on three out of the six correlations using Fisher's z_r transformation. The women's Violence Other correlations significantly differed at Time 1 to Time 2 (z_r = 3.834, $p > .01$) not as expected and at Time 2 to time 3 ($z_r = 2.949$, $p > .01$) as expected. The men's Violence Other Time 2 to Time 3 ($z_r = 2.541$, $p > .05$) was significant but not as predicted.

Time 1 to Time 2 and Time 1 to Time 3 correlations tested by Fisher's z_r transformation should have differed between the intervention and comparison groups if there had been a treatment effect. Time 2 to Time 3 was predicted not to differ, or to differ less than the other correlations across time. What was found was a mixed pattern in which both the MSS and DAS responded as predicted for males but not for females. The SDPT and ODPT scales for both men and women performed as predicted for Times 1 to 2 and Times 1 to 3. The PCS also responded as predicted for Times 1 to 2 and Times 1 to 3 with the exception of the women's correlations for Times 1 to 3.

The CTS subscales' performance varied, fourteen as theoretically expected and 22 not as predicted. While the Reasoning Other correlations were in the direction expected, the Reasoning Self correlations were as expected for men at Time 1 to Time 2, and significant for women at only Time 1 to Time 3. The Verbal Aggression Self and Other correlations for both men and women did not respond in the pattern predicted. The Violence Self scores correlated as predicted only for women, not for men. The Violence

Other scores which reported on the spouses behaviors correlated in a reverse pattern for men and women; correlating in the predicted direction for men but not for women.

Summary

In summary, the data were analyzed primarily using repeated measures ANCOVA with the Time 1 pre-intervention values as covariate to answer the four research questions. In answering the research questions regarding the impact of the PREP™ intervention on couples over the transition to parenthood as compared with couples who also experienced the transition to parenthood but had no PREP™ exposure, there were only two measures which demonstrated significant treatment effect, the CTS Reasoning Other and the CTS Verbal Aggression Other. While, there were no significant effects of treatment over time on any of the measures, there was evidence of changes in marital quality as an effect of the passage of time in the transition to parenthood period.

Further analysis of the correlations between the measurement tools within treatment groups and on the repeated measures across time were done to examine the performance of the measurement instruments. These analyses indicated a gender difference in the predicted performance of the MSS and DAS, with the instruments performing as expected for men but not for women. For the most part, the SDPT, ODPT, and PCS performed in the theoretically predicted patterns. The CTS subscales had a varied pattern of performance. Discussion and interpretations of these findings will be presented in the next chapter.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

This discussion begins with a brief review of the sample characteristics in relation to other studies of the couple relationship over the transition to parenthood. The major part of the discussion focuses on the findings as related to research questions about the impact of the PREP™ intervention on the couple's perceptions of marital quality and marital communication processes. Issues related to the validity of the findings are discussed. Implications for theory, practice and research conclude this section.

Discussion of Results

Sample Characteristics

The subjects who participated in this study were predominately Caucasian, middle income, and well educated. This sample is similar to those in other studies of the impact of the transition to parenthood on the marital relationship (Belsky, 1983, 1985; Cowan, 1987) in that it consisted of predominately Caucasian, educated, middle-class males and females.

This sample was also similar to that used in the original PREP™ intervention study by Markman et al. (1987) in that the subjects were also predominately white and middle-class. However, since their subjects began the study at the time they were planning marriage, they were younger (average age for males was 24.1 years, for females 23.2 years) and had known each other for fewer years (average 2 1/2 years) than the subjects in this dissertation study. The subjects in this study were on the average slightly over thirty years and had been in their current relationships for 4.7 (comparison couples) to six years

(intervention couples). While the investigators in the Markman study indicated that 85 % of the couples indicated they were planning to have children, no data were provided to indicate how many couples did so within the three years following the PREP™ intervention. Additionally, the dissertation study involved couples who were in transition to parenthood at the time of the PREP™ intervention. These differences limit the ability to contrast findings between the studies.

The intervention and comparison groups were considered adequately similar for the purposes of this study. Because the subjects were not randomly assigned to intervention and control groups, t-test comparisons were computed. There were a few differences between the two treatment groups on demographic variables. Intervention women were significantly higher in level of education than comparison women. This was not considered a serious difference because the majority of women had completed at least some college education, though the levels attained by the intervention women were higher. A significant difference existed in number of weeks pregnant. The mean weeks pregnant were 16 weeks for intervention couples and 27 weeks for comparison couples. Comparison couples also reported having had significantly more previous couple therapy. There are potentially confounding factors related to this characteristic in that these couples either had a history of distressed couple relationships or they may have learned better communication skills as part of their particular therapy.

The remaining demographics of the intervention and comparison groups were not significantly different. A second set of t-tests was run to assess for differences between

comparison subjects from the two sites, Seattle and Maryland. No differences existed between the Seattle and Maryland males and females on any of the demographic variables.

Since there were significant Time 1 differences between treatment groups on both marital quality scales, the decision was made to analyze data using Time 1 scores as covariates in the ANCOVA to account for initial differences between the groups. Initial mean scores were higher for the comparison group than for the intervention group on the MSS and the DAS.

Research Questions

The first research question, Is marital quality maintained as a result of treatment (PREP™ training) and time interaction? pertained to the impact of PREP™ across time on marital quality as measured by the MSS and the DAS. The repeated measures ANCOVA showed no significant difference on the MSS and the DAS between the intervention and the comparison groups as a treatment by time effect. Findings in this study are not directly comparable to the longitudinal evaluative research on the PREP™ intervention (Markman, Floyd, Stanley, & Storaasli, 1988) for several reasons. The original study used a sample of couples earlier in their engagement or marriage than the couples who volunteered for this study. The time points for data collection for the original study were at pre-intervention (Time 1), post-intervention (Time 2) 8 to 10 weeks after the pre-intervention assessment, 1 1/2 years (Time 3) after postassessment, 3 years(Time 4), 4 years (Time 5), and 5 years (Time 6) after postassessment. Couples in this dissertation study were assessed during pregnancy (Time 1, prior to intervention for the treatment group) with follow-up

measurements at six weeks (Time 2) and six months (Time 3) post birth. Since intervention couples completed the Time 1 booklets between 7 weeks and 37 weeks gestation, the length of time between attending PREP™ and completing Time 2 booklets ranged from 10 weeks to almost 1 year and Time 3 booklets from approximately 8 months to 1 1/2 years after attending the PREP™ workshops. While findings in the original evaluative research on the PREP™ intervention indicated a significant group main effect for martial satisfaction at one year and an even stronger group main effect two years following the intervention (Markman, Floyd, Stanley, & Storaasli, 1988), this dissertation study did not find significant results during the shorter time frame. It is possible that a longer period of time is required before the effects of learning communication and problem solving skills are evident in measures of marital quality. Cowan and Cowan (1987) found that participation in a couple's group may actually contribute to dissatisfaction and distress initially with measurable positive effects appearing more than one year after the groups ended. Since the PREP™ Project will follow subjects through a fourth measurement at one year post birth and a fifth measurement at 2 years post birth, the findings may yet demonstrate a significant intervention effect by that time.

The original longitudinal evaluative study by Markman et al., (1988) used the Marital Adjustment Test (LWMAT) (Locke & Wallace, 1959) which has been correlated closely with Spanier's DAS (Spanier, 1976). However there is no published evidence of the LWMAT's correlation with the MSS. Thus, there may be some differences in these scales which do not support close comparison of the study results. Also, as will be

discussed later, it is possible that the experience of transition to parenthood has obscured any significant effect of PREP™ within the measurement periods of the dissertation study.

The second research question, Is marital communication maintained as a result of PREP™ training and time interaction? pertained to the impact of PREP™ on marital communications as measured by the SDPT and ODPT respectively for self and other perspective-taking; the PCS for perception of confirmation by one's spouse; and CTS subscales for determining how subjects perceived the behaviors of self and spouse in resolving conflict. There were no significant treatment by time effects determined by ANCOVA on any of the dependent variables. Although it was not a research question in this study, there was a significant treatment main effect on the CTS Reasoning Other subscale indicating that, across gender and Times 2 and 3, there were differences between the intervention and the comparison groups. These differences denote that the intervention subjects reported increased use of reasoning behaviors by their spouses when compared with the comparison subjects. The CTS Verbal Aggression Other subscale showed a strong trend indicating perception of decreased use of verbally aggressive behaviors by both male and female spouses to resolve conflict in the intervention group. In contrast, while comparison males reported no change in verbal aggression in their spouses, comparison females reported increased use of verbal aggression by their spouses.

Because the marital communication measures used in this study are not similar to those used in previous PREP™ intervention studies, it is not possible to directly compare findings regarding marital communication. While Markman et al. (1988) found that the intervention couples improved their use of positive communication skills (as rated by

outside observers on the Communication Skill Test), they could only speculate that the skill improvement was what led to a longer-term preventive benefit. This speculation was consistent with behavioral marital theory which claims a moderate relationship between the evaluations of communication skills and marital quality. Lack of treatment effect may also be related to dependent variable measures that were not sensitive to the kind of change effected by PREP™. For instance, the dyadic perspective-taking characteristics may be a trait more than a state amenable to change through intervention, at least within the months covered by data collection within this study. Long (1990) speculated, after preliminary studies of dyadic perspective-taking, that the identification of specific perspective-taking behaviors in future studies could lead to the development of intervention strategies to improve marital interaction.

To answer the third research question, Is there a three-way interaction difference between PREP training, gender, and time? which examined the three way interaction between PREP™ training, gender, and time, ANCOVA findings were significant for only the CTS Violence Other. The graphed means show a slight decrease in CTS Violence Other mean scores for both intervention males and females at Time 2 while there were increases in both male and female mean scores in the comparison group. However, the CTS Violence subscales exhibited a floor effect in that the majority of subjects reported no violent behaviors in self or other at any of the time points creating very slight variability in scores within groups. This score distribution violates assumptions of ANCOVA raising some question about the validity of these findings. Markman et al. (1993) found that there was a reduced tendency to resort to physical violence in the intervention group at five

years after the PREP™ intervention. These researchers saw physical violence partly as a result of a couple's failure to handle conflict constructively. Their data supported this hypothesis in that intervention couples demonstrated greater positive and fewer negative communication and conflict management behaviors, which may lead to reduced risk of resorting to physical violence. The preventive potential of PREP™ in reducing physical violence is significant.

The fourth research question, Is the pattern of change in marital quality and marital communication the same for both males and females across time regardless of treatment (PREP™ training)? sought any differences in the pattern of change in marital quality and marital communication between males and females across time regardless of treatment (PREP™ training). None of the ANCOVA findings approached significance. Thus, the pattern of change in marital quality and marital communication across time did not differ for members of these couples regardless of treatment. This finding was somewhat unexpected in that the literature reported some differences in how males and females experience the changes associated with the transition to parenthood (Cowan & Cowan, 1987b; Jordan, 1989; Thomlinson, 1987). The findings here might imply that, while there are gender differences, such as those associated with intrapersonal changes in self image and taking on the parenting role, these differences may not impact the couple relationship in areas measured by the marital quality and communication instruments used in this study.

Discussion of correlations between marital quality and marital communication measures

Further analyses of the correlation between MSS and DAS scores and the dependent variable scores used to assess marital communication (SDPT, ODPT, PCS, and the CTS subscales) provided some insights into the use of these scales to measure change in couples during the transition to parenthood as a result of preventive intervention. Analysis of conceptual relationships between the constructs measured by the instruments was also carried out. Some of the correlational findings showed patterns and trends that may implicitly show treatment effect. For both intervention and comparison females, MSS scores correlated significantly with SDPT scores at Time 1 but did not significantly correlate for either group of males at Time 1. The correlations between these two measures were also significant for intervention females at Times 2 and 3, intervention males at Time 3 and comparison males at Times 2 and 3. The significant DAS correlations with SDPT demonstrated a similar pattern to those correlations of the MSS with SDPT.

It was anticipated that there should be strong correlations between the subject's marital quality measures and his or her SDPT scores. There were only weak to moderate correlations between MSS and SDPT scores for intervention males at Time 2 but strong correlations for intervention women at Time 2. These correlation patterns were only moderately strong between the marital quality measures and the SDPT scales for the comparison couples.

The ability of a spouse to take the perspective of the other spouse has been found to be related to marital satisfaction. Long (1990) found that the wife's SDPT was positively correlated with husband's DAS scores and the husband's self dyadic perspective-taking was positively correlated with the wife's DAS scores. The findings from Long's study were similar for intervention females in this study which found correlations across Times 1, 2, and 3. For comparison females, the correlations were not significant and all less than r=.25. Intervention and comparison male SDPT scores did not correlate significantly with the female DAS scores. These correlations for males are lower and less significant than those found by Long (1990). Contrary to previous empirical work (Davis & Oathout, 1987; Long & Andrews, 1990) which found that perspective-taking was a better indicator of relationship adjustment for men than for women, the correlations between the DAS scores and the SDPT scores in this study were higher for women than for men (see Table 27).

In contrast, the OPDT, consistently correlated with the MSS and the DAS for both treatment groups and both genders (see Table 27). When the ODPT was correlated with the spouse's MSS and DAS, the correlations were significant for intervention couples at Times 2 and 3 but were not significant for comparison couples. Long and Andrews (1990) found that the partner's ODPT was a better predictor of a spouse's own marital satisfaction than one's own SDPT score. This finding held up for intervention couples but not for comparison couples, implying a treatment effect for intervention couples.

The PREP™ intervention introduced skills of clearly expressing one's feelings and needs and skills of active listening and paraphrasing one's perceptions of what the other

was trying to express. It was anticipated that intervention couples would demonstrate higher scores than comparison couples on these perspective-taking scales. However, the intervention men's SDPT scores were higher at Time 2 then fell to a level below Time 1 while comparison males scores increased slightly at Time 2 and decreased to a Time 3 level that was above that of Time 1. Intervention women's SDPT scores dropped more sharply across time than comparison women's scores. In contrast, the ODPT scores for both intervention males and females increased more at Time 2 and, though the scores dropped at Time 3, the drop was less than the Time 1 levels.

Even though treatment effect was not revealed on the ANCOVA, the PREP™ intervention may have increased intervention couples' awareness of their perspective-taking behaviors and raised expectations of how self and other ought to behave. A lower score may be reflecting awareness that behaviors that did not match expectations. The essence of the items in the SDPT and ODPT instruments was to elicit perceptions of one's own and one's spouse's behaviors and actions that demonstrate understanding and knowing what the other might mean or feel about something. PREP™ intervention skills associated with these behaviors involved slowing down the communication process, encouraging clear expressions of concerns and of feelings surrounding one's concerns, having the other verify by paraphrasing what was heard, and then affirming the other's feelings. Through a process of taking turns, concerns were dealt with by getting down to the real issue, especially if actual concerns were hidden and embedded in initially stated concerns. Couples were taught to fully express feelings before progressing to any problem-solving steps. The process may include stop-outs allowing the couples to return

to exploring feelings if there was evidence of impediments to the problem-solving process. Having learned these processes during the intervention, couples may be frustrated when, in everyday life, they see themselves or the other not taking the time and effort to be good perspective-takers. This is where the issue of awareness of what ought to be "now that we know how we're supposed to do it," could result in lower ratings of self and other and may influence the lack of significant change in intervention couple's scores compared with the non-intervention group. Cowan and Cowan (1987) noted that participation in a couple's group may actually contribute to dissatisfaction and distress initially. There remained little evidence in these self-reports that the PREP™ intervention affected perspective-taking behaviors within the first six months post birth. It is anticipated that effects may be evident at one year and two years post birth, which will be analyzed as part of the larger PREP™ Project.

The PCS significantly correlated with the MSS with the exception of intervention women at Time 3. Correlations of the PCS with the DAS were significant though slightly lower in range with the exception of intervention males at Time 2, intervention females at Time 1 and comparison males at Time 3. These findings suggest that a spouse's marital satisfaction and adjustment are associated with perceptions that the partner confirms his or her worth. However, according to findings using Fisher's z_r transformations, there were no significant differences in the correlations between the intervention and comparison groups. Thus, there was no evidence that the marital quality scales or the PCS would differentially reflect a treatment effect in this study.

The CTS Reasoning scales demonstrated modest to minimal correlations with the MSS and the DAS. In fact, the only group in which the CTS Reasoning Self measurements correlated significantly with either of the marital quality scales was intervention males. However, the CTS Reasoning Self scores of the intervention males correlated negatively with their marital quality scores. The CTS Reasoning Other correlations demonstrated the same negative correlations. This is opposite of theoretical expectation in that higher reasoning scores, meaning that conflicts are more often resolved by reasoning than by negative behaviors, should support greater marital satisfaction and adjustment. The mean scores on the MSS and DAS reveal a trend in the direction expected theoretically for both males and females. Mean scores on the CTS Reasoning Self scale are also in the direction anticipated, though comparison females demonstrated an unpredicted increase in mean scores at Time 2 (see Table 15).

The CTS Verbal Aggression Self correlations with the MSS and DAS were significant primarily for intervention females and for comparison females at Time 1 on both martial quality measures and at Time 3 on the DAS. Verbal Aggression Other scores were almost all significantly negatively correlated with the MSS and DAS (except comparison males at Time 2 on both the MSS and the DAS) with significant correlations ranging from $\underline{r}$=-0.35 to $\underline{r}$=-0.77. Again, theoretically it would be expected that higher scores on the CTS Verbal Aggression Other subscale indicating perceptions of more frequent verbally aggressive behaviors by one's spouse would correlate with lower scores on marital quality measures. As indicated earlier, there were no significant findings of a positive influence of the PREP™ intervention in ANCOVA results for the intervention

group. Graphed mean scores actually indicate a trend in the opposite direction from the expected (see Appendix L). Possibly the PREP™ intervention increased male awareness of verbally aggressive behaviors so they reported the occurrence of such behaviors more accurately. Comparison female scores were not significantly correlated on the MSS at Time 1 but became significantly correlated at Times 2 and 3.

The CTS Violence Self scores were significantly negatively correlated with the MSS only for intervention female scores at all three times, and with the DAS only at Time 3. There were no other significant correlations for any of the other groups. The CTS Violence Other scores were significantly negatively correlated with the DAS for Times 1 for the comparison males and females, and for Time 2 for intervention males and for Times 2 and 3 for intervention females. The MSS only moderately correlated with intervention and control males at Time 1. Because the scores on the CTS Violence Self and Violence Other scales were quite skewed as the majority of subjects reported no incidence of violence in their relationship, these scales were not measuring behaviors sensitive to change in this sample as a result of PREP™ intervention. The subjects in this sample demonstrated very little violent behaviors at Times 1 and very little change was reflected over time in the majority of the subjects.

Overall, while treatment effect seemed minimal, there exists a logic that psychoeducational interventions such as PREP™ should hold value for couples, especially during times of transition. Lipsey (1990) noted this tension between practitioners, who are convinced on the basis of experience that their ministrations are beneficial to clients, and researchers, who never seem to be able to turn up positive results. Rather than losing

faith in our efforts, it is important to learn from research: "to differentiate successful treatments from unsuccessful ones and find the keys to making the successful ones work even better" (Lipsey, 1990, p. 27). With this in mind, a review of real and possible sources of error in theory, research design, and analysis of data will be done.

Sources of Error

Strength of the Independent Variable

Theoretically, the PREP™ intervention should effect change in marital quality and marital communication processes in some measurable way. Losses in marital quality as documented in previous studies of marital change during the transition to parenthood were not minimized at six weeks and six months post birth as measured by the MSS and the DAS. Marital communication processes as indexed by the SDPT, ODPT, PCS, and the subscales of the CTS did not demonstrate improvement. In reflecting on the PREP™ program, there are several possible explanations for the lack of demonstrated effect within the time frame of this dissertation study.

First, it is important to examine the unique qualities of PREP™. PREP™ was originally designed for couples relatively early in their relationship so that the intervention was preventive. It was assumed that it would be better to intervene with couples before they had established ineffective communication processes that might be more resistant to change (Markman et al., 1989). The program evolved out of ongoing research on marital quality and marital communication (Markman, 1991). There are several programs similar to PREP™, the most well researched program being the Couple Communication™ Program (Wampler, 1990), a program developed in the 1970s to help couples improve

their relationships and deal with conflict. Results of over 70 studies of the Couple Communication™ Program over 20 years have demonstrated that this program is effective in producing both short term and long term improvements in relationship satisfaction as well as short term changes in communication behaviors. However, in a review of studies carried out on the Couple Communications™ Program, approximately half of the studies found positive effects in relationship satisfaction and half found no effect (Wampler, 1990). Wampler and Spreckle (1980) reviewed research prior to 1980 and found in the earlier studies that while programs had a positive effect on communication skills (assessed behaviorally) and on relationship quality (self-reported) at post tests, only the positive changes in relationship quality persisted at four to six months follow-ups. Because of the similarities in the content of the concepts between PREP™ and Couple Communications™ Program, it could be anticipated that a treatment effect was possible with this research design.

It is possible that, while the PREP™ intervention potentially has some positive benefits for all couples (Markman et al., 1991), implementing the intervention during the transition to parenthood may have diminished its potential effectiveness. Each expectant parent is experiencing intrapersonal transitional adaptations at the same time as the intervention. The expectant parents are likely experiencing interpersonal transitional adaptations as well. It is often the case that couples are experiencing any number of concurrent life events, such as extended family concerns, personal problems, employment concerns, and financial concerns. The transitional adaptations associated with the birth of the first child along with typical concurrent life events may have minimized the effects of

the PREP™ intervention on the marital quality measures used in this study. Couples may not be able to focus their energies on practicing and integrating the skills unique to the PREP™ intervention at a time when there are significant concurrent intrapersonal transitional changes and role changes which impact the couple relationship (Cowan, 1991; Cowan & Cowan, 1992). Since there were no significant differences on the MSS and DAS between the intervention group and the comparison group at six months post birth, it is possible that treatment effects of the PREP™ intervention are not perceptible within this time frame. Within the PREP™ Project, which will follow these same couples along with others in the larger sample, as couples progress beyond the most stressful aspects of the transition to parenthood, there may be demonstrable differences between the intervention and comparison couples.

There is strong speculative support from the literature for preventive intervention at this transitional period. Markman et al. (1987) thought that "the points in a couple's relationship when they are most amenable to intervention are transition periods"(p. 268). While there is evidence for consistency across time in the quality of marital functioning, Goldberg and Michaels (1998) also viewed the transition to parenthood as providing "an opportunity for reevaluation and change, in both positive and negative directions" (p.347). Further evaluation of the ability to learn new skills associated with parenthood along with interpersonal communication skills such as those taught in the PREP™ intervention will be necessary. It certainly would be more effective for couples to come into the transition to parenthood process with adequate communication skills so that anticipatory guidance and interventions during this transitional time could build upon a base of good communication

skills and healthy couple interactions. This would allow transitional interventions to focus on the common concerns that occur during transition to parenthood which could affect the well-being of the couple relationship.

Motivation

Expectant couples may have learned through observation or from family and media sources that having a baby has a negative impact upon the quality of the couple relationship. This awareness may have encouraged couples (or at least one spouse of a couple) to inquire about the research program when they heard about it. What is not known is whether couples who volunteered for this study already had concerns about their relationship or were instead interested in preventive actions. It could be assumed that couples who perceived their relationship as already seriously stressed may have avoided inquiring in that it may have been too threatening. For example, it could be difficult for the spouse with the most concern for the well-being of the relationship to convince the other spouse to attend a marital enhancement workshop.

Preventive actions may be of interest to couples with strong commitment to their marriage. Some evidence that the subjects came from a position of strong commitment to the well-being of their relationship was seen in the high scores on the MSS and DAS at Time 1. Sixty per cent of intervention males, 77 % of comparison males, 64 % of intervention females, and 72 % of comparison females scored at Time 1 at or above 114, the norm for the DAS (Spanier, 1976). The mean scores at Time 1 were actually higher for the comparison groups. The mean DAS scores in this sample were similar to the Spanier norm of 114.8 and to DAS scores found in other studies of marital adjustment

during early parenthood (e.g., Goldberg, Michaels, & Lamb, 1985; Duncan, 1985; Goldberg & Easterbrooks, 1984).

It could be likewise assumed that at least some of the couples may have inquired about the PREP™ Project because there were concerns about the well-being of their relationship. Three male subjects, one in the intervention group and two in the comparison group, and two intervention females had scores that fell below the level of 90, a score below which Spanier (1976) stated was indicative of marital distress. Linearity in the scatterplots of Time 1 by Time 2 on the DAS, along with nonsignificant differences in group means, indicated that the majority of males and females whether above or below the norm on the DAS did not change their relative positions regardless of treatment.

Information Retention and Overload

In short term skill-training programs such as PREP™, problems of both information overload and retention can reduce the effectiveness of the intervention. In the first program presentation in which Thursday-Friday evening sessions were followed by a full day of presentation on Saturday, it was obvious to the presenters that some couples became quite tired. Some subjects seemed exhausted from a full day's work schedule prior to attending the evening sessions. Informal feedback from couples led to changing the next two workshop schedules to 6-hour sessions on two consecutive Saturdays. Though not evaluated within this study, there may have been some differential effect on the intervention group related to variations of the PREP™ training in scheduling or presentation style among the three workshops.

Self Selection in the Study

There was a strong potential for selection bias in both the intervention and the comparison groups in that this was a self-selected sample of couples who read or heard about the program as one that would benefit their couple relationship in the transition to parenthood. These couples likely already had an appreciation for improved communication skills and imagined that improving these skills further would help them during a known stressful period in their family life. Thus, they may have come into the study with a fairly strong commitment to their marriage and to enhancing their relationship. This could account for the lack of differential significant effect of the intervention. Yet, one of the significant findings in the ANCOVA results was that men and women in both intervention and comparison groups showed a decline in marital satisfaction over time. This reinforces the findings that marital quality does decline during the first postpartum year (Belsky et al., 1985; Cowan & Cowan, 1985; Goldberg et al., 1985). While it was anticipated that the intervention couples would show some decline in marital satisfaction, it was also anticipated that the PREP™ intervention would limit the degree of the decline. While not significant, there were trends were in that direction.

Validity of the Findings

Evidence of the validity of this study can be inferred from statistical conclusion validity, internal validity, construct validity and external validity (Cook & Campbell, 1979). These categories were identified specifically related to quasi-experimental studies and will be used as a framework for evaluating these findings.

Statistical Conclusion Validity

The basic concern related to statistical conclusion validity is whether the dependen variables behave in a way that can be observed statistically (Cook & Campbell, 1979). Major threats to statistical conclusion validity include inadequate power, violation of the assumptions of ANCOVA, and unreliability of the measures.

Power

Low statistical power can increase the risk of failing to detect significant effects and thus threaten validity of the findings. Statistical power results from the interaction of sample size, effect size, alpha level of significance, precision of measures, and the power of statistical tests (Lipsey, 1990). In the current study, sample size was determined by the number of couples who volunteered to attend the PREP™ workshop and who agreed to be in the comparison groups and was limited to 45 couples in the intervention group. Costs and availability of subjects within the time allotted to carry out the PREP™ Project were the primary influences surrounding sample size. Also this dissertation study used a subset of those couples in which both spouses had returned completed data sets for Times 1, 2 and 3. Effect size was not determined prior to this investigation. Sample size and effect size seemed to be similar to that in a number of intervention studies on marital quality and on couples during the transition to parenthood. A significance level of .05 and a power level of .80 were adopted as standard for the quasi-experimental design. Precision of measures and the power of the statistical test will be examined in the following sections.

Assumptions of ANCOVA

Statistical assumptions underlying analysis of covariance include reliability of covariates, linearity between the covariate and the dependent variable, and homogeneity of regression in addition to the usual ANOVA assumptions of normality and homogeneity of variance (Tabachnick & Fidell, 1989). These assumptions were assessed using descriptive statistics, histograms, scatter diagrams, and correlations between each covariate and the dependent variable.

Normality. ANCOVA assumes that the sampling distributions of means are normal within each group. This assumption is tested by the production of actual sampling distributions of means on each of the dependent variables. This assumption was adequately met for the MSS at Times 1 and 3; at Time 2, there were high ratios of kurtosis and skewness posing some threat to the assumption of normality. The DAS demonstrated adequate normality for most measurements in all groups except intervention females at Time 2 which was somewhat skewed toward the high end of the scale. The SDPT and ODPT adequately met the assumptions of normality with the exception of SDPT scores for intervention females at Times 2 and 3 and ODPT scores for intervention females again at Time 3 in which the kurtosis ratios were 3 to 6 times greater than zero. Because of the adequate performance for other groups across time, findings were deemed acceptable for meeting the ANCOVA assumption. The PCS distributions tended to be lepto-kurtotic and skewed in most instances, thus violating assumptions of normality. The CTS Reasoning Self and Other subscales and the CTS Verbal Aggression subscales adequately met the assumptions of normality, while both the CTS Violence Self and the

Violence Other subscales demonstrated high ratios of kurtosis and skewness, violating this assumption of ANCOVA. This occurrence was due to most subjects reporting no violent behaviors in self and spouse across all three times of measurement.

Homogeneity of Variance. It is assumed in ANCOVA that the variance of dependent variable scores within each cell of the design is a separate estimate of the same population variance (Tabachnick & Fidell, 1989). Because of the robustness of the analysis to violation of this assumption as long as there were no outliers, it was considered adequately met. It is also recommended that, if sample size for groups are not equal, then the ratio should not be greater than 4:1. Sample sizes in the intervention and comparison groups of males and females were 25 and 18 couples, respectively. The variances (standard deviations squared) were examined within each cell to assure that the ratio between the largest and smallest variance was no greater than approximately 20:1 (Tabachnick & Fidell, 1989).

Reliability of Covariates. Because the covariates were Time 1 measures of the dependent variable instruments, all time points on these scales were evaluated for reliability. With the exception of the PCS and the CTS Reasoning Self and Other subscales which had alphas of less than .70, the assumption of reliability of covariates was adequately met.

Linearity. The ANCOVA model is based on the assumption that the relationship between each covariate and the dependent variable is linear. Violation of this assumption reduces the power of the statistical test. Errors in statistical decision making are in a conservative direction (Tabachnick & Fidell, 1989). There was adequate linearity between

the baseline (Time 1) covariate and the Time 2 and 3 dependent variable measurements on the MSS, DAS, SDPT, ODPT, CTS Reasoning Other subscale, and CTS Verbal Aggression Self and Other subscales. Several scales did not meet the linearity assumption.

The plots of PCS Time 1 scores with Time 2, and Times 1 with 3 revealed no linearity. All correlations were significant with the exception of comparison females at Times 1 with 3. It is questionable that the PCS met the assumption of normality sufficiently for use in ANCOVA. Scores tended to be clustered at the high end of the scale possibly creating a ceiling effect, one which limited sensitivity to change within intervention subjects such as was predicted for the PREP™ intervention group.

The CTS Reasoning Self subscale was linear for the intervention male, comparison male and female scores but not for intervention female scores across time. While correlations for CTS Reasoning Self scores for intervention females were r=.60 between Times 1 and 2, the Times 1 with 3 correlates were only .28. There was no linearity for the CTS Violence Self and Other subscales likely due to reports of no violent behaviors on the part of self and spouse on this subscale across time. This subscale did not meet the assumptions of ANCOVA.

Homogeneity of Regression. The adjustment of scores in ANCOVA is made on the basis of an average within-cell regression coefficient. The assumption is that the slope of the regression of the dependent variable on the covariate within each cell is an estimate of the same population regression coefficient (Tabachnick & Fidell, 1989). Because the average of the slopes for all cells is used to adjust the dependent variable, it is assumed that the slopes do not differ significantly either from one another or from a single estimate

of the population value. In all ANCOVAs run on the dependent variables the regression analyses for within cells error terms were tested and adequately met this assumption.

In summary, for the most part, the assumptions of ANCOVA were adequately met. Exceptions were the PCS and the CTS Violence Self and Other subscales which were skewed with possible ceiling and floor effects, respectively, which limited variability indicative of change.

Reliability of Measures

All measures selected for this study had been used in prior research and had published reliabilities. With the exception of the PCS and the CTS Reasoning Self and Other subscales, reliability coeffiecients were greater than .70, Nunnally's criterion (Nunnally, 1978).

Internal validity

The major threats to internal validity present in this study were: maturation, testing, selection bias, and experimental mortality.

Maturation

Maturation refers to changes within the subjects themselves that occur over time and that are not related to any specific event (Cook & Campbell, 1979). Couples within this study were experiencing the transition to parenthood which is presumed to be a significant maturational process (Cowan, 1991). Cowan's framework for family transitional processes included intrapersonal and interpersonal changes in family members that could account for considerable changes in the dependent variables. Changes in marital adjustment and satisfaction related to the transition to parenthood have been

documented (Belsky & Pensky, 1988; Cowan & Cowan, 1992; Tomlinson, 1987; Broom, 1991; Firman, 1991). In all cases there was a significant decline in marital satisfaction or marital adjustment within the first postpartum year. One of the significant findings in the ANCOVA results in this study was that men and women in both intervention and comparison groups showed a decline in marital satisfaction and marital adjustment as a result of time, a main effect. Within this study, it was presumed that the intervention couples would show some decline in marital satisfaction and adjustment. However, it was also anticipated that the PREP™ intervention would limit the degree of that decline. This should have been evidenced in comparing the mean score changes on the marital satisfaction and adjustment scales between the intervention and comparison groups. Since no significant differences were detected by the ANCOVAs, it is possible that something in the transitional processes for these couples confounded the treatment effect. An alternative possibility is that as the couple moves beyond the more intense transitional changes and begins to have time and energy freed up to focus on their couple relationship, the treatment effects may begin to show. Treatment effects were found at 1 1/2, 3, 4, and 5 years after the intervention in the original PREP™ studies (Markman et al., 1993). Cowan and Cowan (1987a) found that couples from their intervention groups maintained their level of marital satisfaction from 6 to 18 months post birth while spouses in the no-intervention group continued to decline in marital satisfaction.

Testing

Testing effects imply that subjects may learn something from being tested at Time 1 that affects the responses to the test at Time 2, regardless of the introduction of the

treatment variable. In instruments that measure affective responses regarding marital adjustment, satisfaction and marital communication there is a strong possibility that these instruments introduced ideation about the couple relationship and their communication processes such that changes in the subjects' scores on the instruments could have been effected, minimizing the treatment effect. Indeed, one comparison male wrote on his packet that he appreciated the opportunity to complete the measures because it had stimulated him to reflect on issues raised by the questionnaires.

Selection Bias

Selection bias can occur when subjects are assigned on a nonrandom basis that may produce systematic differences in the experimental and comparison group subjects with regard to the dependent variable measurement irrespective of the differential exposure to the treatment. Selection bias was evaluated in this study by conducting t-tests on the scores of subjects in intervention and comparison groups as well as between the comparison subjects from Seattle and Maryland sites. Findings from the t-tests revealed differences at Time 1 in weeks pregnant and level of education for females. However, no significant correlations were found between the number of weeks pregnant and all dependent variables suggesting that study outcomes should not have been influenced by this difference. Overall, a larger sample size and random assignment would have helped minimize these threats to validity.

Experimental Mortality

Nonequivalent attrition of subjects from the intervention and comparison groups can influence the validity of study outcomes. Attrition in this study was modest. Seventy-

four per cent of both intervention spouses and 69 % of both comparison spouses returned data booklets at Times 2 and 3. This continuance seems satisfactory compared to other longitudinal studies across a stressful transitional period in family life. It may be that the intervention couples, through increased contact with the investigators, maintained greater commitment to the study as evidenced by the higher rate of completion and return of data booklets at the follow-up time points. However, when the purpose of the study involves sensitive material concerning the couple relationship, it is possible that couples experiencing greater distress were less likely to return data booklets. Attrition related to increased marital distress could impact the relative effect of treatment on the remaining couples.

Construct validity

Construct validity refers to the correspondence between the treatment and outcome concepts that motivate the research and the particular manipulations or operationalizations used to represent them in an experiment. Threats to the construct validity of this study include the complexities in adequately explicating preoperational definitions of what would constitute marital quality and marital communication, particularly in terms of how these constructs would be affected by the PREP™ intervention.

As indicated in the review of literature, marital quality is considered a multidimensional construct (Johnson et al., 1986; Lewis & Spanier, 1979). In expanding on interpersonal and dyadic factors within the couple relationship, Lewis and Spanier (1979) deduced propositions that related positive regard to marital quality. Included in

the category of positive regard are a number of qualities addressed within the PREP™ presentations, such as perceived similarities; ease of communication, perceived physical, mental, and sexual attractiveness; positive evaluation of the other; value consensus; and validation of the self by the other. A second set of propositions linked marital quality to emotional gratification. These propositions included: quality of the expression of affection; esteem or respect between partners; spousal performance in social-emotional areas; encouragement of each other's personal growth; egalitarian power structures; emotional interdependence; love; sexual satisfaction; greater congruence between one's ideal spousal concept and spouse as perceived; and the couple's identity as a couple. These theoretical propositions provide support for PREP™-induced change in or maintenance of marital quality. The components of the PREP™ intervention designed to impact marital quality include communication skills, with the greatest focus placed on the importance of proper listening and feedback for both accuracy of communication and validation of one another's point of view; identification and clarification of expectations for self and other and the relationship; exploration of fun and friendship in the couple relationship; and expansion of the sensual and sexual aspects of the relationship. Accordingly, the components of PREP™ theoretically would impact marital quality secondarily through enhancing communication, resolving conflict with minimal escalation, and sharing of expectations and intimacies. Because marital quality is a secondary outcome of the PREP™ intervention aimed at enhancing communication and problem solving skills, the MSS and DAS instruments would not be directly measuring the impact of PREP™, but rather its indirect effect. The skill training associated with PREP™

encourages spouses to share their feelings, concerns, and changes they would like with each other. According to Markman (1991a), the expression of negative emotions may be associated with concurrent lowering of satisfaction with a relationship because dealing with negative feelings is often difficult for couples. These issues may account for some of the loss of sensitivity to treatment effect in the study design.

Of the two measures of marital quality, the MSS measured marital satisfaction as a subjective assessment of the state of one's marital satisfaction at a point in time. The DAS measured several aspects of marital adjustment creating a summated score that measures satisfaction in marriage, marital consensus, marital cohesion, and affectionate expression. The decision was made to include two measures of marital quality in order to evaluate the effectiveness of each instrument to measure change due to the PREP™ intervention. The DAS has been used in a large number of studies of marital relationships. It was assumed that it would provide some norm against which to evaluate outcomes in this study. Analyses of the performance of both instruments were carried out. In comparing the analyses of the MSS and DAS, these instruments demonstrated similar patterns in outcomes on the ANCOVAs and were strongly correlated with each other (Tables 6 and 8). This implied that they were measuring the same or similar constructs. Similarly when both instruments were compared in their correlations to the instruments measuring marital communication, there were consistently similar patterns in the correlations across treatment group, gender, and time. This again confirms that they measured similar constructs.

In the outcomes of the Fisher's z transformations, it was noted that both the MSS and DAS revealed a gender difference in the pattern of the correlations. Although none approached significance, all the correlations calculated from MSS and DAS men's scores were in the direction predicted to imply PREP™ treatment effect for both marital quality measures; all women's scores on these measures were not in the direction predicted if there was a PREP™ treatment effect. However, the results of psychometric studies on these instruments implied that they could be used with both genders (Roach et al., 1981; Spanier, 1976). This differential pattern of responses suggested that there may be some gender differences in how the PREP™ intervention affects marital satisfaction. Further study would be needed to determine meaning and implication of this phenomenon.

For the most part, the subjects in this study reported high levels of marital satisfaction across time as measured by the MSS and marital adjustment as measured by the DAS. Because PREP™ was developed to help nondistressed couples remain satisfied with their relationship, its effect on the variability of scores on these measures may have been limited by scores at or above norms for these measures.

Marital communication is also a multifaceted construct. Communication quality has been defined as perceived positivity of interaction from the listener's perspective. The SDPT, ODPT, and PCS were selected to assess the quality of marital communication through each subject's perceptions of self and other's perspective-taking and confirmation. According to Markman's theory of negative expressivity in marriage, couples need to be able to handle constructively the negative feelings generated when conflict occurs between them. The CTS subscales examined how each subject perceived self and other's behaviors

used to resolve conflict. For couples experiencing the PREP™ intervention, there should have been an increase in CTS Reasoning subscale scores and a reduction in both the CTS Verbal Aggression Self and Other and CTS Violence Self and Other subscale scores. The CTS Reasoning Self and Other subscales and the CTS Verbal Aggression Self and Other subscales showed trends in the direction theoretically expected if PREP™ had a treatment effect. However, the CTS Violence Self and Other subscales did not perform as expected, in fact, the trend in the mean scores indicated that intervention males reported increased violent behaviors and intervention females likewise reported increased violent behaviors in their spouses. Because there was greater congruence between self and other reports by intervention couples on these measures than there was for comparison couples, it is possible that PREP™ increased awareness of the behaviors that the intervention couples observed in themselves and the other.

Thus, change in marital communication brought about by the PREP™ intervention may not have been measurable by the specific instruments selected for this study. The SDPT and ODPT instruments performed similarly to previous psychometric studies with marital dyads. However, it has not been established whether the constructs of perspective-taking as attributes amenable to interventive training and whether change in perspective-taking can be measured with these instruments. Theoretically, perspective-taking attributes should enhance marital satisfaction. Long and Anderson (1990) have demonstrated that perspective-taking makes small but significant contributions to marital adjustment. The PCS provided limited evidence of change possibly related to ceiling effects found in the scores of couples in this sample.

External validity

External validity refers to the correspondence between the results of a given experiment and what would occur in other situations more or less similar to those studied not actually included in the experiment. The target population to which these findings could be generalized is expectant and new parents experiencing the effects of the transition to parenthood on their couple relationship. Childbearing definitely spans all socioeconomic levels and covers an age range from early teens to early forties for women and possibly longer for men. However, the sample in this study was limited to predominately Caucasian middle-class, well educated and relatively well adjusted couples. Self-selection of sample subjects into the study may have attracted a unique portion of this population, subjects who are attracted to classroom type workshops, who are well educated and who value the benefits implied in the published recruitment brochure. There is little evidence of how the PREP™ content may affect lower socioeconomic portions of this population. The potential does exist that more change may have been evident in less educated subjects or those without prior or self-selected interest in maintaining the couple relationship during this transition period.

Implications for Theory, Practice, and Research

Theory Development

Theory development has been slow in the area of clinically based preventive interventions (Weiss & Margolin, 1984; Glenn, 1989). One of the positive aspects of PREP™ is that the program was developed in response to the findings of predictive research on marital dysfunction and dissolution (Markman, 1981, 1991a; Markman et al.,

1987). The content was selected to address communication patterns and concepts of relationship enhancement that were identified as crucial to marital satisfaction, commitment, and decreased physical conflict. Literature review unfolded other theoretical frameworks, such as those of Lewis and Spanier (1979) and Bornstein and Bornstein (1986), that confirmed the theoretical base for PREP™. This dissertation study was designed to evaluative the effectiveness of the intervention when presented to expectant couples, comparing outcome variables of marital quality and marital communication between a treatment group and a non-treatment comparison group across the first six months post birth. Research constructs related to the effect of the transition to parenthood on the quality of the couple relationship were considered as they might affect the outcome variables.

While the purpose of this evaluative study was not to develop a particular theoretical framework or model, it has combined the constructs of marital quality and communication within the transition to parenthood time frame to evaluate the effectiveness of PREP™. Use of this program with expectant couples was a new application of PREP™ and this use was encouraged by the developers of the program. While the program had been developed primarily for engaged and early married couples, transition to parenthood was identified as an area of adaptive changes in the couple relationship that could particularly benefit from preventive intervention (Cowan, 1991). Research reporting the dissolution of marriages within the several years following first time parenthood verified the importance of preventive interventions. The quality of the couple's marital relationship prior to parenthood correlates strongly with marital quality in

the year after the birth of the child (Cowan & Cowan, 1988; Belsky et al., 1987, 1990; Tomlinson, 1987). This study used these theoretical formulations to support the research design and the outcomes of the study are applicable to the verification of the formulations.

Implications for Nursing Practice

Clinicians and educators who work with expectant couples are in prime positions to educate and counsel on ways to promote family well-being during the transition to parenthood. An understanding of the effects of the transition to parenthood on the couple relationship is essential to the development of effective interventions to maintain and enhance the couple relationship. The birth of an infant brings changes in the time, energy, and resources available to the couple to manage family life. Couples are faced with needing to negotiate most of the household tasks, as well as their personal needs for time, privacy, exercise and special interests. The changes in their self images and roles may be occurring at different rates and in differing patterns. This increases the likelihood of violation of expectations unless couples are able to share feelings and concerns, and to resolve conflicts constructively. Theoretically, PREP™ provides the skills to accomplish these tasks in ways that enhance the relationship and strengthen the commitment of the couples to their relationship. The strongest support for such an intervention is the simplicity and practicality of basic communication and problem-solving skills introduced at a time when there are intrapersonal and interpersonal changes that create the need to renegotiate aspects of the relationship. The strength and well-being of the couple relationship is at the heart of family well-being, freeing much energy to invest in the relationships with children.

Childbirth education classes have long been a resource for large numbers of expectant couples. However, many childbirth education classes do not address couple relationships in the context of the effect of the transitional changes which accompany pregnancy and parenthood. Yet, when communication and problem-solving skills are contrasted with relaxation and breathing techniques for coping with the discomfort of a few hours of labor, the potential long term effects of PREP™ on marital satisfaction and family well-being should merit greater emphasis. While integrating relationship enhancing concepts into existing educational programs has some merit, it would seem to be a stronger model to have preventive intervention for the couple relationship presented in a separate module. Couples could either be referred or they would be able to select such a program according to their own perceived interests and needs.

Ideally couple communication skills should be introduced early in their relationship before destructive patterns are established. Then, during pregnancy and the transition to parenthood, skills could be reviewed and adapted to the special concerns that arise during this transitional period. There is evidence in prior research that couples benefit from reinforcement and support as they experience other transitional periods in the family life-cycle (Levant, 1986).

Research on the impact of transition to parenthood on the couple relationship has been slow to be disseminated to educators in a form useful for integrating into course content. The benefits of psychoeducational programs such as PREP™ have been substantiated in prior research, yet the application to expectant couples has only begun to be explored (Duncan & Markman, 1988). While this dissertation study is a preliminary

application of the PREP™ intervention with couples across the transition to parenthood, it is hoped that further investigation into preventive interventions for the marital couple will provide support for the inclusion of relationship enhancement content into the educational opportunities for all expectant couples.

While this study used a volunteer sample which was comprised primarily of middle class well-educated Caucasians, the investigators believe that the simplicity and the practicality of the format in which PREP™ is presented makes the program adaptable to other racial, cultural, and socioeconomic groups. The basic communication and conflict management constructs should likewise be adaptable to alternative family structures and lifestyles.

When the centrality of the couple relationship to family well-being is fully acknowledged, the assessment of marital quality will be incorporated routinely into health assessments. Nurses can provide both primary assessment and preventive intervention to childbearing families interested in or needing basic communication skills and conflict management.

Recommendations for Further Research

Evaluating preventive programs is difficult because the goals of prevention are by definition long term. In this study, the implied long term goals were enhancing family well-being and reducing the incidence of marital dissolution. Such outcomes can only be assessed in longitudinal studies. Evaluation of short term effects is also important to establish the immediate effects of the program and to assess the processes that lead to change. The short term goals for this intervention were to maintain relationship

satisfaction and enhance selected communication behaviors such as perspective-taking and conflict resolution. The long-term outcome goals include maintaining a high level of relationship satisfaction, decreasing conflict and indirectly improving family communications. The long term process goals are to maintain high levels of communication and problem-solving skills. This study followed couples from pregnancy through six months post birth. This time frame does not allow for evaluation of long term goals but did allow some assessment for change in relationship satisfaction and provided some insight into the short term process goals. Further research in this project will be carried on in the PREP™ Project as data collection will continue through one year post birth. Because most psychoeducational and relationship enhancement programs have demonstrated some treatment effect decay (Levant, 1986), additional research is planned which will incorporate booster sessions to maintain treatment effect.

Alternatives to experimental research

The strength of experimental research is its evaluation of cause and effect between a treatment and its effects. While causality is an important issue, it is not the only issue. Issues regarding treatment delivery, the nature of the treatment, the manner in which clients respond to the treatment, and the conditions under which response is most positive merit careful study. Within the intent of this evaluative investigation, the presentation of PREP™, particularly to the unique group of couples during the transition to parenthood, was under informal scrutiny by the presenters, as content was screened through the nursing knowledge and experience, as well as through the unique and female life experiences of the presenters. The nature of the treatment may have particular effects on

couples during the transition to parenthood. The timing of the intervention needs further exploration as to when during pregnancy couples may be most open to and in need of the intervention. These issues do not always necessitate experimental design.

In addition, quantitative data can be brought to life with the qualitative data. Weiss and Margolin (1984) present the importance of the interview for more active probing into the spouses' reactions to what changes they perceived as a result of the intervention. Focused inquiries into the process of incorporating the skills into their communication patterns would provide their subjective impressions. The interview also provides observational data offering a first-hand view of how partners interact. Highly detailed interviewing about how the couple actually carried out the intervention, what their reactions were to the intervention and what part of the intervention they want to continue to incorporate into their lives together is critical to finding out why the intervention did or did not work. Combining this qualitative data with quantitative data is important for determining what is most effective in the presentation, in the process of incorporation, and what may be necessary or appropriate follow-up to the intervention.

As PREP™ is considered for other specific populations with particular needs, its general efficacy cannot be taken for granted. The following concerns must be considered. Are there clients for whom this treatment works better? What treatment, by whom, is most effective for this individual or this couple with that specific problem and under which set of circumstances (Levant, 1986)?

Summary

This study evaluated the effectiveness of PREP™, a psychoeducational program teaching communication and conflict management skills to expectant couples. The transition to parenthood is associated with a decline in marital quality and considered a time in which couples are vulnerable to relationship stresses as the family undergoes structural and role changes. The processes involved in this family transition require good communication skills in order to negotiate the interpersonal conflicts that result from incorporating the baby into the family constellation. Because couples who are becoming parents frequently feel committed to remaining in the marriage, it was assumed that they would respond to an intervention aimed at communication skill building. Expectant couples are often highly motivated to seek and incorporate information and skills they perceive to be important to taking on the tasks associated with parenthood. The conceptual model for the study was derived from the behavioral-communications model of marriage and marital discord proposed by Bornstein and Bornstein (1986) which provided a rationale for the PREP™ intervention selected in this study. The behavioral communications model incorporates factors identified in Lewis and Spanier's (1979) theory of marital stability and Markman's (1989) theory of negative expressivity. Cowan's (1991)Transitional Theory provided the contextual model for preventive intervention during the transition to parenthood. These models conceptually support the use of PREP™ in this dissertation study.

A quasi-experimental design was used to answer the following research questions: (a) Are marital quality and marital communication maintained with PREP™ training? (b)

Do males perform the same as females on marital quality and marital communication scores with and without PREP™ training? and (c) Is the pattern of change in marital quality and marital communication the same for both males and females across the transition to parenthood regardless of PREP™ training? PREP™ was presented to intervention couples during pregnancy. Data used in this study were collected at three points: during pregnancy, at six weeks post birth, and six months post birth for both intervention and comparison couples.

Repeated Measures ANCOVAs assessed for differences between the treatment and comparison groups. Significant treatment effects were found for CTS Reasoning Other scores, and significant treatment by gender by time effect was found for CTS Violence Other scores. While no significant treatment by time effects were found for the marital quality and other marital communication measures at six months post birth, it is presumed that findings will be present at one year post birth based on prior research that found couple differences over a year after the intervention. Because family dysfunction and dissolution have long term detrimental effects on the physical and emotional health of all family members, preventive interventions aimed at enhancing marital quality and marital communication are critical to family well-being.

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APPENDIX A

CONSENT FORM
BECOMING PARENTS STUDY

Investigators: Pamela Jordan, Ph.D., R.N., Principal Investigator
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Investigators' Statement:

PURPOSE AND BENEFITS

Nurses at the University of Washington School of Nursing are studying new methods of educating and supporting couples as they become parents for the first time. Approximately 180 couples will be involved in this study. The purpose of this research activity is to provide information on how becoming parents for the first time affects the parents' couple relationship. It should also demonstrate how a couple communication intervention influences the couple relationship over the transition to parenthood. You will have the opportunity to complete self-reflective questionnaires which may prompt attention to your couple relationship and your own health and well-being. Should you be assigned to the intervention group, you will also learn communication, problem-solving, and constructive arguing skills. Findings from this study will be used to develop a comprehensive nursing intervention to provide effective education and support to couples becoming parents for the first time.

PROCEDURES

Participation in this study will begin with enrollment in the study during pregnancy and continue through your child's first birthday. You will be asked to complete four sets of self-reflective questionnaires: one during pregnancy and one each when your baby is six weeks old, six months old, and one year old. The questionnaires will ask for some general information, such as your age, occupation, number of brothers and sisters, as well as some more personal questions, such as your income, outcomes of any previous pregnancies, important life events (both positive and negative) you have experienced, physical and emotional symptoms of stress, including depression. Because we are particularly interested in your couple relationship, the questionnaires ask a number of questions about your satisfaction with your couple relationship, including your sexual relationship, and how you communicate with each other, including how you fight (do you yell, throw things, hit each other). When studying couple relationships it is important to ask such sensitive questions. You are free not to answer any question you do not wish to answer. The questionnaires will be mailed to you at the appropriate times and postage paid envelopes will be provided for their return. You will be contacted by telephone before each mailing to confirm your mailing address in case you have moved. Each set of questionnaires will take one to one and a half hours to complete. In order for this study to be scientifically sound, participating couples are assigned by the flip of a coin to the questionnaire only or the intervention group. As we discussed in our telephone conversation, you have been assigned to the questionnaire only/intervention group. Participation in the intervention group also involves attending the Prevention and Relationship Enhancement Program (PREP™). The PREP™ program will be held over three

consecutive days (2.5 hours Thursday evening, 2.5 hours Friday evening, and 8 hours Saturday) involving a total of 13 hours of your time. PREP™ is an educational program focusing on teaching the skills linked to marital satisfaction: communication, problem-solving, and constructive arguing. The program includes short lectures presented by expert group leaders and individual couple practice exercises with a trained consultant to clarify and learn the skills covered in the lectures.

RISKS, STRESS, OR DISCOMFORT

Completing questionnaires about your life experiences, symptoms of stress, and couple relationship may cause some feelings of self-consciousness or discomfort or may cause you to think about things that may be unpleasant to you. If you experience discomfort while you are completing the questionnaires or during the PREP™ program and feel a need to talk with someone, please contact the Principal Investigator, Dr. Pamela Jordan, at (206)543-8219. Dr. Jordan will return your call as soon as possible. Dr. Jordan will assist you or refer you to someone who can.

OTHER INFORMATION

The identity of participants in this study will be confidential. Your name will appear only on this consent form and on a separate piece of paper kept only for the purpose of sending you additional questionnaires. Any identifying information will be kept separately from the questionnaires and the questionnaires will be identified only by a code number. Coded information will be accessible only to the investigators and their assistants for analysis purposes. Only the principal investigator, Dr. Pamela Jordan, will have access to the list of participants' names and addresses and corresponding code numbers. None of the information about you as an individual will be shared with anyone, including your spouse and health care provider. The information gathered will be grouped in any reports so information about any one person will not be identifiable. All information gathered will be kept in a locked place when not in use and will be retained for up to10 years at which point the identifying information (names and addresses) will be destroyed. You may choose not to participate in this study or you may withdraw from this study at any time without penalty or loss of benefits to which you might otherwise be entitled. If you decide to withdraw from the study we would appreciate your notifying us by telephone (206)543-8219 or by mail. No costs are involved in your participation in this study and you will be paid $10.00 for each completed set of questionnaires you return for a possible individual maximum payment of $40.00. Participants in the intervention group will also attend the PREP™ program free of charge (the typical fee for this program is $450.00 per couple). Should you determine that you desire individual or couple counseling you may request a list of area counselors from the principal investigator. You will be responsible for the expenses of any counseling you may participate in. The information gathered from this study will be used to write papers for publication and give presentations at professional meetings. In addition, information from this study will be used to develop a comprehensive nursing intervention to educate and support couples as they become parents for the first time, to help couples deal more effectively with the challenges of this life transition. A summary of the findings of this study will be shared with participants and with persons who helped with the conduct of this study.

If you have any questions about this study at any time during your participation, please contact the Principal Investigator, Dr. Pamela Jordan, at (206)543-8219. You may leave a voice mail message 24 hours a day and Dr. Jordan will return your call as soon as possible.

To demonstrate and acknowledge that your rights are being protected, it is necessary for you to sign this consent form before participating in the study. Before you give your consent, please read the entire form carefully and ask any questions you have about any portion that is not clear to you.

_____ _____

Signature of Investigator Date

Subject's Statement:

The study described above has been explained to me, and I voluntarily consent to participate in this activity. I have had the opportunity to ask questions and they have been answered to my satisfaction. I understand that any future questions I may have about the study or the rights of the participants will be answered by one of the investigators listed above. I understand that I will be paid for participation in this study. I have received a copy of this explanation and consent form.

_____ _____

Signature of Subject Date

copies to: Subject

Investigator's file

UW10/92

APPENDIX B

Demographic Data

Subject #_____

Today's date (month/day/year): Your Sex: Female Male

Your age in years: Your religion:

Your race/ethnic origin:

____American Indian/Eskimo/Aleut
____Asian or Pacific Islander
____Black or African American
____White
____Mixed
____Other (specify)

Are you of Hispanic origin? Yes No

Your highest level of education:

____Less than high school
____High school
____Some college
____Bachelor's degree
____Some graduate school
____Master's Degree
____Doctorate (Ph.D., M.D., etc.)
____Other (specify)

Your occupation:

Your approximate annual household income:

How long in years have you be in a couple relationship with your mate?

Are you married? Yes No Have you ever been married before? Yes No

When is your baby due to be born (month/day/year)?

Did you have any difficulty conceiving this child? Yes No If yes, please explain.

Have you ever conceived a child before? Yes No
If yes, what was the outcome of that conception?
Miscarriage Abortion Gave baby up for adoption Other (explain)

How many children were in the family in which you grew up?____Please list the sex and age of each (do not include yourself).

Have you and your partner ever received counseling? Yes No If yes, please explain.

APPENDIX C
PREP™ Workshop: Overview of Topics

Day 1

Introductory comments: Who are we/what are we doing/why are you here
- Handouts: PREP™ Glossary
- Suggested Resources
- Book: Gottman, J. M., Notarius, C., Gonzo, J., & Markman, H. (1976). A couple's guide to communication. Champaign, IL: Research Press.

Speaker/Listener Technique: How to talk so your partner will listen and how to listen so your partner will talk
- Handouts: What is communication?
  - The Speaker-Listener Technique
  - How Are you Feeling Today
- Book: Chapter 1: Listening and Validation
- **Speaker-Listener Exercise

Destructive communication styles: How not to communicate with each other
- Handouts: Leveling and Editing
  - Rules of Politeness
  - Constructive-Destructive Communication
- Book: Chapter 1: Listening and Validation; Chapter 7: Getting Through a Crisis

XYZ Statements: How to voice a specific complaint
- Handout: Leveling or Talking Constructively
- Book: Chapter 2: Leveling; Chapter 3: Editing
- **XYZ Statements Exercise

Expectations: The role they play in your satisfaction/dissatisfaction with your couple relationship
- Handout: Hidden Agendas
- Workbook: Relationship Expectations Workbook
- Book: Chapter 5: Hidden Agendas
- **Expectations/Hidden Agendas Exercise

Relationship enhancement: How to keep fun and friendship alive in your relationship
- Book: Chapter 8: Making a Good Thing Better; Appendix E: The Fun Deck
- Homework

PREP™ Workshop: Overview of Topics (cont.)

Day 2

Problem solving sequence: How to move through problem solving in an organized and effective way
Handout: The Problem Solving Sequence
Book: Chapter 4: Negotiating Agreements; Chapter 7: Getting Through a Crisis
**Problem Solving Exercise

Team Building: The role of commitment in your couple relationship
workbook: Commitment

Family values and beliefs: What are they/where do they come from/how they affect you and your relationship
Workbook: Family Values and Beliefs Workbook
**Family Values and Beliefs Exercise

Sensual/sexual enhancement: How to keep intimacy alive and well in your relationship
Handout: Parents as Lovers
Book: Chapter 6: Solving Your Sexual Problems
**Sensate Task

Ground Rules: Establishing basic rules and procedures for your relationship
Handouts: Ground Rules for Handling Issues
Couple's At Home Check List
General Evaluation of Workshop
**Ground Rules Exercise, Application, and Evaluation

APPENDIX D

Consultant Job Description

The responsibilities of the consultant include conducting sessions with your assigned couple and guiding the couple through practice of the exercises presented by the PREP™ leaders. The consultant provides a face to PREP™: your dress and self-presentation are extremely important. Always dress and act in an appropriate, professional manner. Equally, your enthusiasm and enjoyment of the program will be communicated to the couple and enhance their experience.

The most important thing to remember about your role as a consultant is you are a facilitator, not a therapist. You facilitate the couple's learning of communication skills. Your role is to teach communication skills and problem solving skills to your assigned couple. When you are consulting with your couple, focus on communication skills and advice pertaining to these skills only. For example, it would be inappropriate for you to suggest a solution to a couple with a dual career problem, but it would be appropriate for you to encourage them to discuss the issue and to help them with their skills during that discussion. Your goal is to help the couple develop skills which will enable them to work through their communication rather than the content of any particular issue. The couple cannot smuggle you home with them. Your job is to see that they can become proficient at using the skills correctly without your guidance and support.

Do not let couples talk through you. Partners must talk to each other directly. Do not let them pull you into their conversation. Likewise, be an active listener. Don't let your mind wander to thinking about how you would respond or what you would like to share about your own relationships. If these thoughts are creeping in, you can't be carefully listening to what the partners are saying to each other. The best time to give feedback is right when it is needed. This will often necessitate jumping in or interrupting. While often your feedback will need to be corrective or instructive, try to be as supportive, encouraging, and positive as possible.

Consultants who are members of helping professions, such as therapists or nurses, tend to have greater difficulty enacting the consultant role. They tend to want to become more involved with the couples and serve in a catering capacity, rather than merely as a guide and coach. Be aware of these tendencies and make a conscious effort to remain focused on your responsibilities as a consultant: conducting sessions with your assigned couple and guiding the couple through practice of the exercises presented by the PREP™ leaders.

**Review: <u>The consultant's manual,</u> especially pp. 8-10, "The Consultant's Role"

APPENDIX E

Marital Satisfaction Scale (MSS)

DIRECTIONS: Please read each statement and circle the response that best describes your current feelings about your marriage:

SA = Strongly Agree
A = Agree
N = Neutral/Undecided
D = Disagree
SD = Strongly Disagree

1.	I know what my spouse expects of me in our marriage.....	SA	A	N	D	SD
2.	My spouse could make things easier for me if he/she cared to.....	SA	A	N	D	SD
3.	I worry a lot about my marriage.....	SA	A	N	D	SD
4.	If I could start over again, I would marry someone other than my present spouse.....	SA	A	N	D	SD
5.	I can always trust my spouse.....	SA	A	N	D	SD
6.	My life would seem empty without my marriage....	SA	A	N	D	SD
7.	My marriage is too confining to suit me.....	SA	A	N	D	SD
8.	I feel that I am "in a rut" in my marriage.....	SA	A	N	D	SD
9.	I know where I stand with my spouse.....	SA	A	N	D	SD
10.	My marriage has had a bad effect on my health...	SA	A	N	D	SD
11.	I become upset, angry, or irritable because of things that occur in my marriage.....	SA	A	N	D	SD
12.	I feel competent and fully able to handle my marriage.	SA	A	N	D	SD
13.	My present marriage is not one I would wish to remain in permanently.....	SA	A	N	D	SD
14.	I expect my marriage to give me increasing satisfaction the longer it continues.....	SA	A	N	D	SD
15.	I get discouraged trying to make my marriage work out.....	SA	A	N	D	SD
16.	I consider my marital situation to be as pleasant as it should be.....	SA	A	N	D	SD
17.	My marriage gives me more real personal satisfaction than anything else I do.....	SA	A	N	D	SD
18.	I think my marriage gets more difficult for me each year.....	SA	A	N	D	SD
19.	My spouse gets me badly flustered and jittery.....	SA	A	N	D	SD

SA = Strongly Agree
A = Agree
N = Neutral/Undecided
D = Disagree
SD = Strongly Disagree

20.	My spouse gives me sufficient opportunity to express my opinions.	SA	A	N	D	SD
21.	I have made a success of my marriage so far.	SA	A	N	D	SD
22.	My spouse regards me as an equal.	SA	A	N	D	SD
23.	I must look outside my marriage for those things that make life worthwhile and interesting.	SA	A	N	D	SD
24.	My spouse inspires me to do my best work.	SA	A	N	D	SD
25.	My marriage has "smothered" my personality.	SA	A	N	D	SD
26.	The future of my marriage looks promising to me.	SA	A	N	D	SD
27.	I am really interested in my spouse.	SA	A	N	D	SD
28.	I get along well with my spouse	SA	A	N	D	SD
29.	I am afraid of losing my spouse through divorce.	SA	A	N	D	SD
30.	My spouse makes unfair demands on my free time.	SA	A	N	D	SD
31.	My spouse seems unreasonable in his/her dealings with me.	SA	A	N	D	SD
32.	My marriage helps me toward the goals I have set for myself.	SA	A	N	D	SD
33.	My spouse is willing to make helpful improvements in our relationship.	SA	A	N	D	SD
34.	My marriage suffers from disagreement concerning matters of recreation.	SA	A	N	D	SD
35.	Demonstrations of affection by me and my spouse are mutually acceptable.	SA	A	N	D	SD
36.	An unhappy sexual relationship is a drawback in my marriage.	SA	A	N	D	SD
37.	My spouse and I agree on what is right and proper conduct.	SA	A	N	D	SD
38.	My spouse and I do not share the same philosophy of life.	SA	A	N	D	SD
39.	My spouse and I enjoy several mutually satisfying outside interests together.	SA	A	N	D	SD
40.	I sometimes wish I had not married my present spouse.	SA	A	N	D	SD
41.	My present marriage is definitely unhappy.	SA	A	N	D	SD
42.	I look forward to sexual activity with my spouse with pleasant anticipation.	SA	A	N	D	SD

SA = Strongly Agree
A = Agree
N = Neutral/Undecided
D = Disagree
SD = Strongly Disagree

43.	My spouse lacks respect for me.....	SA	A	N	D	SD
44.	I have definite difficulty confiding in my spouse.....	SA	A	N	D	SD
45.	Most of the time my spouse understands the way I feel.	SA	A	N	D	SD
46.	My spouse does not listen to what I have to say.	SA	A	N	D	SD
47.	I frequently enjoy pleasant conversations with my spouse.....	SA	A	N	D	SD
48.	I am definitely satisfied with my marriage.....	SA	A	N	D	SD

APPENDIX F

Dyadic Adjustment Scale (DAS)

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occa-sionally Disagree	Fre-quently Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances						
2. Matters of recreation						
3. Religious matters						
4. Demonstration of affection						
5. Friends						
6. Sex relations						
7. Conventionality (correct or proper behavior)						
8. Philosophy of life						
9. Way of dealing with parents or in-laws						
10. Aims, goals, and things believed important						
11. Amount of time spent together						
12. Making major decisions						
13. Household tasks						
14. Leisure time interests and activities						
15. Career decisions						

	All the time	Most of the time	More often than not	Occa-sionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?						
17. How often do you or your mate leave the house after a fight?						
18. In general, how often do you think that things between you and your partner are going well?						
19. Do you confide in your mate?						
20. Do you ever regret that you married?						
21. How often do you and your partner quarrel?						
22. How often do you and your mate "get on each other's nerves?"						

	Every Day	Almost Every Day	Occa-sionally	Rarely	Never
23. Do you kiss your mate?	_____	_____	_____	_____	_____

	All of them	Most of them	Some of them	Very few of them	None of them
24. Do you and your mate engage in outside interests together? . .	_____	_____	_____	_____	_____

How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	_____	_____	_____	_____	_____	_____
26. Laugh together.	_____	_____	_____	_____	_____	_____
27. Calmly discuss something . . .	_____	_____	_____	_____	_____	_____
28. Work together on a project. . .	_____	_____	_____	_____	_____	_____

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the pas few weeks. (Check yes or no)

	Yes	No	
29.	_____	_____	Being too tired for sex.
30.	_____	_____	Not showing love.

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
.	.	.	.	.	.	.
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

32. Which of the following statements best describes how you feel about the future of your relationship? (Check only one)

_____ I want desperately for my relationship to succeed, and *would go to almost any length* to see that it does.

_____ I want very much for my relationship to succeed, and *will do all I can* to see that it does.

_____ I want very much for my relationship to succeed, and *will do my fair share* to see that it does.

_____ It would be nice if my relationship succeeded, but *I can't do much more than I am doing* now to help it succeed.

_____ It would be nice if it succeeded, but *I refuse to do any more than I am doing* now to keep the relationship going.

_____ My relationship can never succeed, and *there is no more that I can do* to keep the relationship going.

APPENDIX G

Self Dyadic Perspective Taking Scale (SDPT)

How well do the following questions describe your behavior and actions with your partner on a scale from 0 to 4, where 0 does not describe you very well and 4 describes you very well? Reproduced with permission of Edgar Long.

DIRECTIONS: Please circle the number that is the best description of yourself.

0	1	2	3	4
Does not describe me very well				Does describe me very well

1. I am good at understanding my partner's problems.	0	1	2	3	4
2. I not only listen to my partner, but I understand what my partner is saying, and seem to know where my partner is coming from.	0	1	2	3	4
3. I very often seem to know how my partner feels.	0	1	2	3	4
4. I always know exactly what my partner means.	0	1	2	3	4
5. I am able to sense or realize what my partner is feeling.	0	1	2	3	4
6. Before criticizing my partner, I try to imagine how I would feel in my partner's place.	0	1	2	3	4
7. I sometimes try to understand my partner better by imagining how things look from my partner's perspective.	0	1	2	3	4
8. In my relationship with my partner, I believe there are two sides to every question, and I try to look at and think about both sides.	0	1	2	3	4
9. I try to look at my partner's side of a disagreement before I make a decision.	0	1	2	3	4
10. When I'm upset with my partner, I usually try to put myself in my partner's shoes for a while.	0	1	2	3	4
11. Even if my partner has difficulty in saying something, I usually understand what my partner means.	0	1	2	3	4
12. I usually do not understand the full meaning of what my partner is saying to me.	0	1	2	3	4
13. I am able to appreciate exactly how the things my partner experiences feel to my partner.	0	1	2	3	4

APPENDIX H

Other Dyadic Perspective Taking Scale (ODPT)

Answer the following questions as to how your partner acts towards you on a scale from 0 to 4, where 0 does not describe your partner very well, and 4 describes your partner very well.

DIRECTIONS: Please circle the number that is the best description of ***your partner's actions towards you.***

0	1	2	3	4
Does not describe my partner very well				Does describe my partner very well

1. When involved in an argument with me, my partner is the type of person who will consider and take into account my point of view and compare that with his/her own.	0	1	2	3	4
2. My partner is not good at understanding my problems.	0	1	2	3	4
3. My partner not only listens to what I am saying, but really understands and seems to know where I am coming from.	0	1	2	3	4
4. My partner does not seem to know how I feel.	0	1	2	3	4
5. My partner is able to accurately compare his/her point of view with mine.	0	1	2	3	4
6. My partner evaluates my motivation for doing something before he/she makes judgements about a situation.	0	1	2	3	4
7. My partner easily becomes impatient with me.	0	1	2	3	4
8. My partner is not able to put him/herself into my shoes.	0	1	2	3	4
9. My partner nearly always knows exactly what I mean.	0	1	2	3	4
10. My partner does not sense or realize what I am feeling.	0	1	2	3	4
11. My partner realizes what I mean even when I have difficulty saying it.	0	1	2	3	4
12. My partner does not usually understand the whole meaning of what I say to him/her.	0	1	2	3	4
13. My partner appreciates how the things I experience, feel to me.	0	1	2	3	4
14. Before criticizing me, my partner tries to imagine how I feel.	0	1	2	3	4
15. If my partner thinks he/she is right about something he/she doesn't waste much time in listening to my arguments.	0	1	2	3	4
16. My partner tries to understand me better by imagining how things look from my perspective.	0	1	2	3	4
17. My partner believes that there are two sides to every argument and tries to look at both sides.	0	1	2	3	4
18. My partner sometimes finds it difficult to see things from my perspective.	0	1	2	3	4
19. My partner tries to look at my perspective before making a decision.	0	1	2	3	4
20. When my partner is upset with me he/she tries to put him/herself in my shoes for a while.	0	1	2	3	4

APPENDIX I

Perceived Confirmation Scale (PCS)

Think back over the conversations/communication you have had with your partner over the ***past week.*** Please circle one answer, according to your first immediate response, for each statement.

1. He/She wasn't at all interested in what I had to say.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

2. He/She accepted me.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

3. He/She had no respect for me at all.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

4. He/She dislikes me.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

5. He/She trusts me.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

APPENDIX J

Conflict Tactics Scale Self (CTS-Self)

DIRECTIONS: No matter how well a couple gets along, there are times when they disagree, get annoyed with each other, or just have spats because they are in a bad mood or tired. They also use many different ways of trying to settle their differences. Below is a list of some of the things you might have done when you had a dispute with your partner. Please rate **your own actions during the last year.**

	Never	Once	Twice	3-5 Times	6-10 Times	11-20 Times	More than 20
a. Tried to discuss the issue calmly	0	1	2	3	4	5	6
b. Did discuss the issue calmly	0	1	2	3	4	5	6
c. Got information to back up your side	0	1	2	3	4	5	6
d. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6
e. Argued heatedly but short of yelling	0	1	2	3	4	5	6
f. Yelled	0	1	2	3	4	5	6
g. Insulted or swore at your partner	0	1	2	3	4	5	6
h. Sulked and/or swore at your partner	0	1	2	3	4	5	6
i. Stomped out of the room or house	0	1	2	3	4	5	6
j. Cried	0	1	2	3	4	5	6
k. Did or said something to spite your partner	0	1	2	3	4	5	6
l. Threatened to hit or throw something at your partner	0	1	2	3	4	5	6
m. Threw, smashed, hit, or kicked something	0	1	2	3	4	5	6
n. Threw something at your partner	0	1	2	3	4	5	6
o. Pushed, grabbed or shoved your partner	0	1	2	3	4	5	6
p. Slapped your partner	0	1	2	3	4	5	6

	Never	Once	Twice	3-5 Times	6-10 Times	11-20 Times	More than 20
q. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6
r. Hit or tried to hit with something	0	1	2	3	4	5	6
s. Beat up your partner	0	1	2	3	4	5	6
t. Threatened with a gun or knife	0	1	2	3	4	5	6
u. Used a gun or knife	0	1	2	3	4	5	6
v. Forced partner to engage in a sexual activity	0	1	2	3	4	5	6
w. Other (Please specify)	0	1	2	3	4	5	6

_____

PART A: If you checked at least one item between q and w, please fill out this section. If you did not, please skip to Part B.

Please indicate what **your intent** was for performing these actions.

	Strongly Agree						Strongly Disagree
1. To provoke or make my partner angry	0	1	2	3	4	5	6
2. To get even or get revenge.	0	1	2	3	4	5	6
3. To hurt my partner	0	1	2	3	4	5	6
4. To calm or subdue my partner	0	1	2	3	4	5	6
5. To protect or defend myself	0	1	2	3	4	5	6
6. Other (Please specify)	0	1	2	3	4	5	6

_____

PART B: If you checked at least one item between l and p, please fill out this section.

Please indicate what your intent was for performing these actions.

	Strongly Agree						Strongly Disagree
1. To provoke or make my partner angry	0	1	2	3	4	5	6
2. To get even or get revenge.	0	1	2	3	4	5	6
3. To hurt my partner	0	1	2	3	4	5	6
4. To calm or subdue my partner	0	1	2	3	4	5	6
5. To protect or defend myself	0	1	2	3	4	5	6
6. Other (Please specify)	0	1	2	3	4	5	6

_____

PART C: Please estimate when any of the items included in o through v first occurred in your relationship.

_____ During courtship period

_____ During engagement period

_____ During first year of marriage

_____ During second year of marriage

_____ Other (Please specify) _____

APPENDIX K

Conflict Tactics Scale Other (CTS-Other)

DIRECTIONS: Please use the following list to describe **your partner's actions during the past year.**

	Never	Once	Twice	3-5 Times	6-10 Times	11-20 Times	More than 20
a. Tried to discuss the issue calmly	0	1	2	3	4	5	6
b. Did discuss the issue calmly	0	1	2	3	4	5	6
c. Got information to back up his/her side	0	1	2	3	4	5	6
d. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6
e. Argued heatedly but short of yelling	0	1	2	3	4	5	6
f. Yelled	0	1	2	3	4	5	6
g. Insulted or swore at you	0	1	2	3	4	5	6
h. Sulked and/or swore at you	0	1	2	3	4	5	6
i. Stomped out of the room or house	0	1	2	3	4	5	6
j. Cried	0	1	2	3	4	5	6
k. Did or said something to spite you	0	1	2	3	4	5	6
l. Threatened to hit or throw something at you	0	1	2	3	4	5	6
m. Threw, smashed, hit, or kicked something	0	1	2	3	4	5	6
n. Threw something at you	0	1	2	3	4	5	6
o. Pushed, grabbed or shoved you	0	1	2	3	4	5	6
p. Slapped you	0	1	2	3	4	5	6
q. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6
r. Hit or tried to hit with a fist	0	1	2	3	4	5	6

	Never	Once	Twice	3-5 Times	6-10 Times	11-20 Times	More than 20
s. Beat you up	0	1	2	3	4	5	6
t. Threatened with a gun or knife	0	1	2	3	4	5	6
u. Used a gun or knife	0	1	2	3	4	5	6
v. Forced you to engage in a sexual activity	0	1	2	3	4	5	6
w. Other (Please specify)	0	1	2	3	4	5	6

PART A: If you checked at least one item between q and w, please fill out this section. If you did not, please skip to Part B.

Please indicate what you think **your partner's intent** was for performing these actions.

	Strongly Agree						Strongly Disagree
1. To provoke or make you angry	0	1	2	3	4	5	6
2. To get even or get revenge	0	1	2	3	4	5	6
3. To hurt you	0	1	2	3	4	5	6
4. To calm or subdue you	0	1	2	3	4	5	6
5. To protect or defend self	0	1	2	3	4	5	6
6. Other (Please specify)	0	1	2	3	4	5	6

PART B: If you checked at least one item between l and p, please fill out this section.

Please indicate what you think **your partner's intent** was for performing these actions.

	Strongly Agree						Strongly Disagree
1. To provoke or make you angry	0	1	2	3	4	5	6
2. To get even or get revenge	0	1	2	3	4	5	6
3. To hurt you	0	1	2	3	4	5	6
4. To calm or subdue you	0	1	2	3	4	5	6
5. To protect or defend self	0	1	2	3	4	5	6
6. Other (Please specify)	0	1	2	3	4	5	6

PART C: Please estimate when any of the items included in o through v first occurred in your relationship.

_____ During courtship period

_____ During engagement period

_____ During first year of marriage

_____ During second year of marriage

_____ Other (Please specify) _____

APPENDIX L

Graphed Total Mean Scores on Dependent Measures at Three Time Points for Intervention and Comparison Males, Intervention and Comparison Females, Intervention Couples, and Comparison Couples

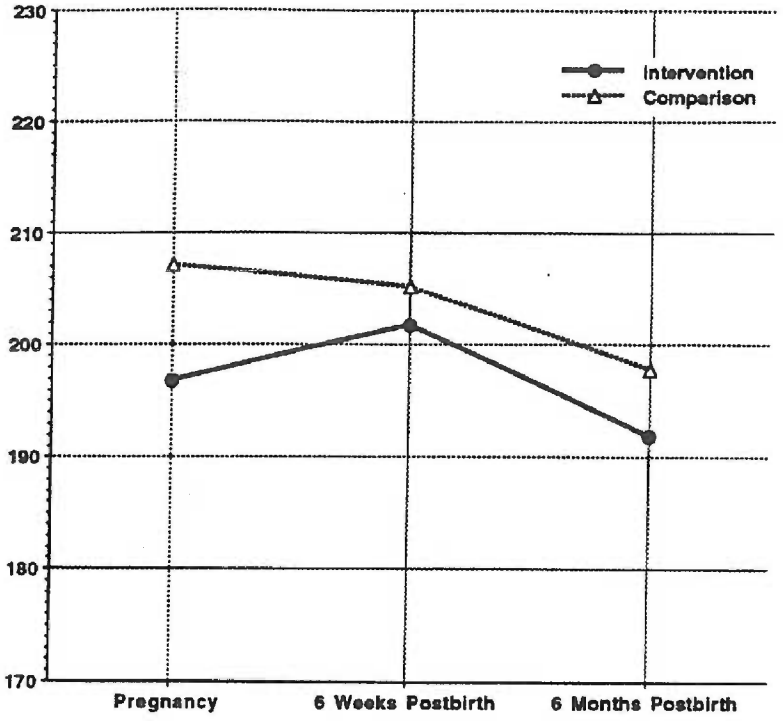
Order of graphs included here: PAGE

PAGE

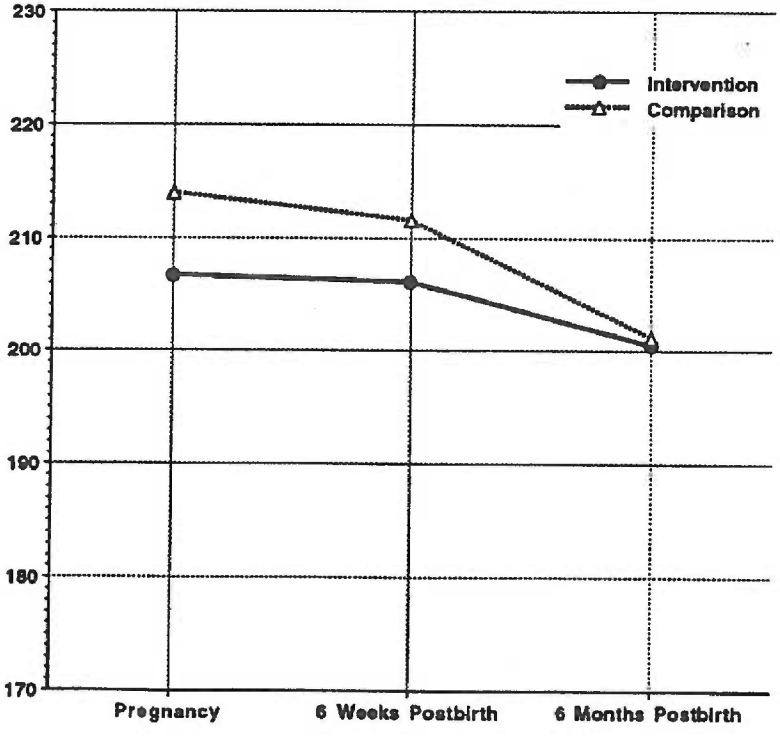
PAGE

PAGE

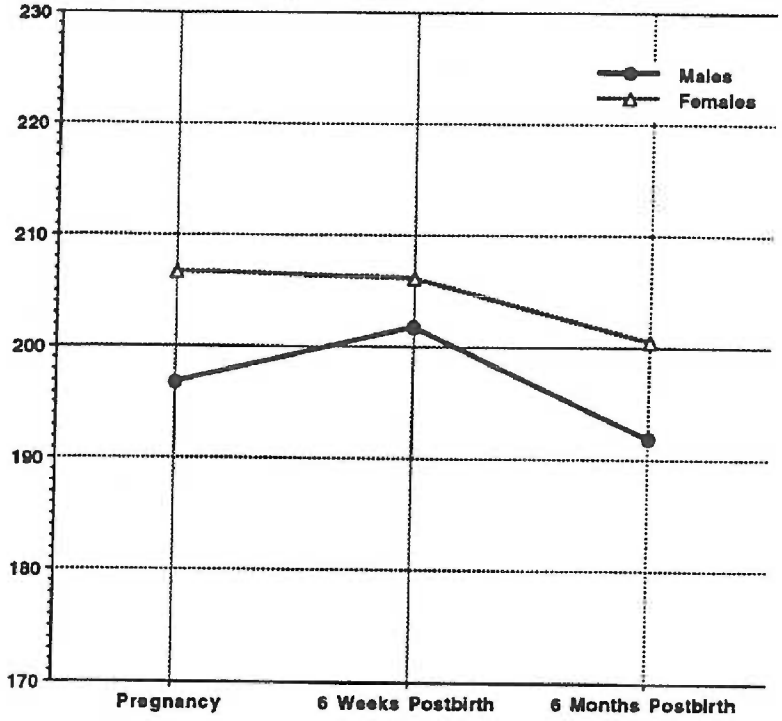
Total Marital Satisfaction Scores: Male



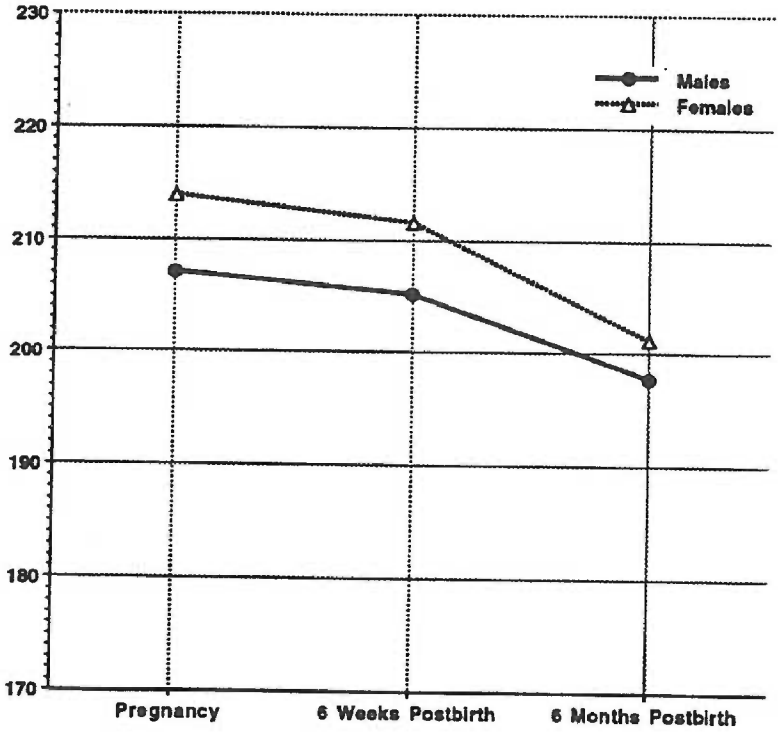
Total Marital Satisfaction Scores: Female



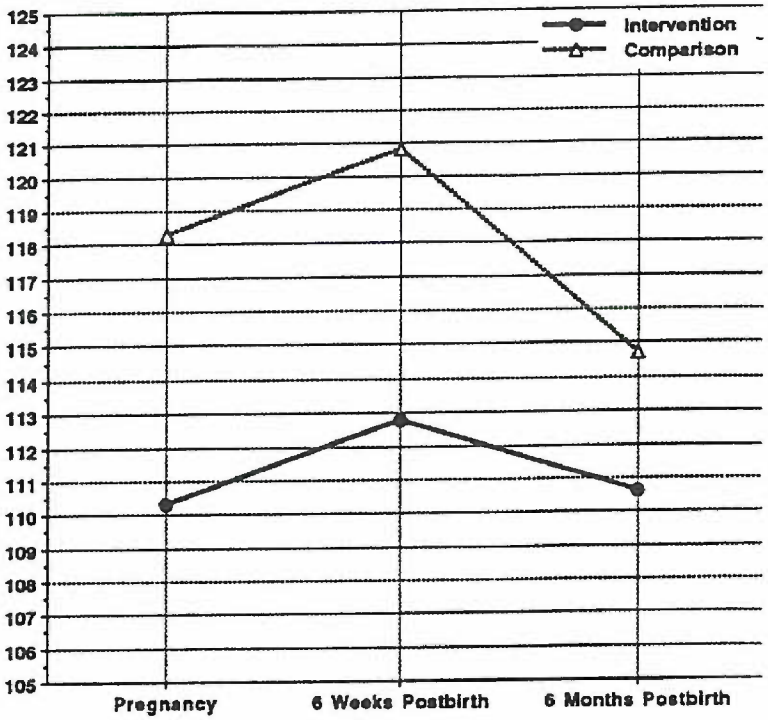
Total Marital Satisfaction Scores: Intervention Males and Females



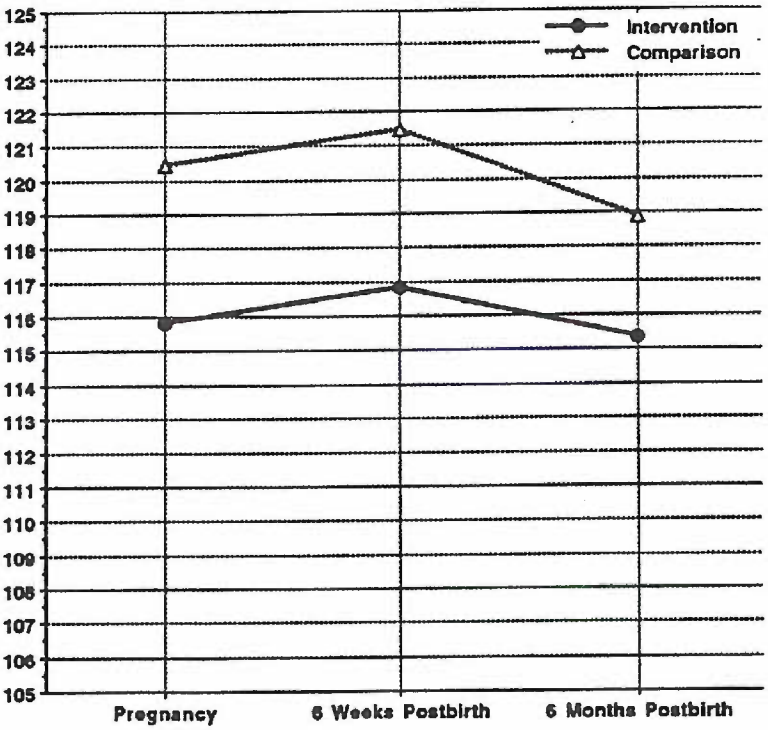
Total Marital Satisfaction Scores: Comparison Males and Females



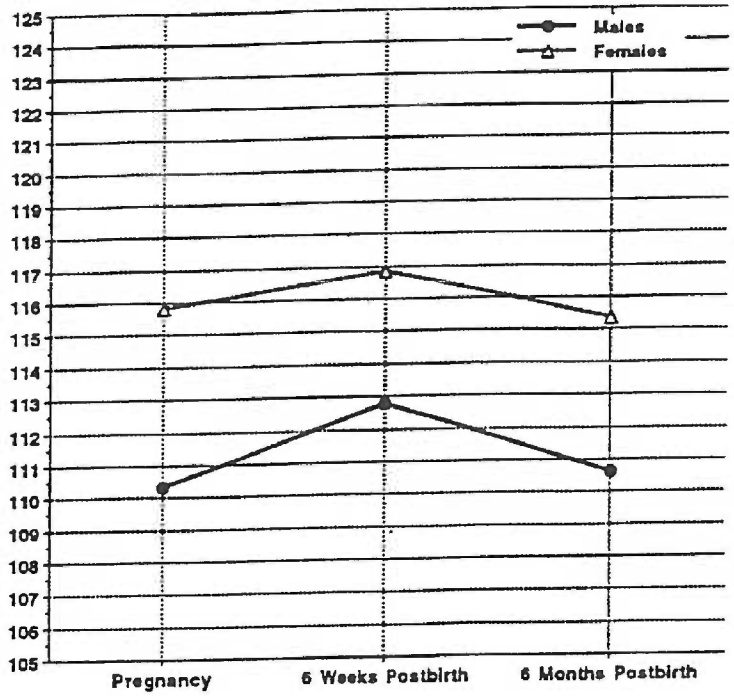
Total Dyadic Adjustment Scores: Male



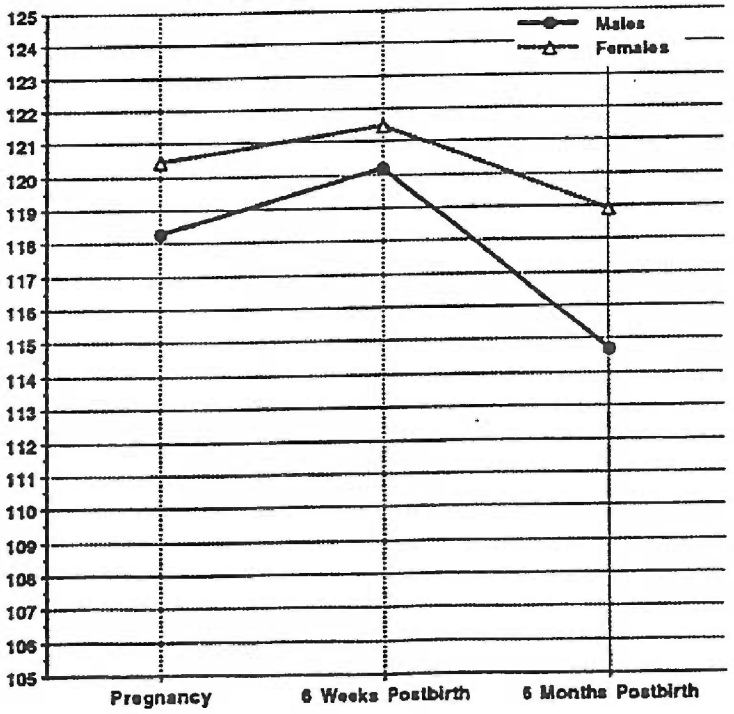
Total Dyadic Adjustment Scores: Female



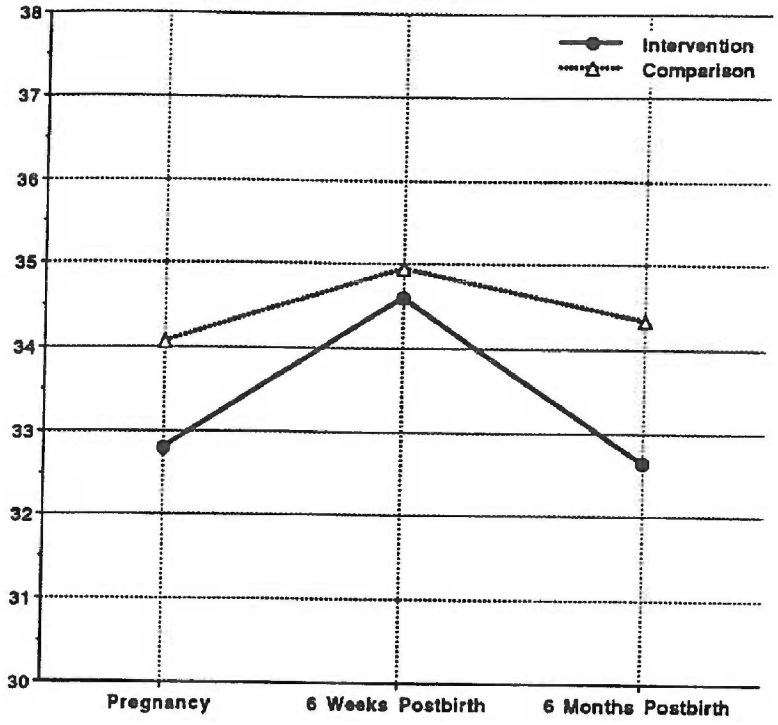
Total Dyadic Adjustment Scores:
Intervention Males and Females



Total Dyadic Adjustment Scores:
Comparison Males and Females



Total Self-Dyadic Perspective Taking Scores: Male



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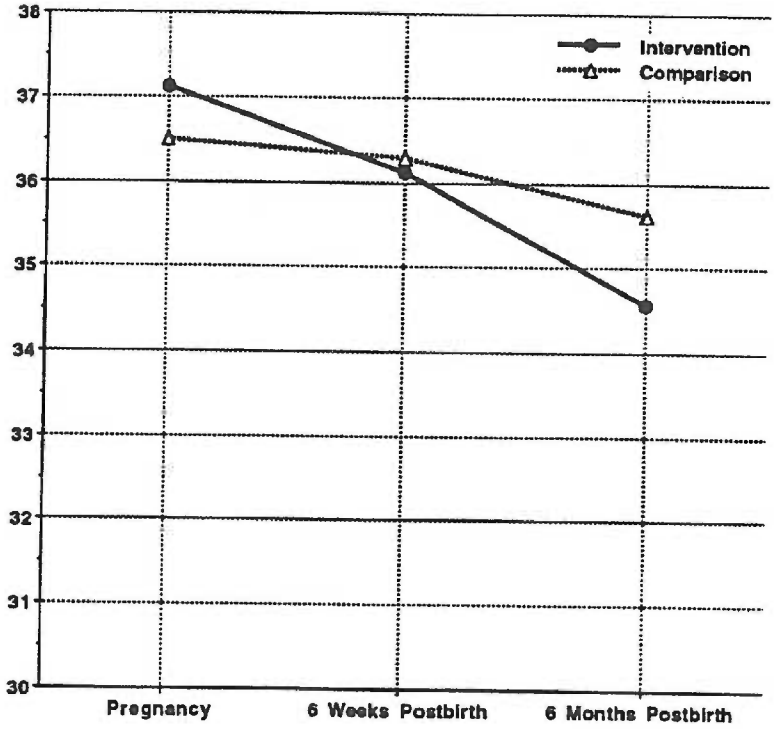
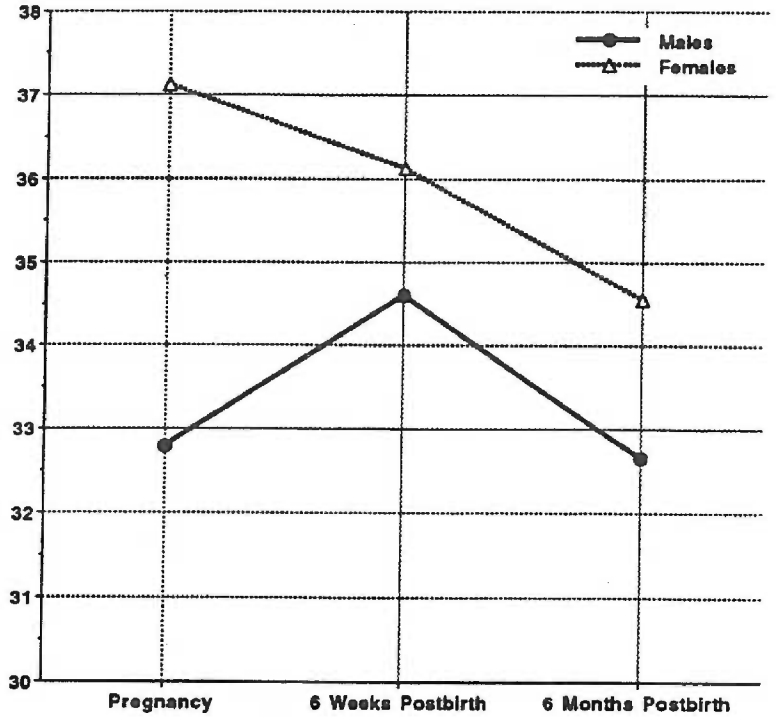
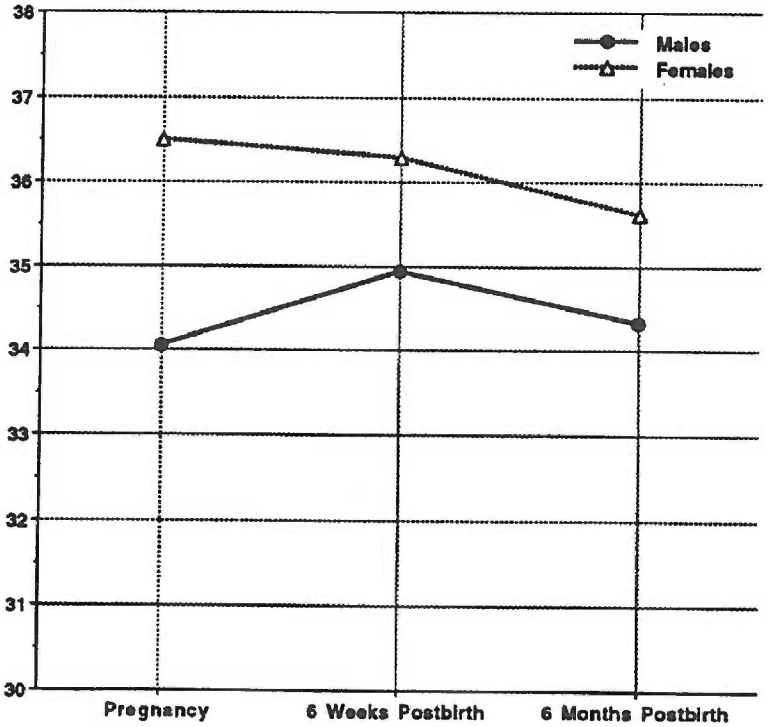


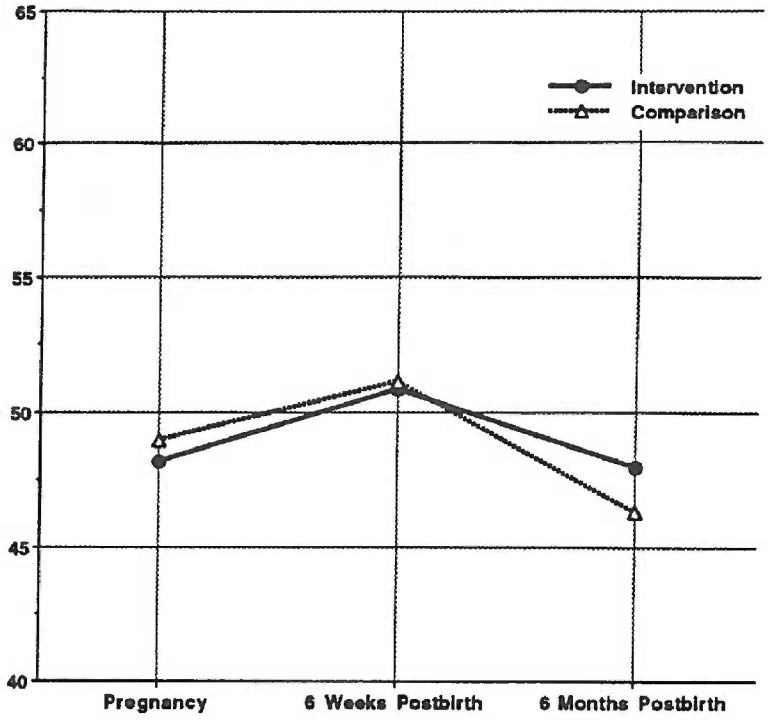
Total Self-Dyadic Perspective Taking Scores: Intervention Males and Females



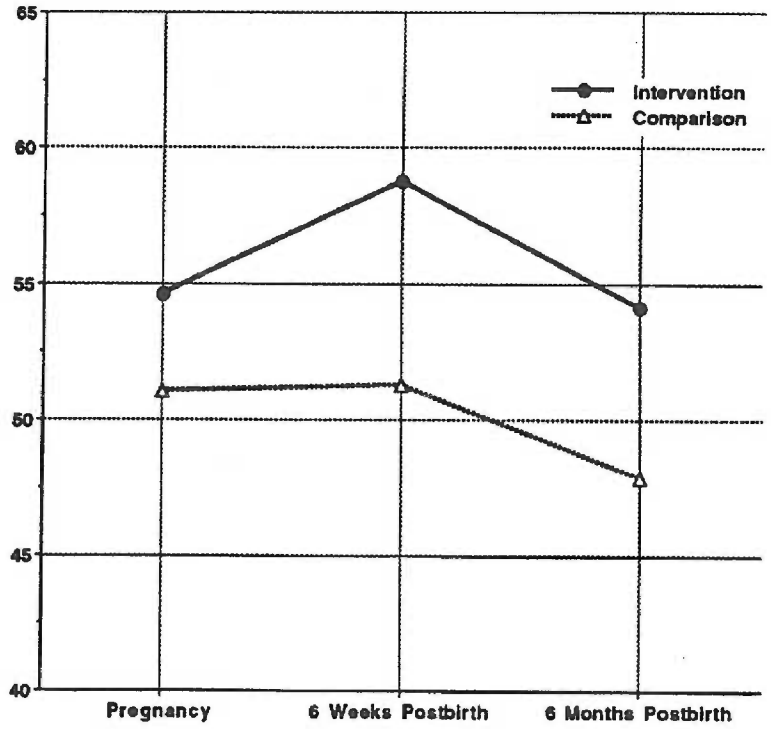
Total Self-Dyadic Perspective Taking Scores: Comparison Males and Females



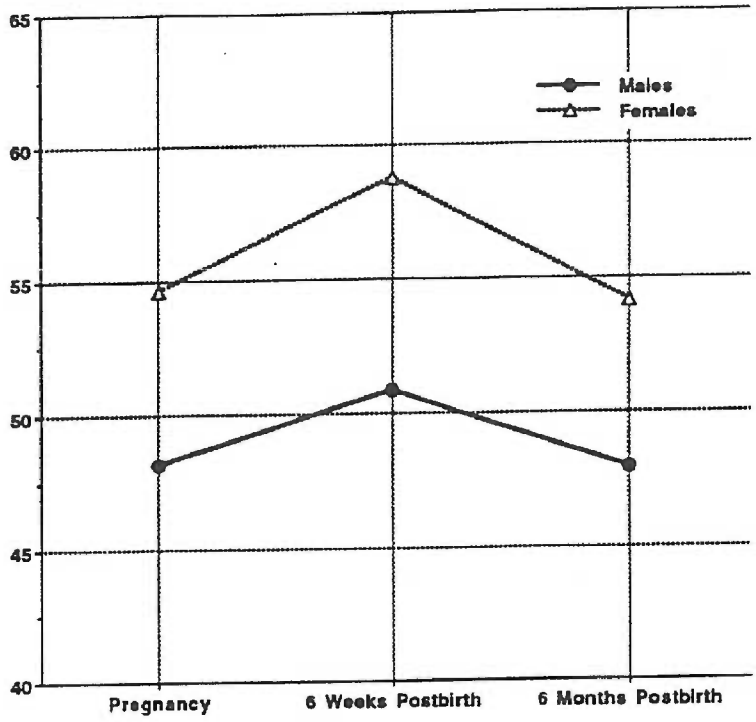
Total Other Dyadic Perspective Taking Scores: Male



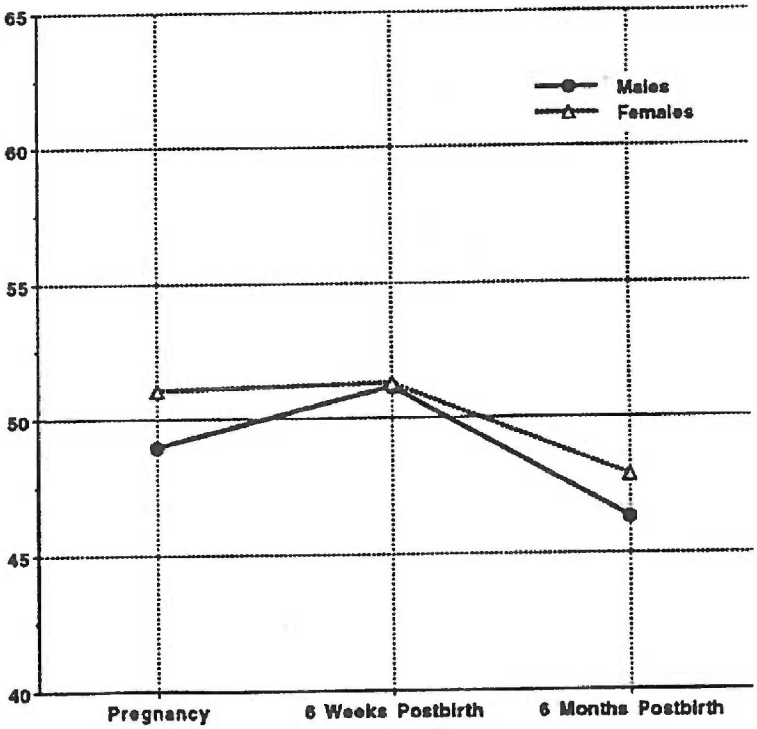
Total Other Dyadic Perspective Taking Scores: Female



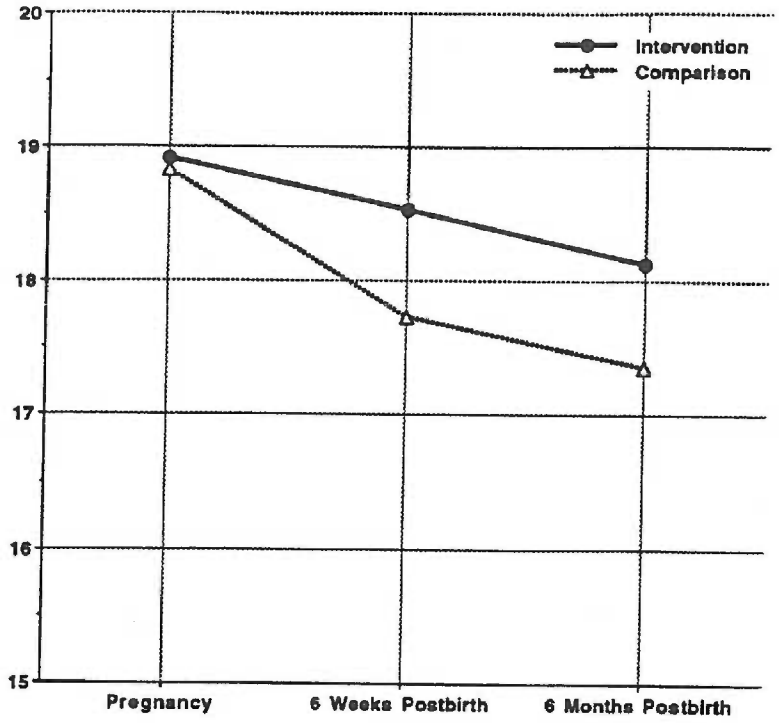
Total Other Dyadic Perspective Taking Scores: Intervention Males and Females



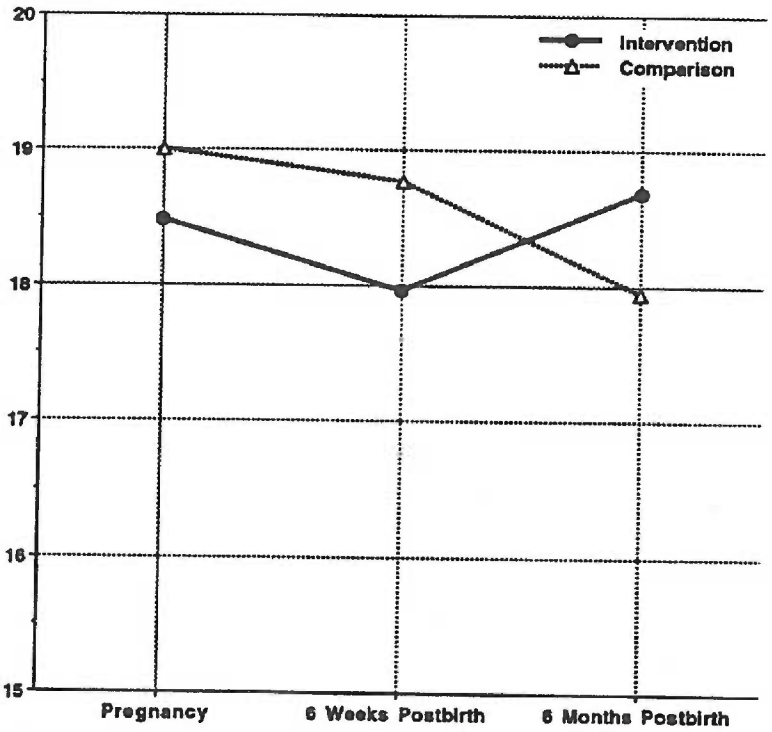
Total Other Dyadic Perspective Taking Scores: Comparison Males and Females



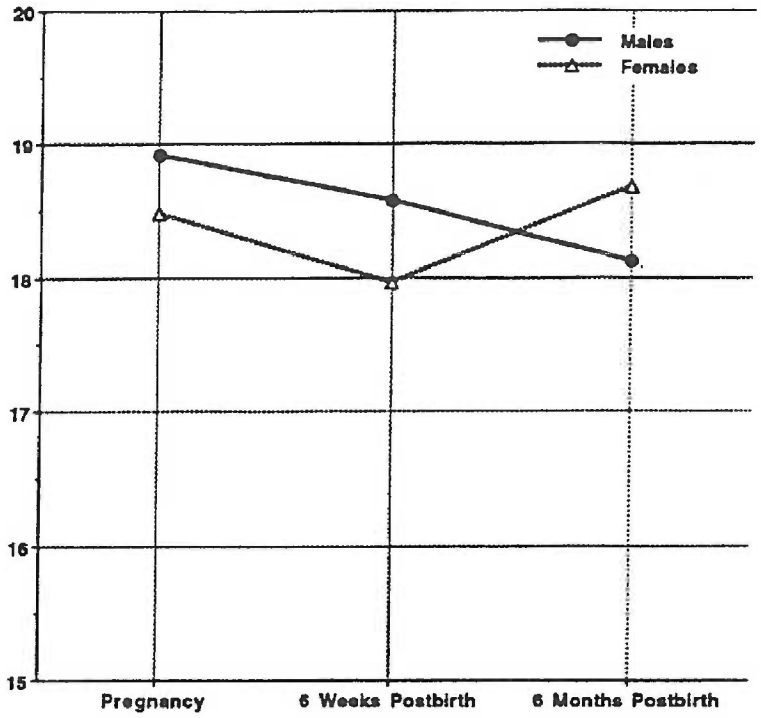
Total Perceived Confirmation Scores: Male



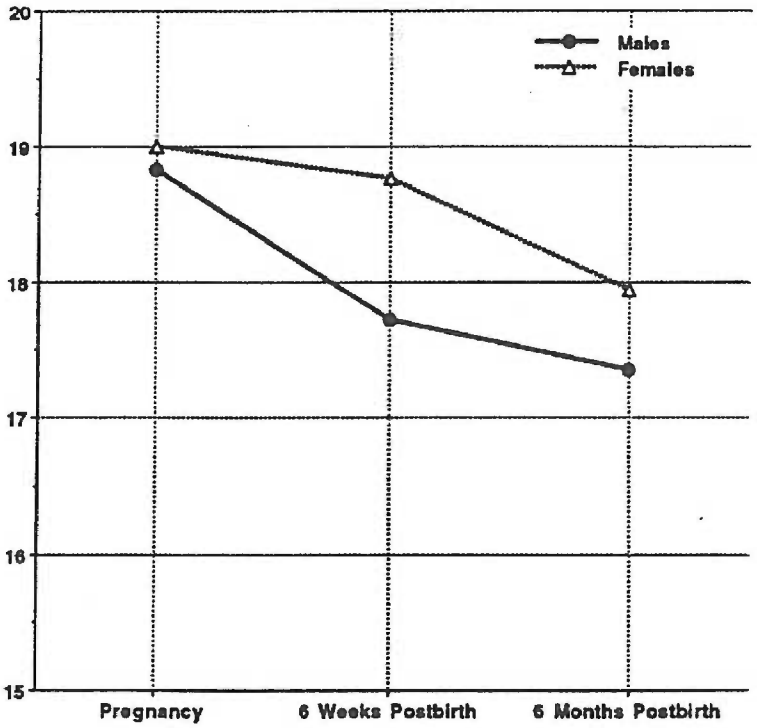
Total Perceived Confirmation Scores: Female



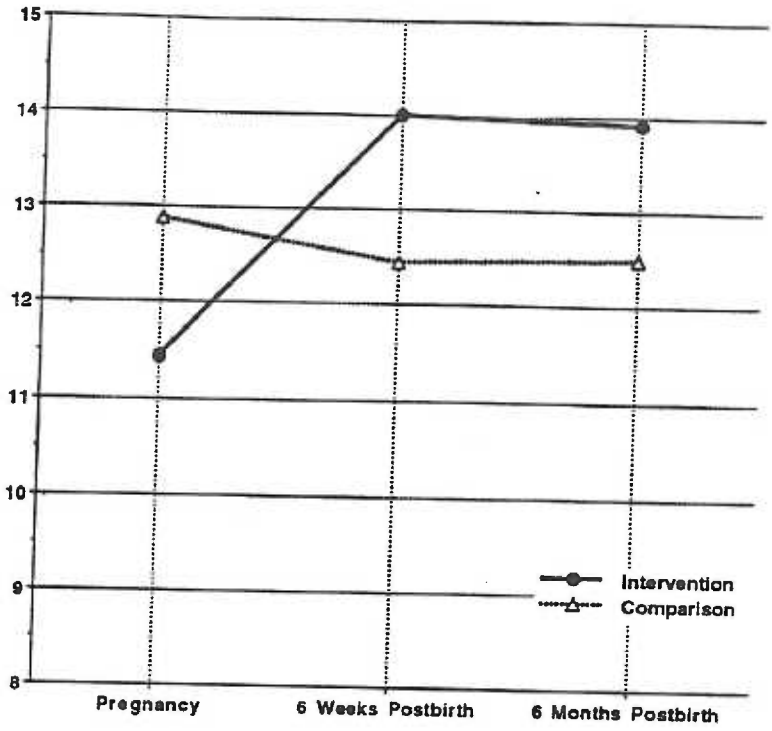
Total Perceived Confirmation Scores: Intervention Males and Females



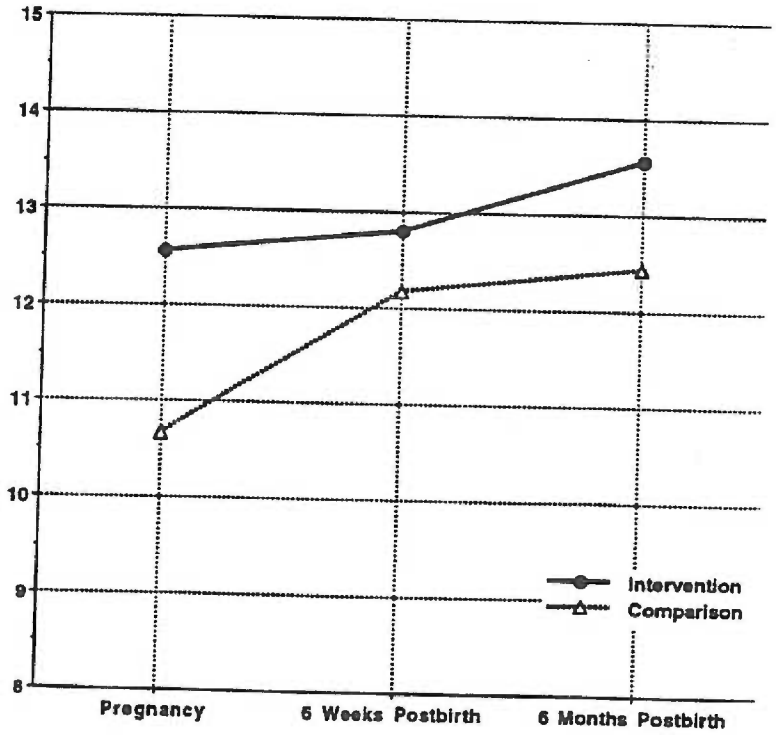
Total Perceived Confirmation Scores: Comparison Males and Females



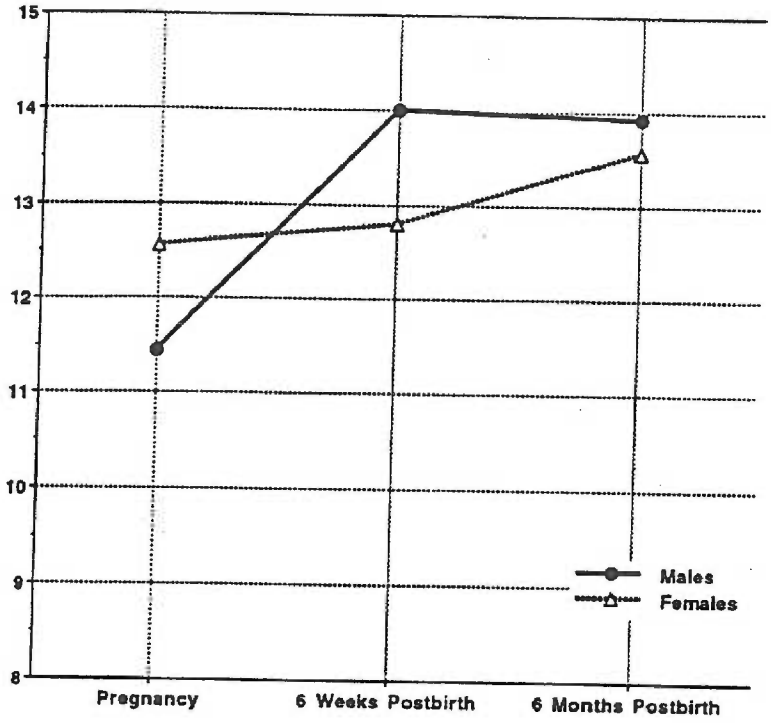
Conflict Tactics Reasoning Subscale Scores Self: Male



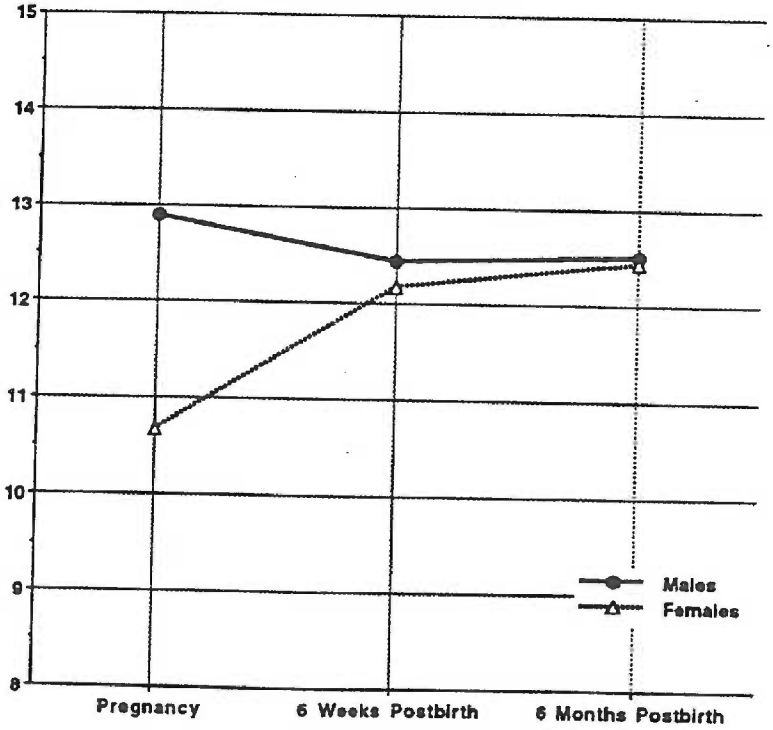
Conflict Tactics Reasoning Subscale Scores Self: Female



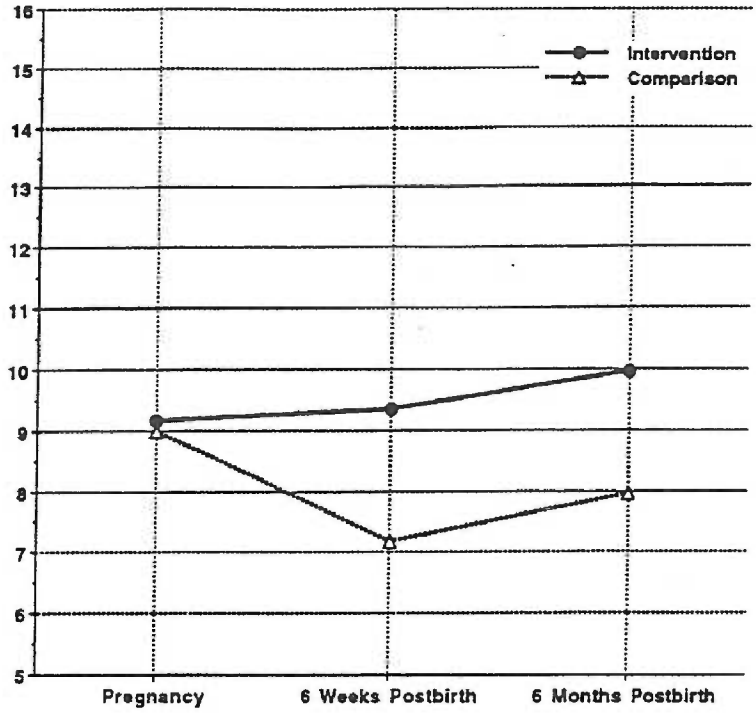
Conflict Tactics Reasoning Subscale Scores Self: Intervention Males and Females



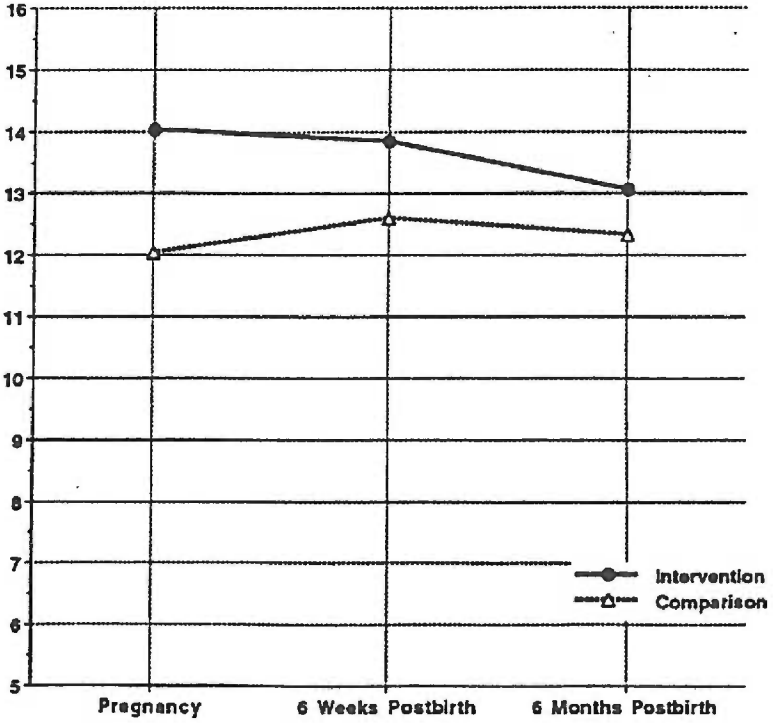
Conflict Tactics Reasoning Subscale Scores Self: Comparison Males and Females



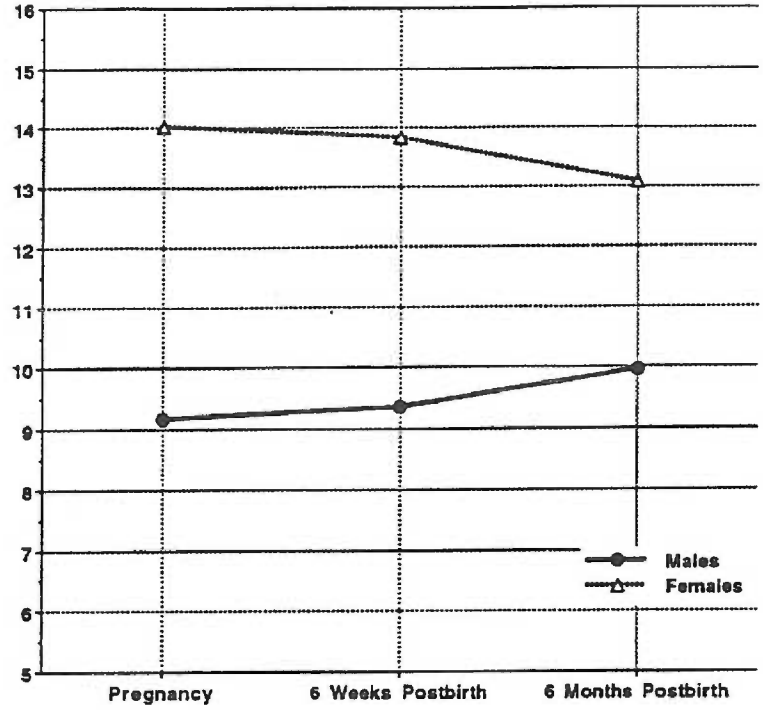
Conflict Tactics Verbal Aggression
Subscale Scores Self: Male



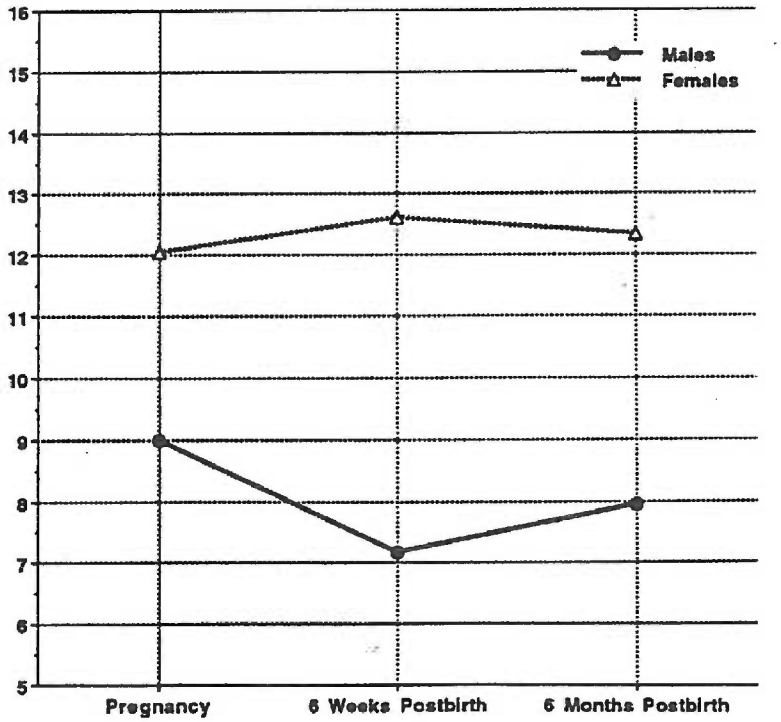
Conflict Tactics Verbal Aggression
Subscale Scores Self: Female



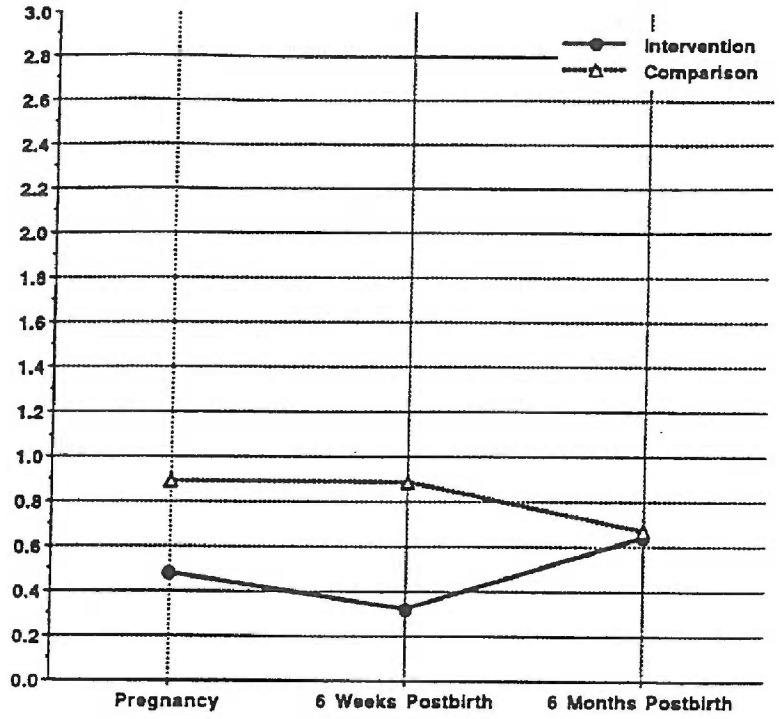
Conflict Tactics Verbal Aggression Subscale Scores Self: Intervention Males and Females



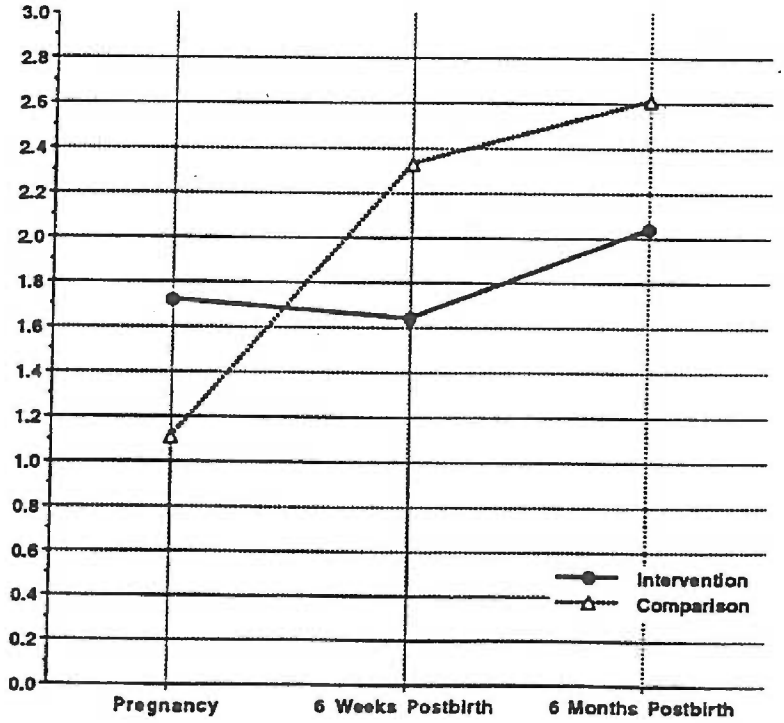
Conflict Tactics Verbal Aggression Subscale Scores Self: Comparison Males and Females



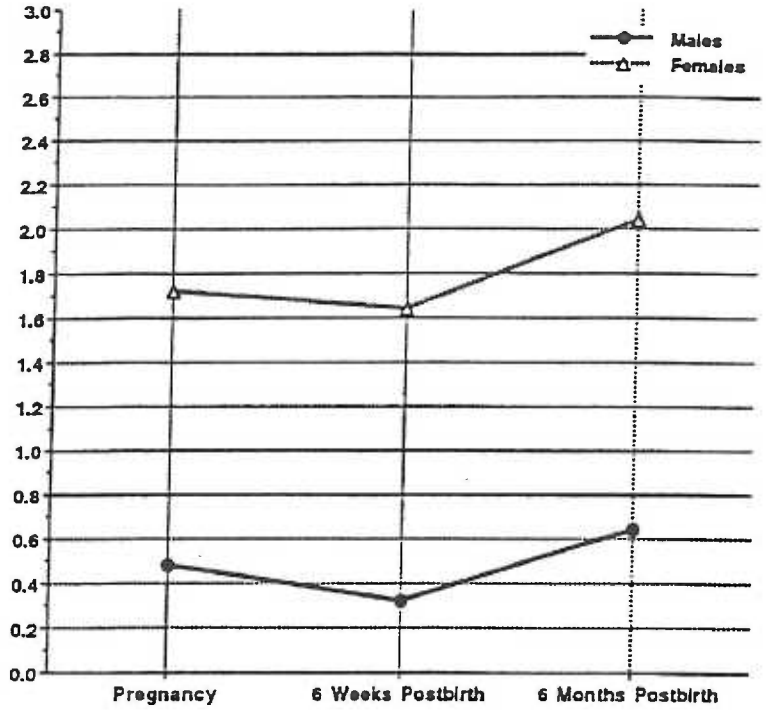
Conflict Tactics Violence Subscale Scores Self: Male



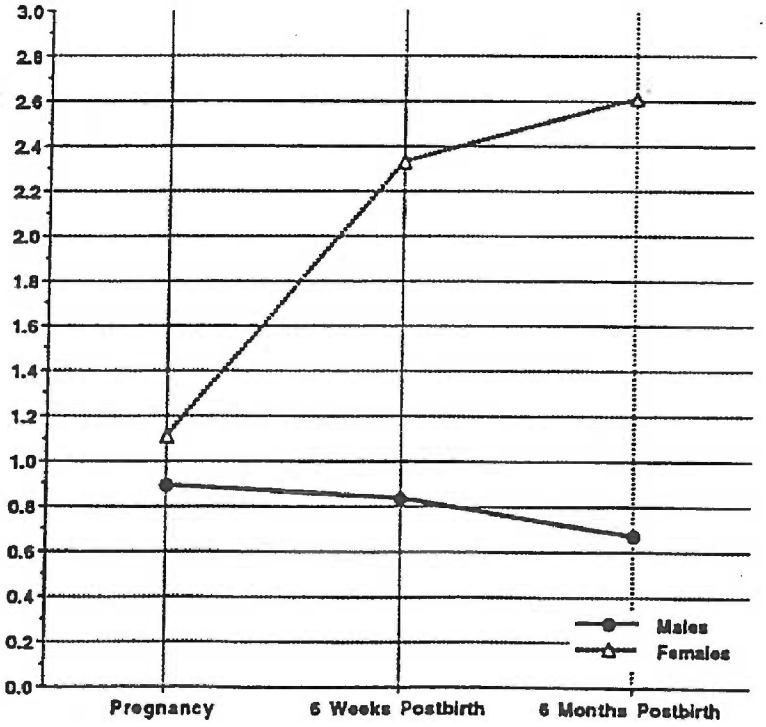
Conflict Tactics Violence Subscale Scores Self: Female



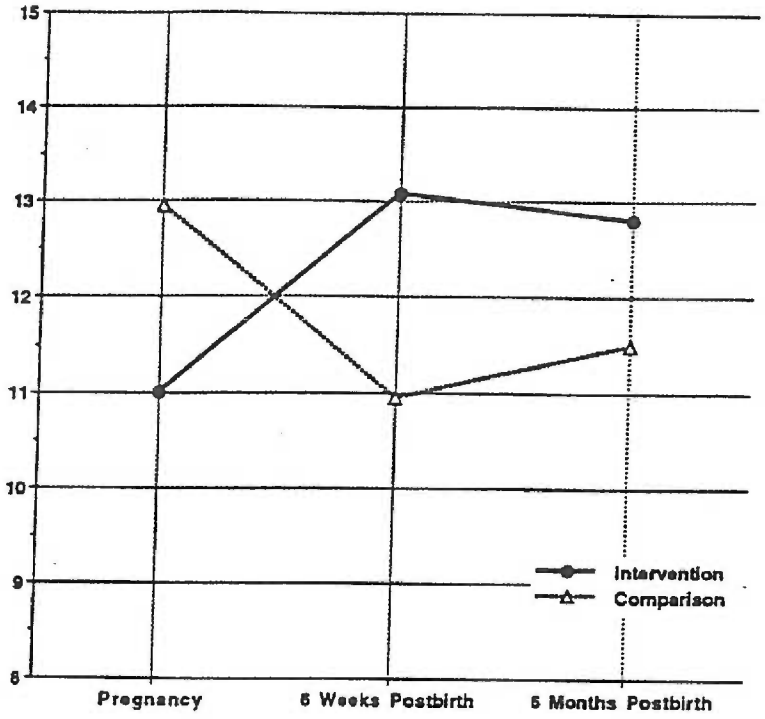
Conflict Tactics Violence Subscale Scores
Self: Intervention Males and Females



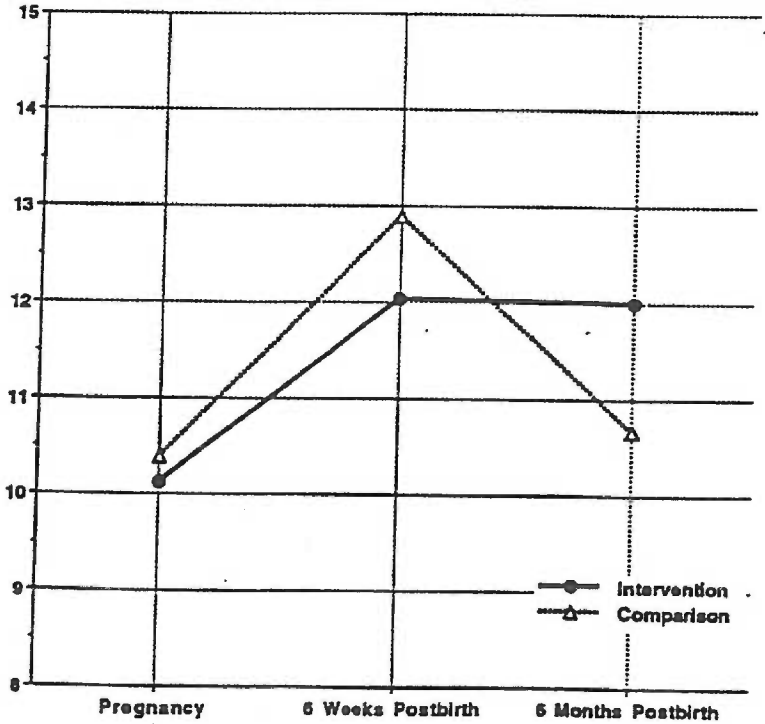
Conflict Tactics Violence Subscale Scores
Self: Comparison Males and Females



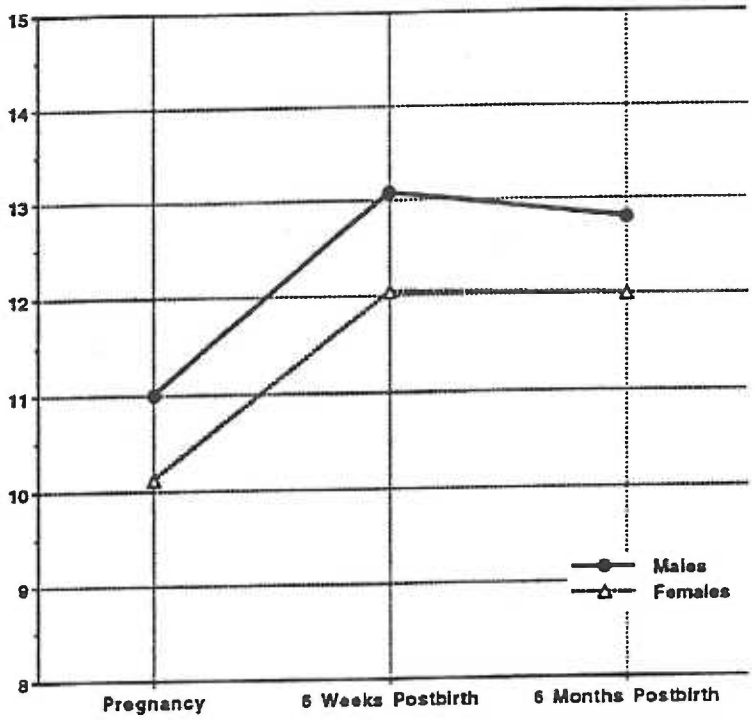
Conflict Tactics Reasoning
Subscale Scores Other: Male



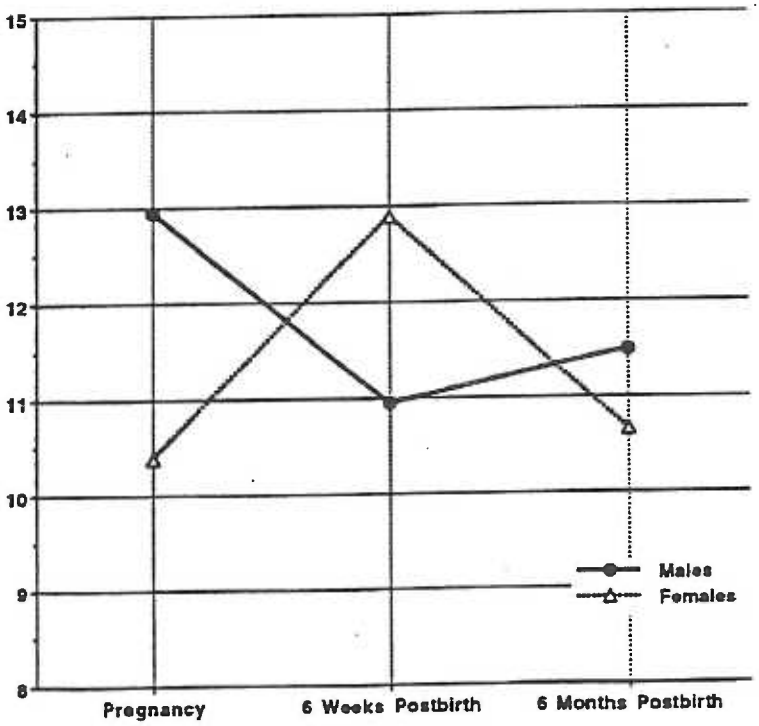
Conflict Tactics Reasoning
Subscale Scores Other: Female



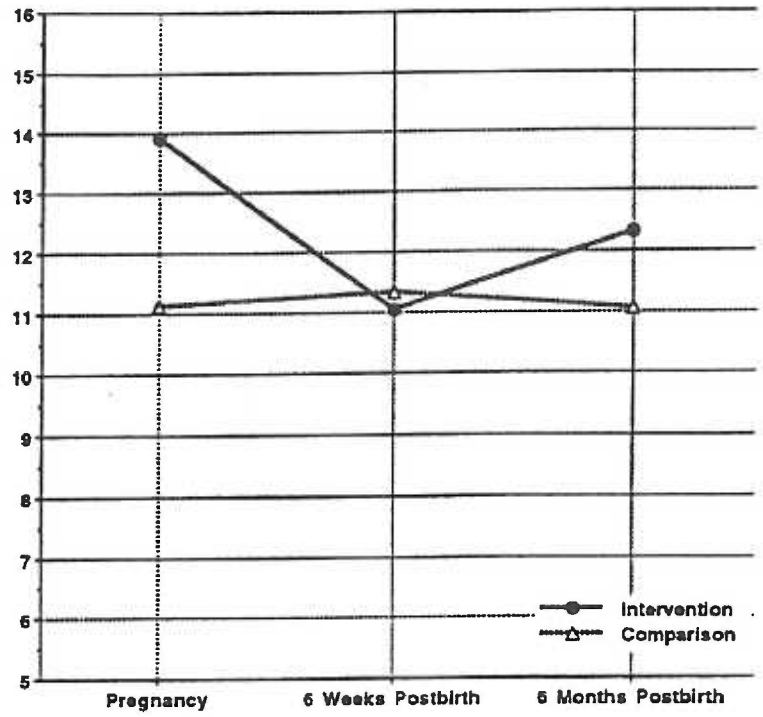
Conflict Tactics Reasoning Subscale Scores
Other: Intervention Males and Females



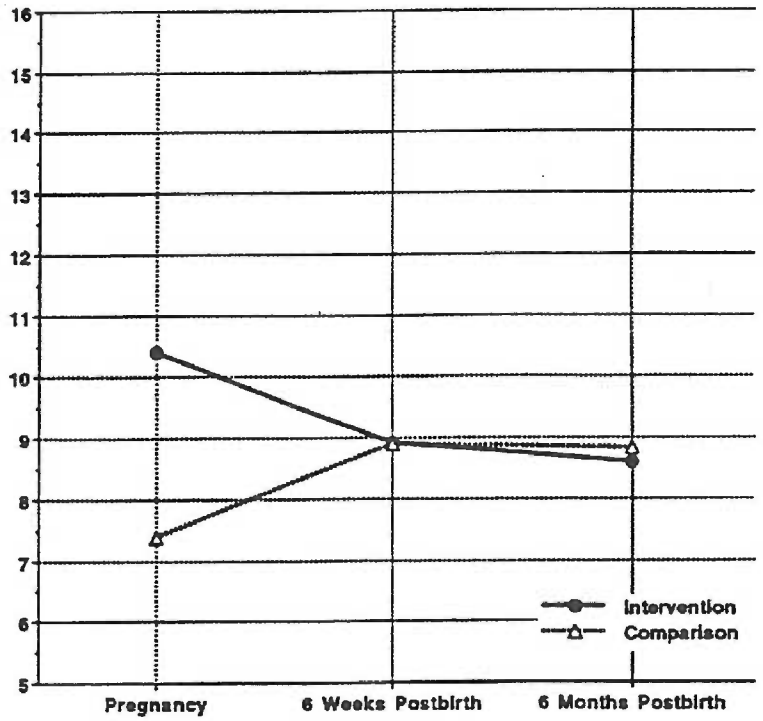
Conflict Tactics Reasoning Subscale Scores
Other: Comparison Males and Females



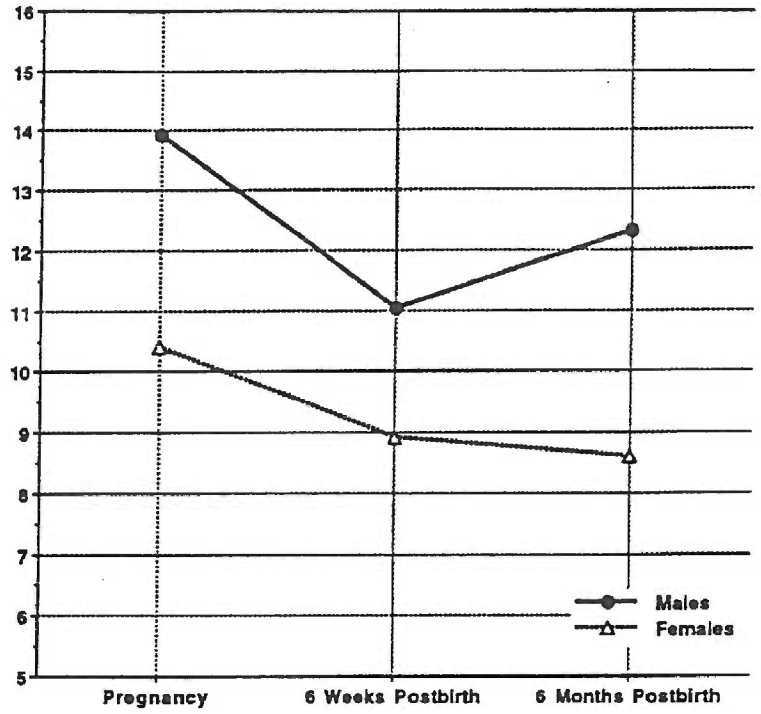
Conflict Tactics Verbal Aggression Subscale Scores Other: Male



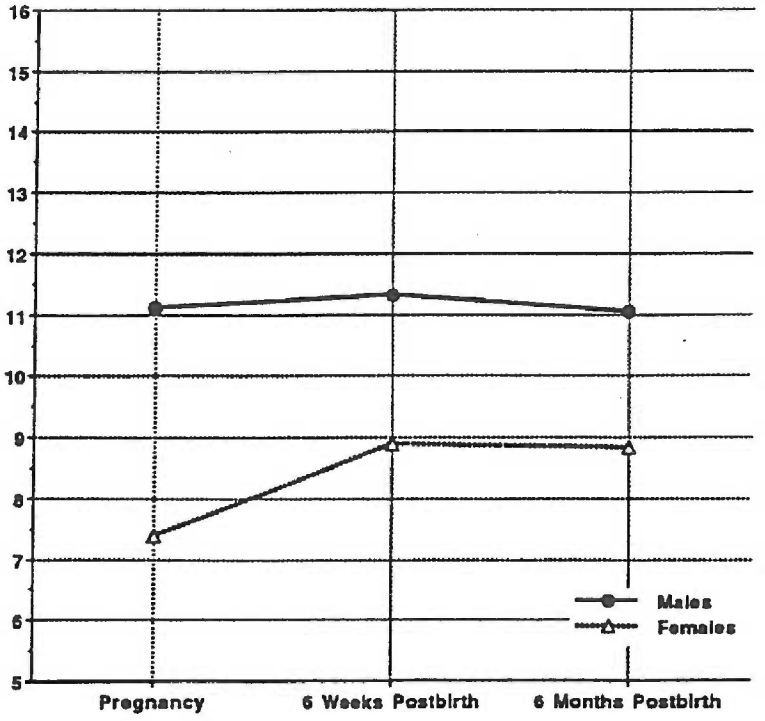
Conflict Tactics Verbal Aggression Subscale Scores Other: Female

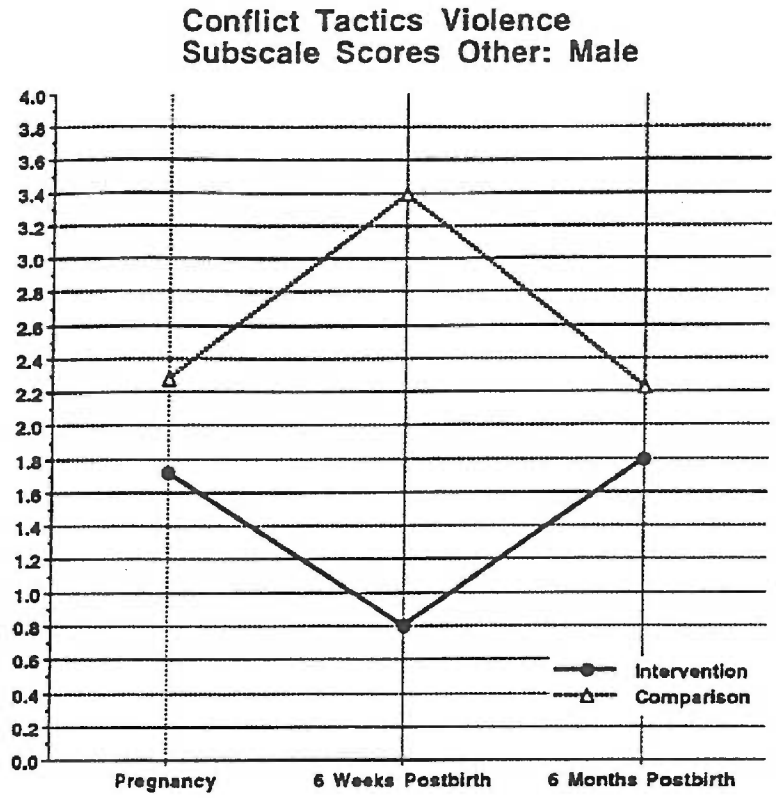


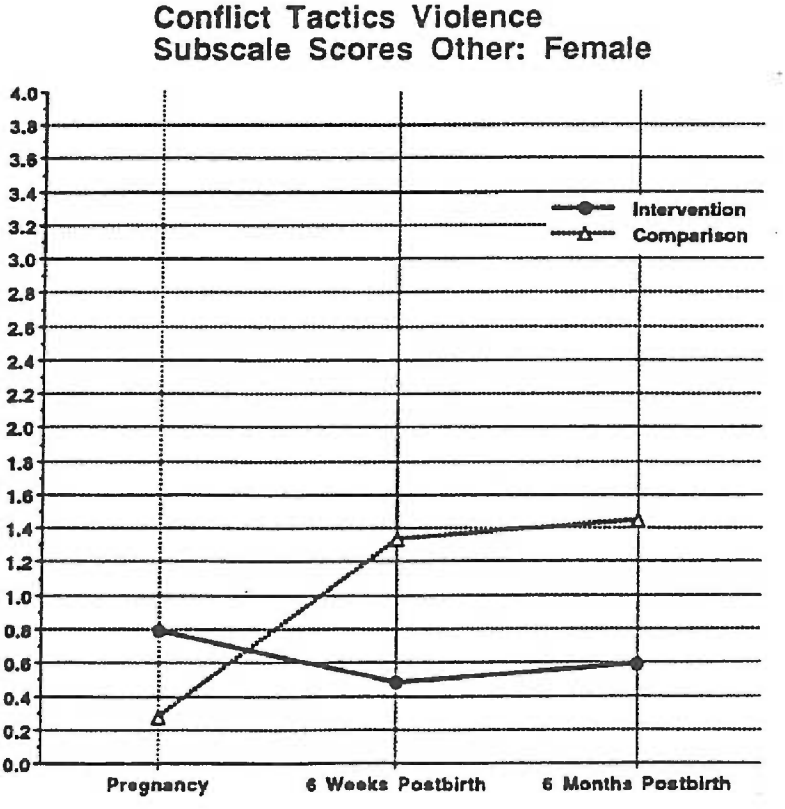
Conflict Tactics Verbal Aggression Subscale Scores Other: Intervention Males and Females



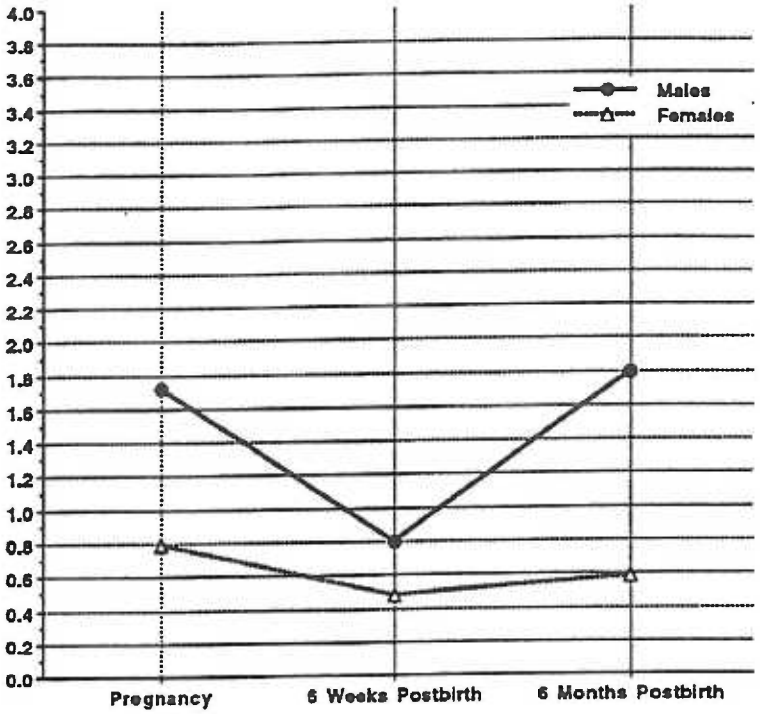
Conflict Tactics Verbal Aggression Subscale Scores Other: Comparison Males and Females




Conflict Tactics Violence
Subscale Scores Other: Male
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Intervention
Comparison
Pregnancy
6 Weeks Postbirth
6 Months Postbirth


Conflict Tactics Violence
Subscale Scores Other: Female
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Intervention
Comparison
Pregnancy
6 Weeks Postbirth
6 Months Postbirth

Conflict Tactics Violence Subscale Scores
Other: Intervention Males and Females



Conflict Tactics Violence Subscale Scores
Other: Comparison Males and Females