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The Effects of Prolonged Infertility
On Couples' Emotional, Marital and Sexual Adjustment

Vicki B. Veroff

A Thesis
in
The Department
of
Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
Concordia University
Montreal, Quebec, Canada

August 1987

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ISBN 0-315-41618-1
ABSTRACT

The Effects of Prolonged Infertility On Couples’ Emotional, Marital and Sexual Adjustment

Vicki B. Veroff

The impact of prolonged infertility on individual and couple functioning was examined in this questionnaire study. Fifty-one target subjects were recruited from the infertility practice of Dr. T. Tulandi, while 58 controls were recruited from another gynecological practice and through other sources in the Montreal community. In comparison to the control group, infertiles were found to be more depressed, lower in self/body esteem, less supported socially, more likely to present limitations in the sexual domain and less likely to rate their marriages as happy. There was also a trend for the infertile group to report more physical symptoms than the controls. Infertile women appeared to be the most damaged group, although infertile men also exhibited negative symptomatology. Confiding, avoidant coping and strong social support were found to facilitate adjustment. The results add to current understanding of the nature of reactions to infertility, and confirm that this prolonged stressor has negative consequences which persist several years post-diagnosis.
ACKNOWLEDGMENTS

I wish to thank my advisor, Bill Brender, for his thoughtful collaboration and attention to "auditory aesthetics" throughout this project. I also thank the other members of my thesis committee, Michael Conway and June Chaikelson, for their careful reading of the manuscript.

Special thanks to Drs. Togas Tulandi and Sally Jorgensen for access to subjects from their respective medical practices. Without their cooperation, this project would not have been feasible.

I owe a great deal to Rhonda Amsel, whose statistical knowledge gave meaning to my data, and whose encouragement always kept me going. She made me see that a thesis can be finished in one person's lifetime.

My deepest gratitude goes to my husband Jeff, who supplied me with computer, software, photocopier, subjects, stamps, envelopes, etc., etc., etc., and who listened semi-patiently to my rantings when any of the above ran out, broke down or got lost. I am also grateful to Jeff for introducing me to WordPerfect, without which any thesis - particularly mine - should never be attempted.

Finally, I wish to thank the men and women who participated in this study. Their honesty in discussing personal and sometimes painful material has helped shed light on a very sensitive issue.
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INTRODUCTION

With the advent and acceptance of effective contraception methods, the decision to have children is increasingly a matter of choice rather than chance (Miller, 1983). Most women plan to get pregnant at some point in their lives, often searching for the perfect balance between plans for parenthood and career goals. However, there is a small subsample of couples who seem unable to conceive a child once they decide the time is right to do so.

Generally, without the use of birth control, 25% of couples of childbearing age conceive within one month, another 38% conceive in six months, and a total of 80% become pregnant by the end of one year. In the second year, another 5% will also conceive (Behrman & Kistner, 1976). For the remaining couples who find themselves unable to conceive, the road to pregnancy becomes a struggle, requiring concerted effort and adaptation to a potentially childless lifestyle.

Facts on Infertility

Infertility, defined as the inability to conceive after one year of unprotected intercourse (Mazor, 1978), affects one out of six sexually active couples of childbearing age (Clark, 1982) or 10 to 20% of couples in
the United States (Bonnar, 1979) and approximately 300,000 people in Quebec at any one time. Two types of infertility have been specified: primary infertility refers to women with no history of pregnancy, and secondary infertility applies to women who have experienced one or more successful pregnancies. Sterility is permanent or incurable infertility, and is often diagnosed only after a lengthy medical investigation.

In almost 90% of couples who undergo an infertility investigation, an organic cause can be found. Of these cases, 50% can be treated successfully. This success rate is impressive, given the spontaneous cure rate of only 5% in untreated couples (Moghissi, 1979). In approximately 40% of infertility cases the etiology is male-oriented, whereas another 40% of cases are attributed to the female partner. For the remaining 20% of couples, male and female problems contribute jointly to cause infertility (Menning, 1980).

Infertility as a Social Issue

Infertility is gaining increasing recognition for a number of reasons. First, the incidence of the disorder is on the rise, due to both medical and sociological factors (Asunloye, 1978). People are now marrying and having children later. The age of first conception is thus often far beyond the optimal fertility age of 24 for women (Moghissi & Wallach, 1983). In addition, the high
incidences of venereal diseases (Rakoff, 1977), smoking (Baird & Wilcox, 1985; Howe et al., 1985), radical weight control practices (Bates, 1985; Bates et al., 1982) and possibly the use of certain types of contraceptives (e.g. the Pill; IUDs) (Rakoff, 1977) can increase the risk of infertility or sterility in women. Abortion, too, despite vast improvements in technique and post-operative care, carries a risk of infection which can cause infertility in one to five percent of cases (Behrman & Kistner, 1975). Finally, increasing rates of abortion and single motherhood have dramatically reduced the number of infants available for adoption by childless couples, which may make infertility even more burdensome.

**Stresses of Infertility**

Infertility can be very distressing to either or both members of a couple. The ability to conceive a child is something most people take for granted. Since many young people are engaging in sexual activity long before marriage, they tend to be more concerned with preventing rather than achieving pregnancy. When a couple finally decides to begin a family and finds this presumably natural process difficult, their ideas and ideals must suddenly change. Reactance theory (Brehm, 1966; Brehm, 1976) predicts that whenever an individual's "free behaviours" (i.e. thoughts, acts or decisions normally under one's control) are
eliminated or threatened, psychological distress will occur. In the case of infertility, a number of options previously taken for granted are at risk, such as the decision to have children and the various activities of parenthood. According to Brehm (1976), reactance arousal is greatest when the number of available alternatives is small. Thus couples now affected by infertility may be distressed further by the decreasing availability of infants for adoption. Reactance theory also posits that when a freedom is eliminated or threatened the unavailable alternative becomes more desirable, so even those couples who were not particularly anxious to have children initially may react strongly to their inability to conceive, and be more motivated to achieve pregnancy.

Another burdensome aspect of infertility may be the recurring pattern of hope and then depression associated with the onset of each menstrual cycle. Some authors have attempted to liken infertility to stages of mourning a death, using Kubler-Ross' (1969) model whereby individuals experience denial, anger, grief and finally acceptance of their loss (Batterman, 1985; Goodman & Rothman, 1984). Although this model has not been supported empirically, the process of grieving is generally thought to be beneficial, as acceptance allows the individual to put his or her problems to rest and get on with life. However, one might ask whether the cyclical nature of infertility allows
couples to reach the final stage of acceptance. It would seem that they must deal with renewed anger and grief each month, when their much-desired pregnancy is disconfirmed. This continual burden of unresolved grieving may make infertility a particularly stressful condition.

Other factors contribute to the stressful nature of infertility. The parental role in most societies is intrinsically linked to sex roles and identities (i.e. one's sense of masculinity or femininity). If one cannot become a parent, then doubt may be cast upon one's male or female identity. The man who has a low sperm count or poor sperm motility may feel less a man, whereas the woman who does not ovulate may consider herself a less than adequate woman. "Barrenness" in the minds of many is associated with a host of negative qualities, and childless couples are regarded by society as having diminished social value.

RESOLVE, a self-help group for infertile couples, has compiled a list of stressors associated with the inability to conceive. One of the major reasons for desiring children is to improve or strengthen family ties, and to provide grandchildren, nieces and nephews for family members (Campbell, Townes, & Beach, 1980). Infertile couples may thus feel guilty, inadequate and isolated for not having fulfilled these perceived familial obligations. To exacerbate the feelings of isolation, infertile couples
often avoid family events that include pregnant women and/or young children.

According to RESOLVE members, infertility can be a great financial burden, since medical tests and drugs are expensive. In Quebec, several procedures used in treating infertility (e.g. in vitro fertilization) are not covered by socialized medicine. Women may also face a conflict between career goals and the demands of infertility treatments (e.g. having to miss work in order to keep medical appointments). A conflict such as this not only compounds financial hardships but can cause professional difficulties for the woman as well. In addition, couple members do not always react to childlessness in the same way. Whereas one spouse (often the woman) may remain depressed and unable to accept the disorder, the other may expect his or her spouse to cheer up and resume a "normal" life. Similarly, one partner may be open about the situation, while the other may be secretive and avoid disclosure. Conflicts over such issues can undermine marital cohesiveness just when it is needed most (Goodman & Rothman, 1984).

Finally, social support is often lacking for afflicted couples. Pressure from parents and relatives may escalate as the failure to get pregnant becomes apparent. Conversely, friends and family may avoid the issue of infertility and/or children completely, out of embarrassment, pity or uncertainty about what to say or do.
Infertile individuals themselves may avoid social contacts, as mentioned earlier, the need for secrecy being rationalized as a defense against pity or pseudo-empathy, or as a way to hide shame (Goodman & Rothman, 1984). The results of such attitudes are likely to be alienation and isolation. From this perspective, infertility may be similar to abortion, in that women who undergo this procedure explicitly limit the number of people who know about it. As a result, some women feel lonely and isolated following abortion (Robbins & DeLamater, 1985).

Pennebaker (1985) has recently suggested that the inability to discuss a stressful life event may result in obsessive thinking and long-term health problems. Pennebaker and Hoover (1986) compared subjects who had experienced a traumatic event (e.g. sexual molestation) and had confided in others about it with those who experienced a trauma but did not confide in others, and with a no-trauma control group. The results indicated that the Trauma/No Confide subjects went more often to a health clinic, took more over-the-counter drugs, and suffered more physiological symptoms and diseases than did subjects in either of the other two groups. Pennebaker and O'Heeron (1984) replicated these data with confiding and nonconfiding spouses of suicide and fatal accident victims. The authors proposed that the process of confiding in others may afford an opportunity to organize, structure and find meaning in the
stressful experience. Infertile couples, then, to the extent that their problem is not easily discussed may be susceptible to the disturbances Pennebaker has described. It should be noted that confiding needs to be considered in the context of social support available for and/or used by infertile individuals. Confiding seems by nature to imply both the presence of a socially supportive relationship and the possibility of eliciting various types of support (e.g. emotional, instrumental). This social aspect is a dimension of confiding overlooked by Pennebaker (1985). Rather, his theory pertains solely to the way in which confiding can be a useful coping strategy. It seems clear that from a number of perspectives, which must include social support as well as coping, confiding can be an important element in individuals' adjustment to infertility.

**Psychological Factors**

Research on the psychological aspects of infertility has generally focused on women only, and has emphasized antecedents rather than consequences of the disorder. As recently as 10 to 20 years ago, it was widely believed that the inability of some women to conceive was directly attributable to emotional or psychological problems (e.g. Eisner, 1963; Mai, Munday, & Rump, 1972a). Infertile couples were described in terms of typical personality traits which rendered them unable to conceive (Denber,
1978). For example, Eisner (1963) compared the scores of 20 "normal infertile" (no organic cause) women and 20 control women (multiparous) on the Rorschach test, using five blind and four informed judges. All judges agreed that the infertile women showed greater emotional disturbance than did the control subjects, possibly implicating schizoid traits. Mai, Munday and Rump (1972a) interviewed 50 infertile and 50 control women, along with some of the women's husbands, and they found that significantly more infertile women could be diagnosed as having hysterical or aggressive personality disorders. The infertile women in this study also gave several indications of disturbance in psychosexual orientation (i.e., feminine identity) and behaviour. However, they demonstrated no greater neuroticism or psychoticism than did controls.

Some researchers contend that infertility may cause rather than result from emotional difficulties (Seibel & Taymor, 1982; Seward et al., 1965; Slade, 1981). Without drawing firm conclusions about cause and effect, several authors have noted disturbances in infertile women, including feelings of inadequacy, failure, loss of control and depression (Denber, 1978; Mazor, 1978; Rosenfeld & Mitchell, 1979; Rutledge, 1979; Seibel & Taymor, 1982). Many infertile women also tend to feel sexually unattractive, socially unworthy and to have negative body images (Platt, Ficher, & Silver, 1973; Rosenfeld &
Mitchell, 1979). Although little is known about the effects of infertility on the male partner, some of the same problems (e.g., depression, stress) have been found in men (Bonnar, 1979). One recent study by McEwan, Costello, and Taylor (1987) examined adjustment to infertility in both men and women. These authors found that 37% of the women ($N = 62$) and 13% of the men ($N = 45$) exhibited psychological disturbances including depression and anxiety. Further, they noted that several variables contributed to adjustment in women. For instance, distress was greatest in younger women, women who had not received a diagnosis, those who felt responsible for their infertility, and those who perceived their chances of conceiving as lower than the actual medical prognosis. Several features in the design of this study should be noted, however. The authors, in attempting to examine infertility, chose not to use a control group. Their sample consisted of couples with and without children, and the use of fertility medication was not constant across the sample. Finally, there was a range of diagnostic categories (e.g., female causes, male causes, diagnosis not received) represented in the group. The authors attempted to examine the influence of these covariates, but the numbers in each subsample were relatively small. Thus, the findings in this study must be cautiously interpreted.
There have been reports in which no significant emotional problems emerged in association with infertility. For example, Seward et al (1965) evaluated the psychological status of 41 primary infertile women and 40 multiparous controls. On measures of sentence completion, the Thematic Apperception Test (TAT), the Draw-A-Person Test (DAP) and a personal interview, more similarities than differences in psychological functioning were found between the two groups. The authors concluded that contrary to their hypotheses, there was no evidence implicating psychological factors in the etiology of primary infertility. Bos and Clighorn (1958) did a double-blind study that also found no psychological differences between women suffering from organic infertility and those women whose infertility was "unexplained" (i.e. no known physiological etiology). Unfortunately, past studies have suffered from such methodological imperfections as poor or no control groups and volunteer bias, which makes drawing firm conclusions about the relationship between infertility and emotional problems difficult (Danscher, 1978).

Infertility may be similar to long-term medical disorders such as multiple sclerosis, early-stage cancer and coronary heart disease, which often have deleterious effects on adjustment. Common reactions to such disorders include depression, anxiety and poor self-esteem (Telch & Telch, 1985). Cohen and Lazarus (1979) have described various
types of threat facing illness victims, most of which may apply to infertile men and women. Whereas infertility is not life-threatening, it does involve threats to (a) the self-concept and future plans, (b) bodily integrity, in terms of reproductive functioning, (c) emotional equilibrium, and (d) the fulfillment of social roles and activities. It should not be surprising then, that like chronic illness victims, infertility patients exhibit specific symptoms of emotional distress in response to their disorder.

Predictions about the duration and severity of reactions to infertility and other continuing stressors are difficult to make, since the literature on this issue is mixed. Schulz and Decker (1985) studied the long-term adjustment of spinal cord-injured persons and found that respondents were only slightly more distressed than similar nondisabled persons in the general population. Manne, Sandler and Zautra (1986) observed that passage of time seems to relieve the distress associated with herpes. Conversely, there is at least one recent study reporting poor long-term adjustment in response to a negative life event. Lehman, Wortman and Williams (1987) found that individuals who lost a spouse or child in an accident still exhibited significant distress four to seven years later. The present study was therefore concerned with the impact of prolonged infertility on overall adjustment and well-being.
Psychosexual Consequences of Infertility

Empirical data on the effects of infertility on psychosexual functioning have been more straightforward and interpretable than those concerning emotional factors. In recent years, researchers have come to recognize that infertility and the ensuing medical investigation place unique stresses on sexual functioning. Because of the focus when trying to conceive on performance- and goal-oriented achievement rather than affection, play or pleasure, couples who exhibit normal sexual functioning prior to experiencing infertility may subsequently develop a wide variety of sexual problems. Loss of libido (Bonnar, 1979), orgasmic dysfunction and decreased frequency of intercourse have all been reported in both members of infertile couples (Drake & Grunert, 1979; Rosenfeld & Mitchell, 1979; Seibel & Taymor, 1982). For the male partner, the stress involved in an infertility investigation can lead to secondary or midcycle impotence, premature ejaculation and retarded ejaculation (Drake & Grunert, 1979; Rosenfeld & Mitchell, 1979; Rutledge, 1979; Seibel & Taymor, 1982). In a study of 51 infertile couples with no prior history of sexual problems, Drake and Grunert (1979) found that 50% of the men reported erectile difficulties during the woman's fertile period.

It is worthwhile noting that apart from sexual functioning, little is known about the effects of
infertility on the marital relationship (Bell, 1981). Intuitively, it seems that the pressures associated with infertility would increase the level of stress and strain already present in any marriage. However, in the few relevant studies to date, although marital unrest and even dissolution were found in some couples (Bonnar, 1979), the majority exhibited few marital problems as a result of their inability to conceive (Bierkens, 1975; Bonnar, 1979). Nevertheless, no studies have yet been done comparing, with appropriate controls, the marital relationships of similar or matched fertile and infertile couples. It is possible that infertility is not a unique type of stressor, but merely an additional strain in the face of which only couples already in distress will break down. Such distress may be individualistic, affecting either or both spouses separately, or a function of the dyad. This explanation would be compatible with the finding that only a small fraction of afflicted couples develop marital problems. Clearly, there is a need for careful empirical study of how infertility burdens marital relationships and why some couples are more damaged by this condition than are others.

Social Support

Social support may be an important mediator of the stress provoked by infertility. Numerous studies indicate that the availability and support of friends, family and
spouses, as reported by subjects on questionnaires, are linked to psychological and, in some cases, physical well-being (e.g. Gore, 1978; Hirsch, 1980; Kessler & Essex, 1982; Miller & Lefcourt, 1983; Schulz & Decker, 1985).

Several definitions of social support have been proposed and utilized for research purposes. In general, conceptualizations have fallen into two basic categories. Structural support refers to the number of relationships or social connections an individual has (embeddedness). Measures designed to evaluate embeddedness vary in their degree of comprehensiveness. For example, Kessler & Essex (1982) used marital status alone as a support measure, and they found that having a spouse - regardless of marital quality - significantly reduced depression in a community sample. Bell, LeRoy and Stephenson (1982) obtained similar results with a comparable sample, but their support measure was somewhat more complex, including marital status; number of friends and relatives close by, church attendance and memberships in clubs or organizations.

Functional support refers to the types of support available from various sources. Functional measures elicit information on existing relationships, but unlike structural indices, they focus on the roles or services these relationships provide. According to Cohen and Wills (1985), most measures of functional support involve four types of support resources. First, esteem support provides the
knowledge that one is valued and accepted. Second, informational support refers to assistance available for defining, understanding and coping with life stresses. Instrumental support is financial and/or material aid, as well as the provision of needed services. Finally, social companionship consists of spending time with others in leisure and recreational activities. Researchers vary on which combinations of the four support resources they use, what labels they assign to each, and on how comprehensive their measures are. For instance, Paykel et al. (1980) found depression-mediated effects of support in postpartum women using a measure of husband's help with household chores (instrumental support). At the other end of the complexity continuum, detailed inventories of functional support have been constructed, such as the Arizona Social Support Interview Schedule (ASSIS) (Barrera, 1981) and the Inventory of Socially Supported Behaviors (ISSB) (Barrera, Sandler & Ramsay, 1981).

Still other types or aspects of social support have been postulated. For example, perceived social support is a more subjective measure referring to the degree to which individuals feel support is available (Mitchell & Hodson, 1986). Questionnaires have been designed to evaluate perceived support (e.g. Procidano & Heller, 1983), and various authors have compared this variable with other support measures. Cohen, McGowan, Fooskas and Rose (1984)
compared perceived social support with functional support as measured by the ISSB (Barrera, Sandler & Ramsay, 1981). These authors found that perceived support had multiple effects on adjustment following negative life events, while functional support had no impact at all. Similarly, perceived social support was found to be more strongly related to functional and psychological outcome in myocardial infarction patients than were more indirect structural measures such as marital status and number of household members (Ell & Haywood, 1984).

Satisfaction with support is a more evaluative construct occasionally reported in the literature (e.g. Hirsch, 1979). This measure extends the concept of perceived support, which might include behaviours available but not necessarily appreciated, to the more specific perceived adequacy of support. Although this concept has not been studied in depth, it may be particularly meaningful to infertile men and women who, over the course of several years, receive various types and degrees of support from a number of sources (e.g. friends, family, medical technicians, infertility groups).

Intimacy, which may be defined as a close, mutual relationship between two people, is another postulated dimension of social support.¹ According to Miller and

¹ Some authors (e.g. Lowenthal & Haven, 1968) use the terms "intimate" and "confidant" interchangeably, or postulate that confiding is an important aspect of
Lefcourt (1983), intimacy can enhance self-esteem by validating the individual's sense of worth. In addition, an intimate relationship can provide the opportunity to share stressful events, receive support and obtain help in problem-solving. Miller and Lefcourt (1983) devised a questionnaire to examine interpersonal intimacy and found, as expected, that marital relationships generally involve greater intimacy than do nonmarital relationships. Nevertheless, both types of relationships have been shown to be beneficial. For example, Waring and Patton (1984) found that patients suffering from non-bipolar major depression were more likely to improve in the context of strong marital intimacy than patients with low or no intimacy. Lowenthal and Haven (1968) studied aging individuals and found that all intimate relationships served as buffers against the traumatic emotional and gradual social losses associated with widowhood and retirement. Interestingly, these authors found that women and subjects in higher socioeconomic classes had more close relationships, and were thus better protected against stress, than men and lower SES subjects. Finally, Miller and Lefcourt (1983) looked at the interpersonal intimacy. While a relationship likely exists between intimacy and confiding, it is uncertain whether the dimensions of one construct (e.g. coping and social support in confiding) parallel or differ from those of the other. Until empirical distinctions can be made, it would seem wise to examine the two constructs separately. Thus, the following discussion will attempt to deal solely with intimacy.
relationship between stressful life events and intimacy, using retrospective data. They found that individuals lacking a current intimate relationship were prone to higher levels of emotional disturbance, particularly when many negative or few positive life events had occurred.

Inconsistencies in the social support literature, noted by several authors (e.g. Cohen & Wills, 1985; Dean & Lin, 1977; Procidano & Heller, 1983; Thoits, 1982a), may be due at least in part to the different social support measures used. Although structural and functional support may seem intuitively to be related, there is actually only a low correlation between them (Cohen & Wills, 1985). Thus, the research projects using one conceptualization or the other may be looking at two very different processes. Similarly, few studies have considered all aspects of support, including intimacy and perceptions of support.

Cohen and Wills (1985) examined the relationship between stress and social support in over 55 studies in order to assess the merits of the buffering hypothesis. This hypothesis states that there is an interactive relationship between social support and stressful life events. Specifically, as life stressors increase, individuals with strong social support systems should have fewer symptoms, whereas those with little or no social support may be more vulnerable to resultant psychological and/or physical distress. In the absence of major life
stresses, however, the buffering hypothesis assumes that people with or without strong support systems will be equally able to cope with everyday events (Cassel, 1974; Cassel, 1976).

Conversely, the main or direct effect hypothesis asserts that social support affects well-being independent of the influence of major life stresses. According to this hypothesis, the better supported an individual is, the less psychological distress he or she will experience at any given time, regardless of number or intensity of life stressors. By the same token, the less supported one is, the more psychological and/or physical distress he/she should experience at any one time (Wilcox, 1981).

Although a number of authors report evidence supporting both the buffering and the direct effect hypotheses (Cohen & Hoberman, 1983; Gore, 1978; Habif & Lahey, 1980), many have found support for either the former (e.g. Cobb, 1976; Cutrona, 1984; Thoits, 1982a; Thoits, 1982b; Wilcox, 1981) or the latter (e.g. Bell, LeRoy & Stephenson, 1982; Billings & Moos, 1985; Dean & Ensel, 1982; Holahan & Moos, 1981). The review by Cohen and Wills (1985) found first, that there is evidence consistent with both models, and second, that the nature of the evidence depends on the operationalization and conceptualization of social support. Confirmation of the buffering hypothesis has been particularly strong when the measure is functional and samples the extent of esteem
and informational support. Evidence for the main effect hypothesis has been found when the measure assesses a broad range of sources of structural support. Studies that found support for both models usually employed more global measures of social support, including structural as well as functional items.

Interestingly, several recent studies have found that, in certain circumstances, social support can have deleterious effects on adjustment. For example, Hays and Oxley (1986) followed the social network development of college freshmen for a period of 12 weeks. These authors found that the amount of conflict in interpersonal relations increased over time, and that network conflict was associated with poor psychological adjustment. Ell and Haywood (1984) noted that personal relationships can be primary sources of stress and strain, and that social networks do not always act in the best interests of an individual. It may be that different types of support interact with negative life events in specific ways, thereby determining whether the support will have positive, negative or neutral effects on adjustment.

In studying infertility, then, it will be necessary to include items on social network involvement, support functions, perceptions of support and intimate relationships in order to examine thoroughly the influence of social support on couples' adjustment. Using a multidimensional
measure of support, a direct mediating effect is expected.

A number of secondary support-related issues were also addressed in the literature reviewed by Cohen and Wills (1985). Of particular relevance to the present study is the possibility that social support may be confounded with life events; in other words, many important events can be viewed as losses or gains of supportive relationships (e.g. in the case of unemployment). An individual's current support level is thus likely to be a product, at least in part, of prior life changes (Thoits, 1982a). According to Cohen and Wills (1985), however, studies in which there was no relationship between the stressful event and support measures all showed clear evidence favouring the buffering hypothesis, whereas studies in which there was clear confounding of stress and support found no buffering effect. Thus, although the issue of confounding may be relevant to some individual studies, it does not appear to apply to the literature as a whole. Similarly, some authors suggest that social support effects may be artifactual (Andrews et al., 1978); that is, phenomena attributed to social support may be due instead to differential reporting tendencies of the groups being studied (e.g. well- versus poorly-educated subjects). Although some differences between samples are often unavoidable, the vast majority of studies in this area provide evidence for at least one of the available social support models (Cobb, 1976).
Coping Strategies

The impact of prolonged infertility on the marital, sexual and psychological adjustment of a couple may be mediated by the couple's individual and joint coping styles or strategies. Coping can be defined as the behaviours and cognitions in which people engage in order to master, tolerate or reduce internal and external conflicts or problems (Folkman & Lazarus, 1980; Pearlin & Schooler, 1978). Several coping strategies have been conceptualized in the literature. Some authors postulate the existence of problem-focused coping, which involves the management or alteration of the sources of stress, and emotion-focused coping, which is the regulation of stressful emotions (Billings & Moos, 1981; Folkman & Lazarus, 1980; Kaloupek, White & Wong, 1984; Lazarus & Launier, 1978; Mitchell, Cronkite & Moos, 1983; Moos, 1977; Parásuraman & Cleek, 1984). Examples of problem-focused or instrumental coping include direct action, attempts at negotiation and discussion, and information-seeking. Emotion-focused or palliative coping modes include acceptance, relaxation, substance abuse and distraction. Many variations of these constructs exist in the literature, most of which can be reconceptualized into active versus avoidant coping measures.
Empirical Findings on Coping

Much research in the area of coping has dealt with chronic or terminal illnesses, such as cancer or heart disease, and coping with discrete surgical or medical procedures (e.g. Cohen & Lazarus, 1973; Jardine, Zemore & Shepel, 1983; Kaloupek, White, & Wong, 1984; Moos, 1977; Shipley, Butt, Hörwitz & Farbry, 1978). Studies examining coping and adaptation outside of extraordinary or life-threatening circumstances, however, have produced some interesting results. For example, it seems that in general, a varied coping repertoire may be more important than the use of any particular coping strategy in dealing with everyday strain (Mitchell, Cronkite & Moos, 1983). In addition, it is clearly better to be armed with a repertoire of coping responses and a fund of psychological resources than with either set alone (Pearlin & Schooler, 1978).

In the area of couple relations, problem-focused coping strategies such as reflective probing of conflicts and negotiation are inversely correlated with the magnitude of marital problems and distress. Conversely, emotion-focused and avoidant strategies (e.g. eruptive discharge of feelings, selective ignoring, resignation) appear to exacerbate stress and conflict in marriage (Billings, 1979; Menaghan, 1982; Pearlin & Schooler, 1978). Problem-focused coping has also been associated with lower levels of depression (Mitchell, Cronkite & Moos, 1983).
generally, it seems that situations in which action can feasibly be taken, in which there is room for negotiation and in which information is needed generate higher levels of problem-solving coping, whereas situations which hold few possibilities for positive change and where one must refrain from acting generate more emotion-focused coping. For example, emotion-focused coping seems to be more advantageous in dealing with health problems where a solution is unavailable or not immediately accessible, and where the focus is on managing anxiety, fear and dread and on restoring self-esteem (Folkman & Lazarus, 1980). In this vein, it is interesting to note that coping mechanisms such as denial are being reinterpreted as adaptive when the situation is one over which an individual has little control (e.g. undergoing surgery). That is, the attempt to control a stressful situation can be maladaptive if those efforts are destined to be unsuccessful. Support for this novel formulation comes from a number of recent studies. For example, Cohen and Lazarus (1973) found that vigilant subjects had more complicated postoperative recovery than did avoidant subjects. Similar results were reported by George et al. (1980) regarding recovery from oral surgery. Taylor (1983) contends that disconfirmation of efforts at control may not be emotionally distressing if other tactics or plans aimed at reaching one's goal are available. However, when the attainment of the goal itself cannot be
controlled, continued efforts in that direction can only produce distress. Such may be the case with prolonged infertility, in which a seemingly wide range of tests and techniques available to couples is still not able to help them conceive. Denial or the relinquishing of active control may be adaptive for these couples, in order that they may return to a normal pattern of activity, particularly in the sexual realm.

A contrasting position to the proponents of denial is that of Pennebaker (1985). As mentioned earlier, he contends that actively confronting a problem by discussing it is adaptive, whereas avoiding an issue by refraining from discussion can lead to physical symptoms or illness. Pennebaker's theory, however, deals solely with the confiding aspect of coping, which may not be the equivalent of active coping. It may be that in a static situation active discussion about one's feelings is adaptive, whereas active futile efforts at producing change are detrimental. In his theory, Pennebaker also fails to address the issue of a stressor's controllability. It is not clear whether he is focusing on all types of stressful events, or on a specific type for which confiding in others is particularly helpful.

Unfortunately, current measures of coping tend to be diverse and lengthy, which makes interpreting the literature to date difficult. The measures themselves are often cumbersome. One exception is the Miller Behavioral Style
Scale (Miller, 1980), which uses four hypothetical situations to evaluate active (monitoring) and avoidant (blunting) coping tendencies. This scale has been validated on a number of populations, and appears able to predict behavioural strategies in response to physical as well as psychological stressors (e.g. Miller, 1987).

The adequacy of coping methods used in dealing with a specific life stressor may depend in part on whether the ensuing stress or conflicts are perceived as intrapersonal- or marriage-based, whether or not solutions to the problem are readily available, and on the various solutions' probability of success. The coping styles most adaptive for people undergoing a long-term but non-life-threatening stressor may be very different from those most effective for short-term strains or for terminal illness patients and their families. The context and duration of a stressor may thus prove to be important moderators of effective coping techniques (Gil, 1984). It remains to be seen which mode of coping is most appropriate for individuals suffering from prolonged infertility.

The Present Study

The goals of the present study were first, to determine whether infertile couples experience difficulties in their emotional adjustment and marital and sexual relationships, and second, to see if coping style and social
support are related to quality of adaptation to their problem. That is, is there a difference in functioning between individuals who cope in distinct ways, and/or between individuals who have high versus low social support? The present study attempted to determine which coping strategy or strategies facilitate adaptation, and what degree or type of support is most beneficial in adapting to prolonged infertility.

In order to examine these issues, infertile couples were compared to an equal number of normal married couples similar on a variety of factors, such as age, educational level and years married. Subjects were evaluated on a number of standard questionnaires that measure marital and sexual functioning, esteem and mood. In addition, couples were asked to complete various coping and social support questionnaires. Finally, the infertile subjects were evaluated in terms of their desire to have a child, their expectation of conceiving, and the actual duration of their infertility, so the influence of these factors on couples' response to infertility could be examined.

Specifically, it was expected that a satisfying social support network and avoidant coping would facilitate healthy functioning in afflicted couples. Further knowledge of the relationships between various intervening variables and adjustment to infertility could play a role in improving psychotherapy for this vulnerable group.
METHODOLOGY

Subjects:

Experimental subjects were recruited from the infertility practice of Dr. Togas Tulandi at the Jewish General Hospital. Out of 179 couples contacted, 86 (48%) were ineligible for the study for various reasons which included pregnancy or adoption, giving up attempting to conceive, divorce (one case), relocation, illness, death and inclusion in another research project. Of the remaining 93 couples, 30 women and 21 men (36.6%)\(^2\) participated (nine male partners declined to participate). Refusers were found to be of two types: those who refused to participate outright (\(n=22, 23.7\%\)), and those who wished to call back and failed to do so, or who were only able to participate after the project's conclusion (\(n=37, 40\%\)). Available sample data on variables such as age, diagnosis, duration of infertility and occupational status failed to reveal significant differences between the participant and nonparticipant

\(^{2}\) In fact, 34 women and 23 men volunteered to complete the questionnaires, but four women and two men had difficulty with the items in both French and English and were thus excluded. The percentage of participants includes these subjects in order to make a comparison between volunteers and nonvolunteers.
groups. The mean duration of infertility in this sample was 4.7 years (s.d. = 1.98 years).

Eligible subjects had to have completed a single infertility investigation and failed to conceive by at least two months post-diagnosis. Further, couples were selected only if their files indicated that, according to their gynecologist/obstetrician, there was some possibility of achieving pregnancy. The sample was limited to couples with primary infertility and no children living in the home, in order to control for effects of childrearing on well-being. Finally, only couples in which the primary diagnosis was attributable to the woman were included, thereby controlling for the possible effects of self-versus-partner-responsibility. Although in some cases the etiology of infertility was uncertain, the possibility of a male or combined factor had already been eliminated, thereby leaving the potential onus on the woman.

Control subjects consisted of 29 married couples with no children, who were not at the time of testing attempting to conceive, and who were similar to the infertile group on a number of measures such as age, educational level, occupation and language. These subjects were recruited from the gynecological practice of Dr. Sally Jorgensen at the Jewish General Hospital, as well as through personal contact and other sources in the
Montreal community (e.g. health clubs). Characteristics of the infertile and control groups are presented in Table 1.

**Instruments:**

The test battery included the following questionnaires (see Appendix F), presented to subjects in the sequence below:

**General Information Questionnaire:** This questionnaire, prepared by the researchers (Vicki B. Veroff and Dr. William Brender) for the present study, was designed to collect information on couples' ages, educational background, and other demographic variables. For infertile couples, questions on infertility history, current chances of conceiving and desire to have a child were included.

**General Adjustment Questionnaire:** Administered to infertile couples only, this questionnaire inquires about couples' adjustment to infertility and behaviours related to dealing with this disorder (e.g. talking with other infertile couples). The items in this form were taken from Gordon et al. (1980) (items 1 and 2) and Grandstaff (1976) (items 3 through 6), and were adjusted to apply to the case of infertility.
Table 1
Characteristics of the Infertile and Control Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
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<tr>
<td>Age</td>
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<tr>
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</tr>
<tr>
<td>Controls</td>
<td>16.9</td>
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<td>58</td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>Controls</td>
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<td>1.82</td>
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</tr>
</tbody>
</table>

¹ Religiosity was evaluated on a five-point scale where zero represents nonobservance and four represents a high degree of observance.
The Centre for Epidemiological Studies Depression Scale (CES-D) (Radloff, 1975): The CES-D is a commonly used measure of depression based on previously validated scales (e.g. the MMPI Depression scale), designed to avoid the problem of overemphasizing somatic items. Internal consistency was reported to be .83 (Cronbach's alpha) in a study by Schulz and Decker (1985).

Emotional Status Scale: The four mood items included in this scale were taken from Dupuy's (1974) General Well-Being Schedule.

Health and Well-Being Scale: This physical symptom checklist was developed by Rubinstein (1982) and has been used in other studies (e.g. Pennebaker, 1985). The three health items, selected from the General Well-Being Schedule (Dupuy, 1974), were designed to evaluate general health currently, in the last month, and in the last year.

Self/Body Esteem Questionnaire: This 14-item questionnaire based on Mendelson and White's (1982) Body-Esteem Scale examines subjects' feelings about their physical appearance. The Body-Esteem Scale was found to correlate with a known measure of self-esteem (Piers & Harris, 1964) ($r = .67$, $p<.002$), suggesting that the former has construct validity. Cronbach's alpha was found to be .88, indicating high internal reliability. The scale was modified for the current study in two ways:
items were excluded if they pertained solely to children's activities, and the wording was changed if items were applicable to adults.

**General Support Inventory:** Both structural and functional items are included in this inventory, most of which were taken from Weissman and Bothwell's (1976) Social Adjustment Self-Report Questionnaire (items 1 through 6). Items 7 and 8 were provided by Lasry and Margolese (1984) while items 9 to 13 were developed for the purposes of the present study. Questions 4, 9 and 10 were specifically intended to examine the issue of confiding.

**Perceived Social Support From Friends and From Family (PSS-FA and PSS-FR) (Procidano & Heller, 1983):** This questionnaire, available in two forms (Friends and Family), was developed to assess the extent to which individuals perceive their needs for support as being fulfilled. Each measure consists of 20 items which are totalled to obtain global perceived support scores. Internal consistency coefficients were found to be .88 and .90. Test-retest reliability is .83.

**Coping Inventory (Miller, 1980):** This measure was adapted from the Miller Behavioral Style Scale\(^3\), in which four hypothetical stress-evoking scenes are presented for

\(^3\) Two of the original items were changed slightly so that all four scenarios would represent non-life-threatening events.
each of which subjects are asked to choose the coping strategies they would most likely use. This scale has been validated on a number of populations (e.g. Miller, 1987) for discrete stressful events.

The Marital Adjustment Inventory: The marital items in this questionnaire were taken from Kimmel and Van Der Veen (1974), based on the Locke-Wallace Marital Adjustment Scale (MAS) (Locke & Wallace, 1959). This measure is known to predict marital adjustment in distressed and nondistressed couples. It should be noted that relatively high correlations exist between the individual marriage items and the overall marital intimacy scale (MSIS, see below).

The Sexual Functioning Inventory: The nine sexual items in this questionnaire were developed by Lafleur (1985), who used them to study post-mastectomy patients.

The Miller Social Intimacy Scale (MSIS) (Miller & Lefcourt, 1982): The MSIS is a 17-item inventory of one's current intimacy experience in any, close relationship. Internal consistency was reported in two groups at .86 and .91, respectively (Cronbach's alpha). Test-retest reliability was found to be .96 over a two-month interval.

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*The correlation between the Locke-Wallace item evaluating general marital happiness (used most often in subsequent analyses), and the Miller Social Intimacy Scale was found to be .56, p<.0001, n=102.*
The Sexual Interaction Inventory (SII) (LoPiccolo & Steger, 1974): This questionnaire measures sexual satisfaction in terms of frequency of sexual activity, the amount of satisfaction derived from sexual activities, knowledge of one's spouse's sexual preferences, and the general sexual disparities between members of a couple. The SII is commonly used both clinically and experimentally, and is in multiple choice format. Internal reliabilities for the 11 scales ranges from .79 to .93 (Cronbach's alpha), and test-retest reliabilities range from .53 to .90. Nine of the 11 scales have also been shown to have discriminant validity in terms of differentiating between clients at pre- and post-treatment, and between post-treatment clients and nondistressed couples.

Procedure:

In collaboration with Dr. Tulandi, relevant files were selected and eligible couples (see criteria listed above) were sent a letter introducing the study (see Appendix F). The letter informed patients that Dr. Tulandi was collecting follow-up information on their fertility status and that a study was being undertaken on how couples wishing to conceive adapt to continuing infertility. Subjects were told that the study would require approximately 75 minutes of time devoted to the
completion of questionnaires by husband and wife, and that these questionnaires would deal with marital, sexual and emotional adjustment, as well as coping style and sources of social support. Couples were then telephoned by the author, and for those who agreed to participate, appointments were made for testing. Couples were seen by the author in one session in a laboratory at Concordia University's Applied Psychology Center. Upon arrival at the test session, all subjects were given verbal instructions (see written instructions in Appendix F, omitting #4) and a consent form to complete (Appendix F). Spouses were then asked to complete the battery of 11 questionnaires simultaneously while in separate offices, with the researcher in an adjoining office. For six couples who were unable to visit the laboratory for testing, questionnaire packages were delivered to their homes or offices in self-addressed stamped envelopes, along with an explicit instruction sheet (see Appendix F) and consent form. The latter was to be signed and mailed back in a separate envelope, to ensure anonymity. Verbal instructions based on the written form were also given by the experimenter upon delivery of the package. Subjects were invited to contact the experimenter for discussion of the general findings upon completion of the study. Individuals in marked psychological distress were advised about the availability of mental health services in their
area, which they were encouraged to consult. In fact, only two subjects required this type of assistance.

Control couples were recruited by a number of methods including word-of-mouth, from Dr. S. Jorgensen's gynecological practice, and by experimenter solicitation in various settings. Control subjects were told that a study was being undertaken on the lives of childless couples, and that participation involved filling out an anonymous multiple choice questionnaire battery assessing marital, sexual, emotional and social adjustment. Control subjects who agreed to participate were given the researcher's phone number to arrange delivery of the questionnaires. To maximize participation, control subjects were not requested to visit the laboratory but were given the questionnaires to complete at home. All questionnaires given out were in self-addressed stamped envelopes, and included the same instructions as those given to experimental subjects. Verbal instructions were also given by the experimenter upon delivery of the questionnaire package.

RESULTS

Measures

All measures designed for the present study were examined for internal reliability using Cronbach's alpha.
These values are reported in Appendix A. Scales found to be strongly related were analyzed multivariately, while those with items found to be unrelated were analyzed individually. In cases where the scale's alpha was moderate (e.g. in the .60-.69 range), items were analyzed both as a group and individually to obtain maximal information on these variables. Scores for the control and experimental groups on the dependent variables can be found in Appendix B.

**Group Differences**

Differences between infertile and control couples and between men and women on various adjustment measures were examined using MANOVA with repeated measures analysis of variance. This procedure is useful for couple analyses in that the error term used for evaluating sex differences takes into account probable intra-couple relationships. The male and female groups are therefore treated as a correlated or matched sample. Since the infertile and control groups in this study were found to be different in number of years married (t(79) = 6.53, p<.0001, n=108) and degree of religiosity (t(87) = 5.02, p<.0001, n=107), these factors were partialled out of each analysis using SPSSX's MANCOVA procedure. The results of the MANCOVAs partialling out religiosity did not differ from results obtained with the initial
MANOVAs. However, the MANCOVAs covarying out years married did change the initial MANOVA results somewhat. Therefore, the data presented here are MANCOVAs with number of years married partialled out of the analyses.

In cases where interactions between couple and group were found, tests of simple main effects were then carried out to determine which differences were significant. A conservative alpha level of .005 was used for all post-hoc t-tests, calculated according to the Bonferroni t procedure (Kirk, 1982), in order to reduce the possibility of Type 1 error. It should be noted that the term infertile as applied to men in the following sections refers to group membership rather than to a medical diagnosis per se.

Emotional Adjustment. Infertile subjects were found to be more depressed than controls subjects, as measured by the CES-D, $F(1,47) = 9.24$, $p < .004$. An interaction between group and couple was also found, $F(1,47) = 14.30$, $p < .0001$ (Table C-1). Post-hoc tests of simple main effects revealed that infertile women were significantly more depressed than control women $t(47) = 4.85$, $p < .0005$, and that the infertile women were significantly more depressed than the infertile men $t(40) = 4.00$, $p < .0005$. No differences were found between men and women in the control group, or between infertile and control men.
The four-item mood composite score yielded a group by couple interaction, $F(1,47) = 5.29$, $p < .023$ (Table C-2). Multiple comparisons revealed that infertile women experienced more negative mood states than both control women ($t(48) = 2.89$, $p < .005$) and infertile men ($t(40) = 4.17$, $p < .0005$).

Analyzed on an individual basis, only one of the four mood questions yielded a significant difference between groups. Infertile subjects, both men and women, reported feeling more discouraged, sad and hopeless in the last month than did control subjects, $F(1,47) = 5.63$, $p < .022$ (Table C-3).

Health and Symptoms. No significant differences in any direction were found for individual questions on general health or symptoms.

Self/Body Esteem. Infertile subjects were found to have lower self/body esteem than control subjects, regardless of gender, $F(1,47) = 6.87$, $p < .012$ (Table C-4).

Marital Functioning. Analyses were performed on each of four marital questions. A group difference for general marital happiness was found to be significant ($F(1,47) = 4.60$, $p < .038$), with infertiles reporting less happy marriages than controls (Table C-5). No other differences between groups or within couples were obtained. In terms of marital intimacy, no significant differences emerged in any direction.
Sexual Functioning. Each subscale of the Sexual Interaction Inventory was analyzed separately, in order to examine the various components of sexual functioning. No differences emerged in any direction for mean pleasure obtained from sexual activities. However, infertiles scored significantly lower than controls on perceptual accuracy, which is how accurately an individual assesses his or her partner's enjoyment of various sexual activities, $F(1,46) = 6.87$, $p < .012$. A group by couple interaction on perceptual accuracy was also obtained, $F(1,46) = 16.57$, $p < .0001$ (Table C-6). Multiple comparisons revealed that infertile women were less accurate estimators of their husbands' preferences than were control women of their husbands, $t(47) = 4.90$, $p < .0005$, and that infertile women were less perceptually accurate concerning their husbands than infertile men were concerning their wives, $t(38) = 4.48$, $p < .0005$. Interestingly, in the control group the women were better able to estimate their spouses' preferences than were the men, $t(56) = 2.91$, $p < .005$. Finally, on a summary scale derived by totalling the raw difference scores on each previous SII scale, infertile subjects were found to exhibit more overall sexual disagreement than control subjects, $F(1,46) = 6.07$, $p < .018$ (Table C-7).

The nine sexual functioning items derived for the present study were also analyzed individually, resulting
in two significant group differences. Infertiles reported being more anxious than controls in anticipating sexual relations, $F(1,47) = 6.36, p<.015$ (Table C-8), and infertile subjects were less likely to be aroused by an erotic film than were control subjects, $F(1,47) = 11.79, p<.001$ (Table C-9). It should be noted that within each group, women reported less arousal to erotic films than men, $F(1,47) = 7.36, p<.009$.

**Predictors of Adjustment in Infertiles.**

In order to determine which factors best predict adjustment in long-term infertility patients, stepwise multiple regressions were performed on each of the major dependent variables individually using support total (General Support Inventory), perceived family and friend support, active coping (monitoring), avoidant coping (blunting), desire to have a child, chances of conceiving and months trying to conceive as independent or predictor variables. The results of these analyses are presented below. It should be noted that preliminary correlational analyses between the dependent and independent variables revealed several significant relationships which are reported in Table D-1a and D-1b. Inter correlations among the predictor variables are presented in Table D-2.

**Emotional Adjustment.** Individuals with high social support were less likely than those with low support to
exhibit depression and emotional distress. That is, social support total was found to be the single best predictor of depression, $R = .47$, $F(1,44) = 12.49$, $p < .001$ and of overall emotional adjustment (four-item composite), $R = .49$, $F(1,44) = 13.92$, $p < .0005$. Total support was also the best predictor of a single item on overall emotional adjustment since discovering infertility, $R = .40$, $F(1,43) = 8.23$, $p < .006$. With support already in the equation, desire to have a child added significantly to the prediction of scores on this item, $R = .53$, $F(2,42) = 8.22$, $p < .001$ (Table D-3). Thus, a strong desire to have a child was associated with better post-diagnosis adjustment.

**Health and Symptoms.** A high number of physical symptoms was best predicted by active coping (monitoring), $R = .30$, $F(1,44) = 4.40$, $p < .04$. No predictive relationships were found with any of the general health items.

**Self/Body Esteem.** The best predictor of self/body esteem was found to be perceived family support, $R = .32$, $F(1,43) = 4.97$, $p < .03$. With this variable in the equation, chances of conceiving added most to the prediction of esteem, $R = .43$, $F(2,42) = 4.84$, $p < .013$ (Table D-4). Thus, infertiles with strong family support and high perceived chances of conceiving were most likely to exhibit good self/body esteem.
Marital Functioning. Strong perceived family support was found to be predictive of high marital intimacy, \( R = .45, F(1,44) = 10.96, p < .002 \). Conversely, a high score on the single-item measure of marital happiness was best predicted by strong perceived friend support, \( R = .41, F(1,38) = 7.74, p < .008 \). No significant relationships were found between other marital adjustment items and the independent variables.

Sexual Functioning. As measured by the Sexual Interaction Inventory, mean sexual pleasure was best predicted by perceived chances of conceiving, \( R = .33, F(1,42) = 4.96, p < .03 \). That is, infertiles with better chances of conceiving reported more sexual pleasure. Overall sexual harmony between spouses, however, was best predicted by high perceived support from friends, \( R = .41, F(1,33) = 6.55, p < .015 \). Predictive relationships for other sexual functioning items were not found.

Support Variables and Adjustment

The data on support variables and adjustment were treated in two ways. First, as seen above, Pearson correlations and multiple regressions for the target group were conducted using the three support measures (PSS-FA, PSS-FR and the General Support Inventory) and the major dependent variables. As expected, greater degrees of support were generally found to correlate with
better adjustment, and the overall support measure was often the best predictor of adjustment in infertile subjects.

Step two of the analysis was designed to examine relationships between support and adjustment from a more theoretical perspective. Specifically, all items included in the PSS-FA, PSS-FR and General Support Inventory were regrouped based on models proposed in the support literature. The resultant groups have been labeled Functional Support, Structural Support, Satisfaction With Support and Confiding (marked F, S, SS and C respectively in margins of measures used). Due to the large number of items and relatively small sample size, a factor analysis could not be run to verify the groupings. The internal reliability of these measures was therefore assessed using Cronbach's alpha.

For each construct a three-step statistical analysis was conducted. First, scores on the support variable in question were divided at the median, excluding subjects falling at the median. Chi squares were then calculated to determine whether there were significant differences between men and women, and/or between infertiles and controls, on the support variable. Finally, t-tests were done comparing adjustment of subjects reporting high and low support (above versus below the median, excluding cases falling at the median). In cases where group or
gender differences were found with the chi squares, separate t-tests were conducted.

**Structural Support.** An alpha of .75 was found for the six items in this group, indicating a relatively high interrelation. Chi square analyses revealed no gender difference on this measure, but a group difference did emerge, $\chi^2(1) = 5.62, p<.018$ (Table E-1). It was found that infertile subjects were more likely to report low structural support than were control subjects. Thus, for this measure, the infertility and control groups were analyzed separately. Since no significant differences in adjustment were found between infertile subjects reporting high structural support and those reporting low support, the following section of results pertains only to control subjects. Within this group, 41 subjects reported low structural support and 17 subjects reported high structural support.

**Emotional Adjustment.** Control individuals reporting high structural support were found to be less depressed on the CES-D ($t(29) = 2.66, p<.013$); more satisfied with their lives ($t(56) = 2.14, p<.036$) and more in control of their thoughts, feelings, and actions ($t(32) = 2.10, p<.04$) than individuals reporting low structural support.

**Health and Symptoms.** Of the various health and symptoms items, only health status over the last year in
controls was differentially affected by high versus low structural support, $t(30) = 2.28$, $p < .03$. Contrary to expectation, subjects reporting lower structural support were more likely to have improved health over the last year.

**Functional Support.** The 16 items in this measure were found to be quite homogeneous, with a Cronbach's alpha of .84. Chi square analyses revealed group differences ($\chi^2(1) = 4.74$, $p < .03$) but not sex differences in functional support (Table E-2). As a result, the infertility and control groups were analyzed separately across gender. Ns for the infertility group were 19 low and 32 high support; for the control group, Ns were 40 low and 18 high functional support.

**Emotional Adjustment.** Functional support was found to have a slight association with emotional adjustment for infertile subjects. Those reporting high levels of support were more likely to be satisfied with their everyday lives ($t(49) = 2.38$, $p < .021$), and there was a trend for these subjects to be less depressed ($t(49) = 1.93$, $p < .059$) than those reporting lower degrees of functional support. For control subjects, the relationship between level of functional support and emotional adjustment was found to be much stronger than for infertiles. High as opposed to low functional
support in controls was associated with less depression ($t(25) = 4.32, p<.0001$), fewer feelings of sadness, discouragement and hopelessness ($t(23) = 4.43, p<.0001$), and a greater sense of emotional stability, $t(26) = 2.39$, $p<.025$.

Health and Symptoms. In the infertility group, no significant differences in health were found between those with high and those with low functional support. However, control subjects with high functional support were more likely than those with low support to experience good current health, $t(28) = 2.20$, $p<.037$. There was a trend as well for high-support individuals to report fewer pains, illnesses and health-related fears in the last month than low-support individuals, $t(56) = 1.99$, $p<.051$.

Marital Functioning. Infertile subjects with low functional support scored lower on marital intimacy than infertiles with high functional support, $t(49) = 2.67$, $p<.01$. The same relationship was found for control subjects, $t(25) = 3.50$, $p<.002$. In addition, high-support controls reported happier marriages ($t(56) = 2.14$, $p<.0001$) and a better marital relationship ($t(56) = 2.14$, $p<.037$) than low-support controls.

Satisfaction with Support. This measure is comprised of 11 items which were found to be quite strongly related
(Cronbach's alpha = .80). Chi squares revealed a significant difference between groups ($\chi^2 (1) = 8.47$, $p < .004$) but no gender difference (Table E-3), so the infertility and control groups were analyzed separately across gender. In the infertility group, 16 subjects reported low satisfaction with support while 35 subjects reported high satisfaction. The ns for the control group were 36 low and 22 high. Interestingly, among the structural, functional and satisfaction with support variables, the satisfaction measure appears to have the greatest impact on adjustment of infertile subjects.

**Emotional Adjustment.** Infertile subjects reporting high satisfaction with support were less likely to feel sad, discouraged and hopeless ($t(49) = 2.28$, $p < .027$) and more likely to be satisfied with their everyday lives ($t(49) = 2.31$, $p < .025$) than infertiles reporting low satisfaction. There was also a trend for high satisfaction with support in infertiles to be associated with lower depression, $t(49) = 1.97$, $p < .054$. Similar results were found for control subjects. Those reporting greater satisfaction with support were less sad, discouraged and hopeless ($t(28) = 2.63$, $p < .014$), less likely to feel out of control ($t(30) = 2.36$, $p < .025$) and emotionally stable ($t(56) = 2.25$, $p < .028$) and less depressed ($t(28) = 2.44$, $p < .021$) than subjects reporting lower satisfaction.
Health and Symptoms. No differences were found in health or symptoms between subjects with high versus low support satisfaction.

Marital Functioning. Satisfaction with support was found to influence marital functioning in infertiles but not in control subjects. Individuals in the former group reporting high support satisfaction had happier marriages ($t(42) = 2.08, p < .043$) and greater marital intimacy ($t(49) = 2.26, p < .028$) than those reporting low satisfaction.

Confiding Scale. The alpha obtained for these five items was .68, suggesting a moderate interrelationship. Chi square analyses revealed no significant differences in confiding between men and women or between infertiles and controls, therefore all subjects were grouped together on this variable. Thirty-eight low confiders and 45 high confiders were included in the analysis.

Emotional Adjustment. Subjects who confide in others were found to exhibit better emotional adjustment than subjects who do not confide. Specifically, confiders were less depressed as measured by the CES-D ($t(89) = 2.58, p < .012$), reported fewer feelings of sadness, hopelessness and discouragement ($t(89) = 2.78, p < .007$) and were happier and more satisfied with their everyday lives ($t(89) = 2.89, p < .005$).
Health and Symptoms. Contrary to Pennebaker’s (1985) theory, no difference was found between confiders and non-confiders on measures of general health and number of physical symptoms.

Marital Functioning. Confiders report happier marriages than do non-confiders. Significant differences were found for ratings of general marital happiness ($t(82) = 4.52, p < .0001$), relationship quality ($t(89) = 3.73, p < .0001$), and interpersonal intimacy as measured by the Miller Social Intimacy Scale ($t(89) = 4.57, p < .0001$).

Coping and Adjustment

The Coping Inventory used in the present study was analyzed following the procedure used by Miller (1987). Subjects were divided into high monitors/low blunters (active copers) and high blunters/low monitors (avoidant copers), using a median split. Chi squares were then conducted, revealing no differences in coping between men and women or between infertiles and controls (Table F-1). Finally, t-tests were performed on the two coping groups in order to compare their adjustment on various measures. Nine subjects fell into the avoidant group, while 23 subjects fell into the active coping group.

Emotional Adjustment. Depression as measured by the CES-D was found to be unrelated to any of the coping measures. However, subjects in the avoidant group were
less likely than those in the active coping group to feel sad, discouraged and hopeless, $t(28) = 2.56$, $p < .016$. In addition, infertile subjects in the high blunting/low monitoring group reported better emotional adjustment since discovering their infertility than those in the low blunting/high monitoring group, $t(25) = 2.42$, $p < .03$.

**Health and Symptoms.** There were no significant differences between any of the coping groups on general health.

**Marital Functioning.** Avoidant copers reported greater marital intimacy scores than active copers, $t(36) = 2.31$, $p < .027$. In addition, the avoidant copers were more likely to report good marital relationships, $t(30) = 2.73$, $p < .01$.

**Sexual Functioning.** Subjects in the low blunting/high monitoring (active) group reported greater dissatisfaction with their frequency of sexual activity than subjects in the high blunting/low monitoring (avoidant) group, $t(27) = 3.87$, $p < .001$. No other differences were found for any of the coping groups for sexual functioning.

**DISCUSSION**

The major goal of this study was to evaluate the impact of prolonged infertility on men and women relative
to a similar control group. As predicted, the infertile subjects were found to be more depressed, lower in self/body esteem, more likely to present limitations in the sexual domain and less likely to rate their marriages as happy than were the controls. In addition, there was a trend for the infertile group to report more physical symptoms than the controls. Since the design of this study precluded assessment of functioning immediately following diagnosis, the question of trend in the impact of infertility over time cannot be answered. However, it is sobering to note that at an average of 4.7 years post-diagnosis, infertile men and women showed marked maladjustment compared to similar controls.

Whereas the maladjustment found in infertiles was more salient in the area of psychological functioning and esteem, these subjects' sexual adjustment and, to some degree, their marital happiness appear to have been affected as well. No prior investigations have compared marital and sexual functioning in infertile couples with a similar control group. Thus, two noteworthy findings of this study are first, that sexual functioning in infertiles is poorer than that of a similar control group, and second, on a global measure of marital happiness infertiles rated themselves lower than controls. However, it should be noted that the infertile and control groups were not significantly different in
terms of overall marital intimacy or on a single-item description of their marital relationship (evaluated on a scale ranging from "my closest friend and confidant" to "we see each other as little as possible"). Thus, it appears that many aspects of the marital relationship in infertiles are relatively sound several years post-diagnosis. Interestingly, many infertile men and women reported to the researcher that whereas their marriages were currently functioning well, the period immediately post-diagnosis (i.e. the first one to two years) presented a great strain to the marriage. Future research designs incorporating more frequent testing points post-diagnosis would provide information on this issue.

As suggested earlier, infertility appears to parallel certain chronic disorders in which psychological adjustment and self-esteem in particular are negatively affected. There may also be a parallel between infertility and other stressful life events such as unexpected bereavement, in which adjustment can but does not improve significantly after a relatively long period of time. Lehman, Wortman and Williams (1987) found that individuals who had lost a spouse or child in a motor vehicle accident were still distressed four to seven years after the loss, exhibiting symptoms such as depression, anxiety, social difficulties and generally
poor psychological well-being. Some of the same symptoms were reported by the infertile men and women in the current study. Thus, these two ostensibly different long-term stressors appear to have common features. One may be a sense of shock or unexpectedness inherent in the stressful event. Spouses and parents of accident victims could hardly be prepared for such an event, and several authors have noted that bereavement is most likely to have a prolonged impact when the loss is sudden or untimely (e.g. Carey, 1977; Lehrman, 1956; Parkes, 1975). In a potential parallel, most young couples assume that they can conceive and, in fact, go to great lengths to guard against pregnancy before they are ready for children. The discovery of infertility, then, is generally quite a blow. This explanation is tentative, and one of many possible accounts. Why infertility and sudden bereavement should share an association with long-term negative adjustment remains to be clarified.

Sex Differences

It is interesting to note that although both men and women in the infertility group were functioning more poorly than controls, the infertile women on a number of measures were the most damaged group. This finding replicates those of McEwan, Costello and Taylor (1987), who found that infertile women were more depressed,
anxious and generally less well adjusted than infertile men. These authors offered several explanations for their results. First, the authors posit that, in general, women may react to life stresses more negatively than do men. This theory has some support in the literature (e.g. Gove & Tudor, 1973), although many of the studies supporting this generalization have been methodologically flawed (Dohrenwend & Dohrenwend, 1976). One common finding seems to be that women are overrepresented in the depressive disorders, whereas men are more likely to exhibit personality disorders (Dohrenwend & Dohrenwend, 1976). If this finding is correct, it may explain why current signs of stress were more evident in infertile women than men. The present study focused on depressive symptomatology far more than on antisocial or inappropriate behaviour.

A second explanation for the finding that infertile women are more distressed than infertile men is that women may view reproduction as more central to their identity (McEwan, Costello & Taylor, 1987). It has often been suggested that young women in contemporary society are particularly burdened with the desire to achieve both traditional (childbearing) and nontraditional (career) goals. Although the present study did not assess this issue directly, some anecdotal evidence emerged suggesting that women felt more pressure than men to have
a child. Many of the women subjects confided to the investigator that the career versus conception issue was a major source of conflict with husbands, mothers or mothers-in-law. The pressure to fulfill dual roles - and the apparent inability to do so - may make infertile women more vulnerable than infertile men to distress.

Another explanation for the observed sex differences in adjustment may be advanced. As mentioned earlier, the medical diagnoses in the infertility group studied were of two types: primarily female etiology and unknown (potentially female) etiology, or diagnosed and undiagnosed. McEwan, Costello and Taylor (1987) found that women who had not received a diagnosis were much more disturbed than women who had been diagnosed. Thus, part of the present sample may have been particularly vulnerable to distress. In terms of the second diagnostic group, although perceived responsibility was not examined in this study, these women may have experienced guilt or self-blame. It is possible that if the infertility were instead attributable to male factors, the men would have been more distressed. It seems likely that there are several components contributing to the heightened maladjustment of infertile women relative to infertile men.

The poorer functioning observed in infertile women should not conceal the fact that male subjects did
exhibit negative symptomatology. In common with studies by Bonnar (1979) and McEwan, Costello and Taylor (1987), both of which observed symptoms such as depression and stress in infertile men, the current investigation found that infertile men exhibited greater emotional distress, lower self-esteem and poorer sexual functioning than similar male controls. These findings thus support and add to the current knowledge about infertility’s impact on men.

**Social Support**

As expected, social support was a strong predictor of adjustment in infertile men and women. Specifically, individuals with low overall support were most likely to exhibit poor emotional adjustment (including depression) and adaptation to infertility. High family support was most strongly related to good self/body esteem, and friend support was the best positive predictor of marital and sexual functioning. This specificity of focus in social support effects has not been reported to date. However, the differential effects of family versus friend support have been examined, with mixed results. Donald and Ware (1984) studied support and functioning in a large sample of adults and found no differences between the two types of support. Conversely, Martin and Burks (1985) found that nonfamily support was more likely to buffer the effects of stress in students than was family
support, although nonfamily support was possibly more accessible to this college population. The current study has extended these findings by examining three separate support measures, two of which look specifically at friend and family components and one of which examines combined friend and family support. The data suggest that differential effects do exist, at least for an infertile population. While strong overall support appears to facilitate psychological well-being, support from family members enhances self-esteem and support from friends moderates marital/sexual relations. This latter relationship may reflect a general sociability factor, in that individuals with strong interpersonal relations may have good social skills, which may extend to the areas of marital and sexual relations.

The grouping of social support items into structural, functional and satisfaction with support measures in this study revealed some interesting differences between infertile and control subjects. While controls were found to benefit from all types of support, the relationship between support and adjustment for infertiles was somewhat more complex. Infertiles reported having a smaller number of support persons in their lives than did controls. More infertiles than controls, however, reported receiving high rates of supportive behaviours and being satisfied with their
support. In addition, differential relationships were found between the various types of support and adjustment in the infertile group. Specifically, no relationship was found between structural support and adjustment for infertiles. Functional support was moderately associated with good adjustment, and satisfaction with support showed a strong positive relationship with adjustment in this group. This pattern of findings requires replication with more infertile subjects as well as other negative life event groups.

Why might infertiles have fewer supportive persons available to them? One possibility, as found in the case of bereavement (Lehman, Wortman & Williams, 1987), is that even intimates may regard prolonged mourning as socially inappropriate or burdensome. Couples who have been infertile for years may find sympathy and understanding from friends and family wearing thin, which may mean the loss of supportive relationships. As well, infertile couples may face a diminishing social network for two reasons: first, they may avoid friends and relatives who are pregnant or who have small children, and second, peers having children of their own are often less accessible.

The concept of an interaction between a life event and social support is not new. Some authors have hypothesized that measures of current support are
confounded with prior life changes, such as unemployment, which can mean the loss of social contacts (e.g.Thoits, 1982). Infertility does not directly imply the loss or reduction of social support in the way that job loss can. Rather, it may be the long-term nature of the disorder which gradually impacts on support. This difference needs to be elucidated further, since it could have both practical and theoretical implications. For instance, interventions aimed at improving adjustment via social support in victims of long-term disorders (e.g. infertility) may be quite different from those aimed at victims of short-term crises.

Buffering vs. Main Effects

Although the buffering hypothesis as discussed in the introduction could not be assessed in this study (since subjects were not evaluated during a prior period of no stress), there is clear evidence for the main effects hypothesis in the control group data. That is, despite the absence of a severe negative life event, control men and women with strong social support showed far better adjustment than controls with poor support. This finding was not unexpected given that the more comprehensive a social support measure is, the more likely it is to elicit main effects for support (Cohen & Wills, 1985).
Confiding

As predicted, confiding was found to have an important influence on adjustment; that is, individuals who confided in others about their feelings and problems were less depressed, happier, more satisfied with life, and reported happier and more intimate marriages than persons who tended not to confide. Contrary to Pennebaker's (1985) hypothesis, however, no relationship was observed between confiding and physical health or symptoms. The differences between the present study and those by Pennebaker are not clear, although one possible explanation may be advanced. Pennebaker focused not only on general confiding but on confiding about a specific event. The current study assessed the former but not the latter, and it may be that confiding specifically about infertility is the crucial health-mediating factor. Future studies on stressful life events, including infertility, should assess general tendencies to confide as well as confiding specifically about the life event itself.

Coping and Adjustment

Significant findings in the area of coping were few, perhaps due to the limited nature of the measure employed. However, the findings which proved significant
were in the predicted direction. That is, avoidant coping was more likely than active coping to be associated with good emotional, marital and sexual adjustment. Interestingly, these results were obtained in both groups, although they were expected in the infertile sample only. According to the literature, avoidant coping in "normal" populations is generally linked with greater depression (Mitchell, Cronkite, & Moos, 1983) and with more stress and conflict in marriage (Billings, 1979; Menaghan, 1980; Pearlin & Schooler, 1978). It is only in situations which cannot be resolved (e.g. infertility) that avoidant coping is hypothesized to be beneficial. Although the findings with respect to normals are puzzling, it should be noted that the coping measure used evaluated projected coping strategies in the face of four hypothetical, intrapersonal events, and was limited to discerning two general coping groups. A measure which evaluates specific coping strategies such as selective ignoring, negotiation and emotional discharge, and assesses real life experiences rather than hypothetical situations may enable a fairer test of the relationship between coping strategies and adjustment. It should be noted that the Miller Behavioral Style Scale (Miller, 1980) was validated on relatively discrete events (e.g. exposure to electric shock; minor surgery),
which may differ in important ways from prolonged infertility.

Methodological Issues

Several methodological points should be noted in relation to this study. First, subjects were assessed at one time period only, as opposed to a longitudinal design in which long-term and immediate or intermediate adjustment to infertility could be evaluated and compared. Longitudinal research is needed on this issue.

Further, current research in infertility, including the present study, provide correlational data which do not permit statements about causality. Earlier work, lacking the requisite designs, attempted to assign to personality factors a causal role in the condition of infertility. Other investigators have inverted the causal relationship, again without justification, asserting that infertility likely causes distress. Both positions remain tenable and, in fact, the focus on personality factors may soon resurface. Recent research suggests a causal relationship between personality and certain forms of physical distress, such as headache, asthma and ulcers (Friedman & Booth-Kewley, 1987).

Although some types of infertility could hardly be attributable to psychological factors (e.g. adherence of the fallopian tubes), others such as unexplained
infertility or anovulation might be due to a number of unknown emotional factors. An interactional model may provide the most adequate account whereby personality characteristics affect fertility, and infertility causes (further) distress. Future research needs to clarify the association between infertility and maladjustment. Unfortunately, certain kinds of data in this area are troublesome to obtain. For example, it is difficult to secure baseline information on infertile subjects, given that on the basis of present knowledge, there are no available means of identifying "high-risk" groups which could be targeted in advance.

In summary, it has been shown that prolonged infertility is associated with poor adjustment, particularly with respect to women, in the areas of emotional, marital and sexual functioning, and in self/body esteem. Further, infertility is somehow associated with diminished social support. The results strongly suggest the need for therapeutic interventions with infertile patients, among whom infertile women are a particularly vulnerable group. Variables found to facilitate functioning include high quality support, confiding and avoidant coping. These factors should therefore be taken into consideration when formulating treatment programs for this high-risk group.
REFERENCES


Public Health Association meeting. Los Angeles, Calif.


McEwan, K.L. (1985, Jan.) The psychological costs of


Appendix A

Psychometric Data on Original Measures
Psychometric Data on Original Measures

Emotional Adjustment Scale. The alpha level obtained for the four items in this scale (α = .61) suggests that these questions, while sharing some commonality, are not strongly related. As a result, the items were used both as a group and individually in statistical analyses.

Health and Symptoms. The five health items were not found to be homogeneous (α = .52) and were thus examined individually in further analyses.

General Support Inventory. The alpha level obtained for this inventory was relatively high (α = .78). In addition, an item by item analysis found expected correlations with the standardized measures of support from friends and family described above (Table D-2).

Marital Adjustment Items. The alpha for the marital group was relatively low (α = .53), indicating that these items should be analyzed individually.

Sexual Functioning. For the sexual questions, a moderate alpha was obtained (α = .60). These items were examined both as a group and individually in further analyses.

5 Two items (#2, #9) were excluded from the total since they were found to reduce the overall alpha.

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Appendix B

Tables B-1 to B-6
Table B-1

Emotional Status Scores by Group:

Means and Standard Deviations

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>CES-D¹</td>
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<tr>
<td>Infertiles</td>
<td>1.84</td>
<td>0.65</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>1.42</td>
<td>0.36</td>
<td>58</td>
</tr>
<tr>
<td>Emotional Status²</td>
<td></td>
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<td></td>
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<tr>
<td>Infertiles</td>
<td>2.15</td>
<td>0.79</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>1.74</td>
<td>0.64</td>
<td>58</td>
</tr>
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</table>

¹ The Centre for Epidemiological Studies - Depression Scale (CES-D) is a mean score on 20 items. Means obtained range from one (low depression) to four (high depression).

² The Emotional Status Scale, derived for this study, consists of four items evaluating mood (see Appendix A). The means range from one (good adjustment) to six (poor emotional adjustment).
Table B-2

Health\(^1\) and Symptoms\(^2\) by Group:

Means and Standard Deviations

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
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<td>Current Health</td>
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<td>Infertiles</td>
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</tr>
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<td>Controls</td>
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<tr>
<td>Health in Past Month</td>
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<td>Infertiles</td>
<td>1.59</td>
<td>0.85</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>1.81</td>
<td>0.98</td>
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</tr>
<tr>
<td>Health in Past Year</td>
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<td></td>
</tr>
<tr>
<td>Infertiles</td>
<td>2.94</td>
<td>0.65</td>
<td>50</td>
</tr>
<tr>
<td>Controls</td>
<td>2.93</td>
<td>0.81</td>
<td>58</td>
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<tr>
<td>Symptoms</td>
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<td></td>
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<tr>
<td>Infertiles</td>
<td>5.06</td>
<td>10.04</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>2.88</td>
<td>1.49</td>
<td>58</td>
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</tbody>
</table>

\(^1\)For each health item, higher scores are associated with poorer health.

\(^2\)Symptoms refers to mean number of physical symptoms reported. Possible scores range from 0 to 24.
Table B-3

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infertiles</td>
<td>1.99</td>
<td>0.52</td>
<td>50</td>
</tr>
<tr>
<td>Controls</td>
<td>1.67</td>
<td>0.43</td>
<td>58</td>
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</tbody>
</table>

Note: Self/Body Esteem scores represent a mean of scores on 12 items. Means range from one (high esteem) to four (low esteem).
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
<tr>
<td>Marital Intimacy¹</td>
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</tr>
<tr>
<td>Infertiles</td>
<td>2.19</td>
<td>1.00</td>
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</tr>
<tr>
<td>Controls</td>
<td>1.90</td>
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</tr>
<tr>
<td>Marital Happiness²</td>
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<td>Infertiles</td>
<td>3.05</td>
<td>1.83</td>
<td>44</td>
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<td>Controls</td>
<td>2.33</td>
<td>1.18</td>
<td>58</td>
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<tr>
<td>Marital Relationship²</td>
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</tr>
<tr>
<td>Infertiles</td>
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<td>1.04</td>
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</tr>
<tr>
<td>Controls</td>
<td>1.59</td>
<td>0.75</td>
<td>58</td>
</tr>
</tbody>
</table>

¹Marital Intimacy refers to the Miller Social Intimacy Scale, means of which range from one (high intimacy) to nine (low intimacy).

²Marital Happiness and Marital Relationship are each single items. Higher scores indicate poorer marital adjustment.
Table B-5

Sexual Functioning by Group:
Means and Standard Deviations

<table>
<thead>
<tr>
<th>Group</th>
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<th>N</th>
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</thead>
<tbody>
<tr>
<td>Sexual Frequency</td>
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<tr>
<td>Infertiles</td>
<td>3.10</td>
<td>1.22</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>3.55</td>
<td>0.99</td>
<td>58</td>
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<tr>
<td>Sexual Anxiety</td>
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<tr>
<td>Infertiles</td>
<td>2.20</td>
<td>1.22</td>
<td>51</td>
</tr>
<tr>
<td>Controls</td>
<td>1.69</td>
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</tr>
<tr>
<td>Response to Erotica</td>
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<tr>
<td>Infertiles</td>
<td>2.49</td>
<td>1.14</td>
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</tr>
<tr>
<td>Controls</td>
<td>1.74</td>
<td>0.87</td>
<td>58</td>
</tr>
</tbody>
</table>

1The items in this table were among those taken from Lafleur (1985) for the present study. Higher scores for all items other than sexual frequency indicate poorer sexual adjustment.
Table B-6

Sexual Interaction Inventory Scores by Group:

<table>
<thead>
<tr>
<th>Group</th>
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<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Frequency Satisfaction</td>
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<tr>
<td>Infertiles</td>
<td>11.80</td>
<td>6.77</td>
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<tr>
<td>Controls</td>
<td>10.12</td>
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<tr>
<td>Self-Acceptance</td>
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<tr>
<td>Infertiles</td>
<td>6.16</td>
<td>4.77</td>
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</tr>
<tr>
<td>Controls</td>
<td>4.50</td>
<td>3.86</td>
<td>58</td>
</tr>
<tr>
<td>Mean Sexual Pleasure</td>
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<tr>
<td>Infertiles</td>
<td>5.27</td>
<td>0.70</td>
<td>40</td>
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<tr>
<td>Controls</td>
<td>5.16</td>
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<tr>
<td>Perceptual Accuracy</td>
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<tr>
<td>Infertiles</td>
<td>13.83</td>
<td>7.01</td>
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</tr>
<tr>
<td>Controls</td>
<td>8.40</td>
<td>5.07</td>
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<tr>
<td>Mate Acceptance</td>
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<tr>
<td>Infertiles</td>
<td>10.55</td>
<td>8.52</td>
<td>49</td>
</tr>
<tr>
<td>Controls</td>
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<td>5.66</td>
<td>58</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td></td>
<td></td>
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<tr>
<td>Infertiles</td>
<td>89.25</td>
<td>36.88</td>
<td>40</td>
</tr>
<tr>
<td>Controls</td>
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<td>22.67</td>
<td>58</td>
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</table>

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Appendix C

Tables C-1 to C-9
<table>
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<th>Source</th>
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<td>Group</td>
<td>1</td>
<td>2.37</td>
<td>9.24*</td>
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<tr>
<td>Error $S(G)$</td>
<td>47</td>
<td>0.26</td>
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<tr>
<td>Couple</td>
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<td>0.63</td>
<td>3.70</td>
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<tr>
<td>Group x Couple</td>
<td>1</td>
<td>2.42</td>
<td>14.30**</td>
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<td>Error CS(G)</td>
<td>47</td>
<td>0.17</td>
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$N = 49$

* $p < .004$

** $p < .0001$
Table C-2

Repeated Measures Analysis of Variance:

Emotional Adjustment Scale

<table>
<thead>
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<th>F</th>
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<td>Group</td>
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<td>0.56</td>
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<td>Couple</td>
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<td>0.91</td>
<td>2.81</td>
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<td>Group x Couple</td>
<td>1</td>
<td>1.72</td>
<td>5.29*</td>
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<td>Error CS(G)</td>
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<td>0.32</td>
<td></td>
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N = 49

* p < .02
Table C-3

Repeated Measures Analysis of Variance:
Feeling Sad, Discouraged and Hopeless in Last Month

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<th>F</th>
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</thead>
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<td>Group</td>
<td>1</td>
<td>9.74</td>
<td>5.63*</td>
</tr>
<tr>
<td>Error S(G)</td>
<td>47</td>
<td>1.73</td>
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<tr>
<td>Couple</td>
<td>1</td>
<td>3.72</td>
<td>3.77</td>
</tr>
<tr>
<td>Group x Couple</td>
<td>1</td>
<td>3.21</td>
<td>3.26</td>
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<td>Error CS(G)</td>
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<td>0.99</td>
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N = 49
* p < .02
Table C-4

Repeated Measures Analysis of Variance:

**Self/Body Esteem**

<table>
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<th>F</th>
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<td>Group</td>
<td>1</td>
<td>1.56</td>
<td>6.87*</td>
</tr>
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<td>Error S(G)</td>
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<td>0.23</td>
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</tr>
<tr>
<td>Couple</td>
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<td>0.71</td>
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<tr>
<td>Group x Couple</td>
<td>1</td>
<td>0.08</td>
<td>0.37</td>
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<td>Error CS(G)</td>
<td>46</td>
<td>0.21</td>
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N = 49

*p < .01
Table C-5

Repeated Measures Analysis of Variance:

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</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>11.67</td>
<td>4.60*</td>
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<td>Error S(G)</td>
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<tr>
<td>Couple</td>
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<td>1.22</td>
</tr>
<tr>
<td>Group x Couple</td>
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<td>3.46</td>
<td>2.49</td>
</tr>
<tr>
<td>Error CS(G)</td>
<td>43</td>
<td>1.39</td>
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N = 45

* p < .04
Table C-6

Repeated Measures Analysis of Variance:
Perceptual Accuracy of Spouse's Preferences

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<th>F</th>
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</thead>
<tbody>
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<td>Group</td>
<td>1</td>
<td>385.74</td>
<td>6.87*</td>
</tr>
<tr>
<td>Error S(G)</td>
<td>46</td>
<td>56.17</td>
<td></td>
</tr>
<tr>
<td>Couple</td>
<td>1</td>
<td>0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Group x Couple</td>
<td>1</td>
<td>197.28</td>
<td>16.57**</td>
</tr>
<tr>
<td>Error CS(G)</td>
<td>46</td>
<td>11.91</td>
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</tbody>
</table>

N = 48

* p < .01
** p < .0001
Table C-7

Repeateacies Anay sis of Vanciance:
Overall Sexual Disharmony/Dissatisfaction

<table>
<thead>
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<th>F</th>
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</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>10811.98</td>
<td>6.06*</td>
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<tr>
<td>Error CS(G)</td>
<td>46</td>
<td>1782.19</td>
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</tr>
</tbody>
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N = 48

* p<.02
Table C-8

Repeated Measures Analysis of Variance:

Sexual Anxiety

<table>
<thead>
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<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>8.30</td>
<td>6.36*</td>
</tr>
<tr>
<td>Error S(G)</td>
<td>47</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td>Couple</td>
<td>1</td>
<td>1.14</td>
<td>1.53</td>
</tr>
<tr>
<td>Group x Couple</td>
<td>1</td>
<td>0.26</td>
<td>0.34</td>
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<td>Error CS(G)</td>
<td>47</td>
<td>0.74</td>
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N = 49

* p < .02
Table C-9

Repeated Measures Analysis of Variance:
Response to an Erotic Film

<table>
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</thead>
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<td>11.79**</td>
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<td>Error S(G)</td>
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<td>1.02</td>
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<td>Couple</td>
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<td>6.26</td>
<td>7.36*</td>
</tr>
<tr>
<td>Group x Couple</td>
<td>1</td>
<td>1.22</td>
<td>1.43</td>
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<tr>
<td>Error CS(G)</td>
<td>47</td>
<td>0.85</td>
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</table>

N = 49

* p < .01
** p < .001
Appendix D

Tables D-1a to D-4
### Table D-1a

**Pearson Correlations:**

**Dependent Variables with Predictor Variables**

<table>
<thead>
<tr>
<th>IVs</th>
<th>DVs</th>
<th>GSI</th>
<th>PSS-FR</th>
<th>PSS-FA</th>
<th>Blunting</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt</td>
<td>.42***</td>
<td>.22</td>
<td>.09</td>
<td>-.30*</td>
<td>.09</td>
<td>(50)</td>
</tr>
<tr>
<td></td>
<td>(50)</td>
<td>(50)</td>
<td>(50)</td>
<td>(46)</td>
<td>(46)</td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>.48***</td>
<td>.38**</td>
<td>.18</td>
<td>-.13</td>
<td>.07</td>
<td>(51)</td>
</tr>
<tr>
<td></td>
<td>(51)</td>
<td>(51)</td>
<td>(51)</td>
<td>(47)</td>
<td>(47)</td>
<td></td>
</tr>
<tr>
<td>EAS</td>
<td>.51***</td>
<td>.36**</td>
<td>.26*</td>
<td>-.08</td>
<td>-.08</td>
<td>(51)</td>
</tr>
<tr>
<td></td>
<td>(51)</td>
<td>(51)</td>
<td>(51)</td>
<td>(47)</td>
<td>(47)</td>
<td></td>
</tr>
<tr>
<td>Esteem</td>
<td>.23*</td>
<td>.25*</td>
<td>.28*</td>
<td>.03</td>
<td>.03</td>
<td>(50)</td>
</tr>
<tr>
<td></td>
<td>(50)</td>
<td>(50)</td>
<td>(50)</td>
<td>(46)</td>
<td>(46)</td>
<td></td>
</tr>
<tr>
<td>Marital Happiness</td>
<td>.38**</td>
<td>.40**</td>
<td>.10</td>
<td>-.02</td>
<td>-.13</td>
<td>(44)</td>
</tr>
<tr>
<td></td>
<td>(44)</td>
<td>(44)</td>
<td>(44)</td>
<td>(41)</td>
<td>(41)</td>
<td></td>
</tr>
<tr>
<td>Sexual Pleasure</td>
<td>-.30*</td>
<td>-.12</td>
<td>-.13</td>
<td>.09</td>
<td>.22</td>
<td>(49)</td>
</tr>
<tr>
<td></td>
<td>(49)</td>
<td>(49)</td>
<td>(49)</td>
<td>(45)</td>
<td>(45)</td>
<td></td>
</tr>
<tr>
<td>Sexual Harmony</td>
<td>.35**</td>
<td>.41**</td>
<td>-.08</td>
<td>-.12</td>
<td>.02</td>
<td>(40)</td>
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<td>(40)</td>
<td>(40)</td>
<td>(40)</td>
<td>(36)</td>
<td>(36)</td>
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</tbody>
</table>

Ns are reported in brackets

**Note 1:** All variables with the exception of Sexual Pleasure are rated such that high scores represent poor adjustment and low scores mean good adjustment.

**Note 2:**
- GSI = General Support Inventory
- PSS-FR = Perceived Social Support from Friends
- PSS-FA = Perceived Social Support from Family
- Adapt = Single item on adjustment to Infertility
- EAS = Emotional Adjustment Scale

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

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<table>
<thead>
<tr>
<th>DVs</th>
<th>Chances of Conceiving</th>
<th>Desire to Conceive</th>
<th>Months Trying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt</td>
<td>.08 (50)</td>
<td>.40*** (50)</td>
<td>-.05 (49)</td>
</tr>
<tr>
<td>CES-D</td>
<td>.19 (51)</td>
<td>.32** (51)</td>
<td>.10 (50)</td>
</tr>
<tr>
<td>EAS</td>
<td>.17 (51)</td>
<td>.06 (51)</td>
<td>.05 (50)</td>
</tr>
<tr>
<td>Esteem</td>
<td>.29* (50)</td>
<td>.03 (50)</td>
<td>.16 (49)</td>
</tr>
<tr>
<td>Marital Happiness</td>
<td>.27* (44)</td>
<td>.06 (44)</td>
<td>.03 (43)</td>
</tr>
<tr>
<td>Sexual Pleasure</td>
<td>-.35** (49)</td>
<td>.01 (49)</td>
<td>-.18 (48)</td>
</tr>
<tr>
<td>Sexual Harmony</td>
<td>.32* (40)</td>
<td>.01 (40)</td>
<td>.19 (39)</td>
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</tbody>
</table>

Ns are reported in brackets.

Note 1: All variables with the exception of Sexual Pleasure mean are rated such that high scores represent poor adjustment and low scores mean good adjustment.

Note 2: Adapt = Single item on adjustment to Infertility
EAS = Emotional Adjustment Scale

* p<.05
** p<.01
*** p<.001
Table D-2

Intercorrelations of Predictor Variables

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<th>Variables</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
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<td>.26*</td>
<td>-.23</td>
<td>-.15</td>
<td>.19</td>
<td>.15</td>
<td>-.21</td>
<td></td>
</tr>
<tr>
<td>(1)</td>
<td>(51)</td>
<td>(51)</td>
<td>(47)</td>
<td>(47)</td>
<td>(51)</td>
<td>(51)</td>
<td>(50)</td>
<td></td>
</tr>
<tr>
<td>PSS-FR</td>
<td>.14</td>
<td>-.06</td>
<td>-.14</td>
<td>.12</td>
<td>.02</td>
<td>-.03</td>
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<td></td>
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<td>(47)</td>
<td>(51)</td>
<td>(51)</td>
<td>(50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS-FA</td>
<td>-.00</td>
<td>.10</td>
<td>-.02</td>
<td>.02</td>
<td>.16</td>
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<td>(3)</td>
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<td>(51)</td>
<td>(51)</td>
<td>(50)</td>
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<td>Blunting</td>
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<td>-.14</td>
<td>.30*</td>
<td>.14</td>
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<td>Monitoring</td>
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<td>.19</td>
<td>.07</td>
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<td>(45)</td>
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<tr>
<td>Chances</td>
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<td>(50)</td>
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<tr>
<td>Desire for Child</td>
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<td>-.02</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(7)</td>
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<td></td>
<td></td>
<td>(50)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Months Trying</td>
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<td>(8)</td>
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</tr>
</tbody>
</table>

Ns are reported in brackets.

Note: GSI = General Support Inventory
PSS-FR = Perceived Social Support from Friends
PSS-FA = Perceived Social Support from Family
Chances = Chances of Conceiving

* p<.05
** p<.001
Table D-3

**Stepwise Multiple Regression Analysis:**

*Predictor Variables and Infertility Adjustment*

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Beta</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion: Adjustment to Infertility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Support Inventory</td>
<td>.36</td>
<td>2.77**</td>
</tr>
<tr>
<td>Desire for Child</td>
<td>.35</td>
<td>2.66**</td>
</tr>
</tbody>
</table>

Multiple R = .53
R Square = .28
F(2,42) = 8.22, p<.001

** p<.01
**Stepwise Multiple Regression Analysis:**

**Predictor Variables and Self/Body Esteem**

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Beta</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion: Self/Body Esteem</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Family Support</td>
<td>.34</td>
<td>2.44**</td>
</tr>
<tr>
<td>Chances of Conceiving</td>
<td>.29</td>
<td>2.08*</td>
</tr>
</tbody>
</table>

Multiple R = .43
R Square = .19
F(2,42) = 4.84, p<.01

* p<.05
** p<.02
Appendix E

Tables E-1 to E-3
Table E-1

Cell Frequencies, Chi Square Analyses:

Structural Support by Group and by Gender

<table>
<thead>
<tr>
<th>Group</th>
<th>Low</th>
<th></th>
<th>High</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Infertile</td>
<td>31</td>
<td>60.8</td>
<td>20</td>
<td>39.2</td>
</tr>
<tr>
<td>Control</td>
<td>21</td>
<td>36.2</td>
<td>37</td>
<td>63.8</td>
</tr>
</tbody>
</table>

\[ \chi^2(1) = 5.62; \ p < .02 \]

<table>
<thead>
<tr>
<th>Gender</th>
<th>Low</th>
<th></th>
<th>High</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td>44.1</td>
<td>33</td>
<td>55.9</td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>52.0</td>
<td>24</td>
<td>48.0</td>
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</table>

\[ \chi^2(1) = .40, \ n.s. \]

Note: N = 109

*F = Frequency
<table>
<thead>
<tr>
<th>Group</th>
<th>Low F</th>
<th>%</th>
<th>High F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infertile</td>
<td>32</td>
<td>62.7</td>
<td>19</td>
<td>37.0</td>
</tr>
<tr>
<td>Control</td>
<td>18</td>
<td>31.0</td>
<td>40</td>
<td>69.0</td>
</tr>
</tbody>
</table>

\( \chi^2 (1) = 9.75, p < .002 \)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Low F</th>
<th>%</th>
<th>High F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>23</td>
<td>39.0</td>
<td>36</td>
<td>61.0</td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
<td>44.0</td>
<td>28</td>
<td>56.0</td>
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</table>

\( \chi^2 (1) = .11, n.s. \)

Note: N = 109

*F = Frequency
### Table E-3

**Cell Frequencies, Chi Square Analyses:**

**Satisfaction with Support by Group and by Gender**

<table>
<thead>
<tr>
<th>Group</th>
<th>Low</th>
<th>High</th>
<th>( \chi^2 )</th>
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<tbody>
<tr>
<td>Infertile</td>
<td>30</td>
<td>21</td>
<td>(1) = 8.47, ( p &lt; .004 )</td>
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<tr>
<td>Control</td>
<td>17</td>
<td>41</td>
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\[ \chi^2 (1) = 8.47, \ p < .004 \]

<table>
<thead>
<tr>
<th>Gender</th>
<th>Low</th>
<th>High</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>23</td>
<td>36</td>
<td>(1') = .57, n.s.</td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 (1') = .57, \text{ n.s.} \]

**Note:** \( N = 109 \)

*\( F = \) Frequency
Appendix F

Consent Forms, Letter, Instructions and Questionnaires

*Items in bold were omitted for control subjects. French questionnaires are available upon request.*
CONSENT FORM (Infertiles)

I agree to participate in the present study which is examining the process of coping with infertility. I understand that my spouse and I will separately complete a battery of questionnaires (taking 60 to 90 minutes) dealing with our social, emotional, marital and sexual lives.

I understand that we are free to ask any questions concerning the project and to discontinue participation at any time. Discontinuing will in no way affect our medical care.

It has also been made clear to me that all information cited in the present study will remain completely confidential, and that no individual data will be cited in any future publications.

The researchers have suggested to us that participation in this study may stimulate interesting and possibly useful discussions between my partner and myself. It is understood that on completion of this study, we are welcome to inquire and receive information pertaining to the overall results of the study.

Husband's name ___________ Date ___________

Wife's name ___________ Date ___________

Experimenter ___________
CONSENT FORM (Controls)

I agree to participate in the present study which is examining the processes of couple life. I understand that my spouse and I will separately complete a battery of questionnaires (taking 60 to 90 minutes) dealing with our social, emotional, marital and sexual lives.

I understand that we are free to ask any questions concerning the project and to discontinue participation at any time.

It has also been made clear to me that all information cited in the present study will remain completely confidential, and that no individual data will be cited in any future publications.

The researchers have suggested to us that participation in this study may stimulate interesting and possibly useful discussions between my partner and myself. It is understood that on completion of this study, we are welcome to inquire and receive information pertaining to the overall results of the study.

Husband's name ___________ Date ___________

Wife's name ___________ Date ___________

Experimenter ___________
INSTRUCTIONS

1) Please complete these questionnaires individually — you and your partner should be in separate rooms, but can discuss the items after their completion.

2) On top of each questionnaire in your package, please make sure you have written either "male" (M) or "female" (F), as applicable. This is our only way of identifying who did which set, so don't forget. Please put your age on top of the first questionnaire only. Do not put your name on any questionnaires.

3) Please answer all questions. If you are not sure of an answer, respond as best you can. Remember, this is confidential, so please be honest.

4) Your data are very important to this research project — we have provided you with a self-addressed stamped envelope, so if applicable, please DON'T FORGET TO MAIL THE PACKAGE BACK!!

5) If you would like information on the results of this study, please contact the researcher at the number below.

Thank you for your participation.

Vicki B. Veroff
Concordia University, Psychology Dept.
848-7549
GENERAL INFORMATION QUESTIONNAIRE

Personal Information:

1) How many years have you and your present partner been married?

2) Is this your first or second marriage?

3) What is your occupation? (Please be specific)

4) Overall, how satisfied are you with your work life?

   0    1    2    3    4
   very dissatisfied    very satisfied

5) How many years of education have you completed?

6) To what extent do you observe/practise your religion?
   (Mark on scale below)

   0    1    2    3    4
   I am not at all observant    I am very observant

7) Are you still actively trying to conceive? Yes/No

8) Do you have any children living with you at this time? Yes/No

9) On the basis of your medical investigation, what are your chances of conceiving? (Circle appropriate response)

   Excellent    Very Good    Good    Poor    None

10) What do you believe are your chances of conceiving? (Circle appropriate response)

   Excellent    Very Good    Good    Poor    None

11) What condition (if known) is responsible for your inability to conceive thus far?

12) Please rate on the following scale the degree to which you would like a child.

   0    1    2    3    4
   I do not want a child at all    I want a child desperately

13) Please estimate for how long you and your partner have been trying to conceive. ______ years ______ months

14) Have you completed at least one infertility investigation? Yes/No

15) How long has it been since you completed the last test in your investigation? ______ years ______ months.

16) Are you currently under medical care for infertility? Yes/No
17) Are you currently suffering from any other medical condition? Yes/No
18) If you answered yes to #14, what is the condition?
19) Are you currently taking any medication? Yes/No
   If so, what is the medication?
20) Have you had any major illnesses in the last 5 years? Yes/No
    Indicate the illness(es) and how long you suffered.

21) If you have been or are currently under psychiatric care, please indicate when, for how long, and (if relevant) when terminated.

Family Background

12) Is your mother alive? Yes/No
13) Is your father alive? Yes/No
14) How many brothers and/or sisters do you have? _____
15) How many of your brothers and/or sisters have children? ______
GENERAL ADJUSTMENT QUESTIONNAIRE (Infertiles, only)

1) How would you rate the overall quality of your PRESENT life, in comparison to BEFORE discovering your infertility?

much worse 0 1 2 3 4 5 6 7 8 much better now

2) How would you rate your overall emotional adjustment since discovering your infertility?

1) excellent 2) very good 3) good 4) adequate 5) poor 6) very poor

3) Some patients like to know everything about their conditions. Others prefer to be given less information. How much would you like to know about your own condition?

1) everything 2) general, without too much detail 3) the less I know, the better 4) I don't want to know

4) Do you ever find articles or books on infertility for you or your family to read?

1) never 2) occasionally 3) frequently 4) always

5) When you hear people talking about infertility, do you tend to join in or move away from them?

1) always join in 2) usually join in 3) sometimes join in 4) sometimes move away 5) usually move away 6) always move away

6) Have you ever attended meetings of a group trying to help people with a condition similar to yours, (i.e. infertility)? Yes/No

7) Do you ever discuss infertility with other couples who cannot conceive?

never 0 1 2 3 4 5 6 7 8 often

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CES-D/EMOTIONAL STATUS/HEALTH & WELL-BEING

DURING THE PAST MONTH, how often have you felt this way?

(1) rarely or never    (2) some or a little occasionally
(3) moderately of the time    (4) most or all of the time

1) I did not feel like eating; my appetite was poor..............
   1 2 3 4

2) I felt that I could not shake off the blues, even with help from my family and friends.............
   1 2 3 4

3) I felt that I was just as good as other people..........
   1 2 3 4

4) I had trouble keeping my mind on what I was doing.....
   1 2 3 4

5) I felt depressed................................
   1 2 3 4

6) I felt that everything I did was an effort..................
   1 2 3 4

7) I felt hopeful about the future.....................
   1 2 3 4

8) I thought my life had been a failure.............
   1 2 3 4

9) I felt fearful...................................
   1 2 3 4

10) My sleep was restless................................
    1 2 3 4

11) I was happy...................................
    1 2 3 4

12) I talked less than usual................................
    1 2 3 4

13) I felt lonely...................................
    1 2 3 4

14) I enjoyed life...................................
    1 2 3 4

15) I had crying spells................................
    1 2 3 4

16) I felt sad...................................
    1 2 3 4

17) I felt that people disliked me.....................
    1 2 3 4

18) I could not get 'going................................
    1 2 3 4

19) People were unfriendly................................
    1 2 3 4

20) I was bothered by things that don't usually bother me
    1 2 3 4

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21) DURING THE PAST MONTH, have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile?

1) extremely so; I have  2) very much so  3) quite a bit just about given up

4) some; enough to  5) a little bit  6) not at all bother me

20) DURING THE PAST MONTH, how happy and satisfied have you been with your personal life?

1) extremely happy  2) very happy  3) fairly happy

4) satisfied  5) somewhat  6) very, dissatisfied dissatisfied

21) DURING THE PAST MONTH, have you had any reason to wonder if you were losing your mind or losing control over the way you act, talk, think, feel?

1) not at all  2) only a little  3) some, but not enough to be concerned

4) some, and I have been concerned  5) some, and I am quite concerned  6) very much so, and I am very concerned

22) DURING THE PAST MONTH, have you been bothered by any illness, bodily disorder, pains or fears about your health?

1) all of the time  2) most of the time  3) a good bit of the time

4) some of the time  5) a little of the time  6) none of the time

23) DURING THE PAST MONTH, have you been feeling emotionally stable and sure of yourself?

1) all of the time  2) most of the time  3) a good bit of the time

4) some of the time  5) a little of the time  6) none of the time
24) What is your stage of health?
   1) I feel well most of the time.
   2) I lack energy or only feel "up to par" some of the time.
   3) I feel very ill or "lousy" most of the time.

25) Which of the following bothered you in the past year? Circle all that apply.

   1) Flu or infections of the throat/lungs
   2) Congested or stuffy nose
   3) Coughing, sore throat, hoarseness
   4) Infections such as measles, mumps, hepatitis
   5) High blood pressure (hypertension)
   6) Frequent headaches
   7) Indigestion or upset stomach
   8) Chronic constipation
   9) Chronic or recurring diarrhea
  10) Hemorrhoids
  11) Muscular aches and pains
  12) Broken bones or sprains
  13) Severe pain or numbness in bones, muscles, or joints
  14) Lower-back pain
  15) Allergies
  16) Menstrual problems
  17) Heart or chest pain
  18) Venereal disease or genital herpes
  19) Dizzy spells
  20) Ringing or buzzing in ears
  21) Trouble getting your breath
  22) Had a disabling accident

26) How did your health this past year compare with that of previous years?

   1) Improved a great deal
   2) Improved somewhat
   3) Stayed the same
   4) Worsened somewhat
   5) Worsened a great deal
28) During the past year, about how many days of work (or school) did you miss due to illness? _____ days.

29) During the past year, how many times did you see a physician for medical reasons, other than for infertility? _____ times.

30) During the past year, how many days did you spend in the hospital? _____ days.
SELF/BODY ESTEEM QUESTIONNAIRE

1. I am pretty happy about the way I look.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

2. Most people have a nicer body than I do.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

3. My weight makes me unhappy.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

4. I like what I see when I look in the mirror.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

5. There are many things I would change about my looks if I could.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

6. I am proud of my body.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

7. I often feel ashamed of how I look.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

8. I think I have a good body.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue

9. Members of the opposite sex would enjoy looking at me.
(a) completely  (b) partially  (c) partially  (d) completely
     true         true         untrue        untrue
10. My spouse likes my looks.
   (a) completely  (b) partially  (c) partially  (d) completely
   true         true         untrue        untrue

11. I often worry about the way I look.
   (a) completely  (b) partially  (c) partially  (d) completely
   true         true         untrue        untrue

12. How do you feel currently about the way your body looks?
   (a) very satisfied  (d) rather dissatisfied
   (b) quite satisfied (e) quite dissatisfied
   (c) rather satisfied (f) very dissatisfied

13. How important do you think being physically attractive is?
   (a) extremely  (b) quite  (c) a little  (d) not at all

14. Do you feel infertility has changed your attractiveness in any way?
   (a) more attractive  (b) no change  (c) less attractive
GENERAL SUPPORT INVENTORY

S 1) How many good friends (including relatives) would you say you have?
0  1  2  3  4  5  6  7  8 & more

SS 2) How satisfied are you with your friends, in general?
1) very satisfied  2) quite satisfied  3) rather satisfied
4) rather dissatisfied  5) quite dissatisfied  6) very dissatisfied
7) no friends.

S 3) How many friends have you seen or spoken to on the telephone in the last two weeks?
0  1  2  3  4  5  6  7  8 & more

F,C 4) Have you been able to talk about your feelings and problems with at least one friend during the last two weeks? Yes/No

S 5) How many times in the last two weeks have you gone out socially with other people (for example, visited friends, gone to movies, bowling, church, restaurants, invited friends to your home)?
1) more than three  2) three  3) twice  4) once  5) none

SS 6) Have you felt lonely and wished for more friends during the last two weeks?
1) never  2) a few times  3) about half the time  4) usually  5) most of the time
SS 7) What support do you receive from others?

1) I have good relationships with others and receive strong support from at least one family member and/or friend.

☐ 2) The support I receive from family and/or friends is limited.

3) The support I receive from family and/or friends occurs infrequently or only when absolutely necessary.

8) Have the following persons made your adjustment to infertility easier or more difficult?

<table>
<thead>
<tr>
<th></th>
<th>MUCH</th>
<th>SOMEWHAT EASIER</th>
<th>SOMEWHAT EASIER</th>
<th>MUCH EASIER</th>
<th>HARDER</th>
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<tbody>
<tr>
<td>1) Your friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2) Your family</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3) Your mate</td>
<td>(1)</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4) Your own self</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

S 9) How many people do you have with whom you can talk about your feelings and problems?

1) None   2) 1 or 2   3) A few   4) Many

F, C 10) With approximately how many people do you actually discuss your feelings and problems?

1) None   2) 1 or 2   3) A few   4) Many

F 11) How much emotional support do you and your spouse get from each other?

0   1   2   3   4

We give each other a lot. We give each other very little support
12) How much emotional support do you feel your spouse gets from friends and family? (excluding yourself)

0  1  2  3  4
he/she gets a lot of support

F  13) How much emotional support do you get from friends and family? (excluding your spouse).

0  1  2  3  4
I get a lot of support

I get very little support
COPING INVENTORY

1. Vividly imagine that you are afraid of the dentist and have to get some dental work done. Which of the following would you do? Check all of the statements that might apply to you.

___ I would ask the dentist exactly what he was going to do.

___ I would take a tranquilizer or have a drink before going.

___ I'd want the dentist to tell me when I would feel pain.

___ I would try to sleep.

___ I would watch all the dentist's movements and listen for the sound of his drill.

___ I would watch the flow of water from my mouth to see if it contained blood.

___ I would do mental puzzles in my mind.

2. Vividly imagine that, due to a large drop in sales, it is rumored that several people in your department at work will be laid off. Your supervisor has turned in an evaluation of your work for the past year. The decision about lay-offs has been made and will be announced in several days. Check off all the statements that might apply to you.

___ I would talk to my fellow workers to see if they knew anything about what the supervisor's evaluation of me said.

___ I would review the list of duties for my present job and try to figure out if I had fulfilled them all.

___ I would go to the movies to take my mind off of things.

___ I would try to remember any arguments or disagreements I might have had with the supervisor that would have lowered his opinion of me.

___ I would push all thoughts of being laid off out of my mind.

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I would tell my spouse that I'd rather not discuss my chances of being laid off.

I would try to think which employees in my department the supervisor might have thought had done the worst job.

I would continue doing my work as if nothing special was happening.

3. Vividly imagine that you are afraid of elevators, but ride in them for convenience. One day you are riding an elevator, along with several other people, and it stops suddenly, leaving you trapped until help can arrive. Check all of the statements that might apply to you:

I would sit or stand by myself and have as many daydreams and fantasies as I could.

I would talk to someone beside me about what might be wrong.

I would exchange life stories with the people around me.

I would listen for sounds from outside the elevator to find out what repairmen were planning.

I would try to doze as much as possible.

I would think about how nice it's going to be when I get home.

I'd make sure I knew where the elevator trap door was.

4. Vividly imagine that a parent who is dear to you is having major surgery, and you are waiting outside the operating room. Check all the statements that might apply to you.

I would read magazines available in the waiting room.

I would think about who to call and what arrangements to make if my parent did not survive the operation.

I would ask every nurse or doctor walking by if they had any information on my parent's condition.
I would try to sleep as much as possible.

I would make small talk with other people in the room.

I would think about things that could go wrong in surgery.

I would call a friend or relative from a phone booth nearby to take my mind of my parent's surgery.

I would think about how much my parent means to me, and how terrible it would be if he or she passed away.
PERCEIVED SOCIAL SUPPORT - FAMILY

The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their families. For each statement, there are three possible answers: Yes, No, Don't know. Please circle the answer you choose for each item.

F 1. My family gives me the moral support I need.
   Yes  No  Don't know

F 2. I get good ideas about how to do things or make things from my family.
   Yes  No  Don't know

SS 3. Most other people are closer to their family than I am.
   Yes  No  Don't know

4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.
   Yes  No  Don't know

5. My family enjoys hearing about what I think.
   Yes  No  Don't know

6. Members of my family share many of my interests.
   Yes  No  Don't know

7. Certain members of my family come to me when they have problems or need advice.
   Yes  No  Don't know

F 8. I rely on my family for emotional support.
   Yes  No  Don't know

F 9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.
   Yes  No  Don't know

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10. My family and I are very open about what we think about things.
   Yes  No  Don't know

SS 11. My family is sensitive to my personal needs.
   Yes  No  Don't know

12. Members of my family come to me for emotional support.
   Yes  No  Don't know

F 13. Members of my family are good at helping me solve problems.
   Yes  No  Don't know

S 14. I have a deep sharing relationship with a number of members of my family.
   Yes  No  Don't know

15. Members of my family get good ideas about how to do things or make things from me.
   Yes  No  Don't know

F,C 16. When I confide in members of my family, it makes me feel uncomfortable.
   Yes  No  Don't know

17. Members of my family seek me out for companionship.
   Yes  No  Don't know

18. I think that my family feels that I'm good at helping them solve problems.
   Yes  No  Don't know

SS 19. I don't have a relationship with a member of my family that is as close as other people's relationships with family members.
   Yes  No  Don't know

SS 20. I wish my family were much different.
   Yes  No  Don't know

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PERCEIVED SOCIAL SUPPORT - FRIENDS

The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No, Don't know. Please circle the answer you choose for each item.

1. My friends give me the moral support I need.
   Yes   No   Don't know

SS 2. Most other people are closer to their friends than I am.
   Yes   No   Don't know

   Yes   No   Don't know

4. Certain friends come to me when they have problems or need advice.
   Yes   No   Don't know

F 5. I rely on my friends for emotional support.
   Yes   No   Don't know

6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
   Yes   No   Don't know

7. I feel that I'm on the fringe in my circle of friends.
   Yes   No   Don't know

F 8. There is a friend I could go to if I were just feeling down, without feeling funny about it later on.
   Yes   No   Don't know

9. My friends and I are very open about what we think about things.
   Yes   No   Don't know

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SS 10. My friends are sensitive to my personal needs.
   Yes No Don't know

11. My friends come to me for emotional support.
   Yes No Don't know

F 12. My friends are good at helping me solve problems.
   Yes No Don't know

S 13. I have a deep sharing relationship with a number of friends.
   Yes No Don't know

14. My friends get good ideas about how to do things or make things from me.
   Yes No Don't know

F,C 15. When I confide in friends, it makes me feel uncomfortable.
   Yes No Don't know

16. My friends seek me out for companionship.
   Yes No Don't know

17. I think that my friends feel that I'm good at helping them solve problems.
   Yes No Don't know

SS 18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.
   Yes No Don't know

F 19. I've recently gotten a good idea about how to do something from a friend.
   Yes No Don't know

SS 20. I wish my friends were much different.
   Yes No Don't know

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MARITAL ADJUSTMENT/SEXUAL FUNCTIONING

1) Please circle the number below which best describes the degree of happiness in your marriage. The middle point ("happy") represents the degree of happiness which most people experience. The scale ranges from those few who experience extreme joy to those few who are very unhappy in their marriage.

very unhappy 1 2 3 4 5 6 7 perfectly happy

2) How would you describe your relationship with your mate?

1) my closest friend and confidant
2) we each do our job, but we get along well
3) there are many arguments, but also many shared pleasures
4) mainly arguments and unpleasantness
5) we see as little of each other as possible

3) Since discovering your infertility, has the degree of happiness in your marriage changed?

1) decreased a lot
2) decreased a little
3) remained the same
4) increased a little
5) increased a lot

4) Do you feel you can talk freely to your mate about your feelings, concerns and/or problems related to infertility?

1) certainly - at any time
2) yes - but at the right time
3) sometimes yes, sometimes no
5) What is the approximate frequency of your sexual relations at present?
1) once/day  2) 3-4/week  3) twice/week  4) once/week
5) once/2 weeks  6) once/month  7) < once/month  8) never

6) Has there been any period of time within the last two years during which you did not have sexual relations with your mate? Yes/No

7) If you answered yes to #6, was the absence of lovemaking related to your infertility?
1) not at all  2) not sure  3) in some way  4) very much

8) When you think of having sexual relations, how anxious do you feel?
1) very anxious  2) moderately anxious  3) a little anxious  4) not at all anxious

9) How often do you see your mate completely undressed?
1) never  2) sometimes  3) often  4) very often

10) How often does your mate see you completely undressed?
1) never  2) sometimes  3) often  4) very often

11) Since discovering your inability to conceive, has there been any change in the following behaviours?

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>DECREASE</th>
<th>SAME</th>
<th>INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) in your mate's sexual drive</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2) in your own sexual drive</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3) in the frequency of your sexual relations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4) in your degree of satisfaction with your sexual relations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

12) How would you feel about watching an erotic film?
0  1  2  3  4
very turned on very turned off
MILLER SOCIAL INTIMACY SCALE

Please answer the following questions about your spouse. Read each rating scale carefully before circling the appropriate response.

1. When you have leisure time, how often do you choose to spend it with your spouse?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

2. How often do you keep very personal information to yourself and do not share it with your spouse?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

3. How often do you show him or her affection?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

4. How often do you confide very personal information to him/her?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

5. How often are you able to understand his/her feelings?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

6. How often do you feel close to your spouse?

   1  2  3  4  5  6  7  8  9  10
very rarely  sometimes  almost always

7. How much do you like to spend time alone with your spouse?

   1  2  3  4  5  6  7  8  9  10
not much  a little  a great deal

8. How much do you feel like being encouraging and supportive to your mate when he/she is unhappy?

   1  2  3  4  5  6  7  8  9  10
not much  a little  a great deal

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9. How close do you feel to him/her most of the time?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

10. How important is it to you to listen to his/her very personal disclosures?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

11. How satisfying is your relationship with your spouse?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

12. How affectionate do you feel toward your spouse?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

13. How important is it to you that he/she understands your feelings?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

14. How much damage is caused by a typical disagreement in your relationship with your spouse?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

15. How important is it to you that your spouse be encouraging and supportive to you when you are unhappy?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

16. How important is it to you that he/she show you affection?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal

17. How important is your relationship with your spouse in your life?
   1 2 3 4 5 6 7 8 9 10
   not much a little a great deal
SEXUAL INTERACTION INVENTORY

This booklet describes a number of sexual activities. For example, "The male and female kissing for one minute continuously". For each sexual activity, you will be asked to answer the same six questions. Answer the questions by circling the appropriate response.

In answering each question, read the description of the sexual behavior, then answer each question as it currently applies to you. Please be sure to answer every question even if you have never experienced some of the activities. Do not leave any blanks and do not mark more than one answer to any question. If you have not experienced some of the activities, try to imagine how you would feel if you were to perform this activity at the present time.

The first question on each page asks whether or not the particular activity usually occurs when you and your spouse engage in sexual activity. You are asked to specify whether this particular activity is "always", "usually", "fairly often", "occasionally", "rarely" or "never" part of your sexual activity. We are not asking whether it occurs once a day or once a week or once a month, but rather how regularly this particular activity forms part of your sexual relationship.

The second question on each page asks how pleasant or unpleasant this activity is for you at the present time. If you have never experienced this activity or are not experiencing it now, please try to imagine how pleasant or how you would find it to be if you did engage in the activity today.

The third question on each page asks how pleasant you would like this activity to be for you at this time.

The fourth question on each page simply asks how regularly you would like this activity to be part of your sexual relationship.

The fifth question on each page asks you to estimate how pleasant your spouse finds the particular activity.

The last question on each page asks you how much you would like your spouse to enjoy the particular activity at this time.
Please complete this questionnaire without discussing any of the items with your spouse. When you have finished filling out the form, you may, if you wish, discuss the questions. In order for us to obtain valid information, it is crucial for you to answer every question honestly and without discussing the questions with your partner.

*Note: The following page is an example of the SII format. Each page is identical except for the title of the sexual activity."
MALE CARESSING FEMALE’S BREASTS WITH HANDS

When you and your mate engage in sexual behaviour, does this particular activity usually occur? How often would you like this activity to occur? ("Sexual behaviour" refers to any type of physical contact which is intended to be sexual by either you or your mate.)

1. Currently occurs: 4. I would like it to occur:
   1) Never
   2) Rarely (10% of time)
   3) Occasionally (25% of time)
   4) Fairly often (50% of time)
   5) Usually (75% of time)
   6) Always
   1) Never
   2) Rarely (10% of time)
   3) Occasionally (25% of time)
   4) Fairly often (50% of time)
   5) Usually (75% of time)
   6) Always

How pleasant do you currently find this activity to be? How pleasant do you think your mate finds this activity to be?

2. I find this activity: 5. I think my mate finds it:
   1) Extremely unpleasant
   2) Moderately unpleasant
   3) Slightly unpleasant
   4) Slightly pleasant
   5) Moderately pleasant
   6) Extremely pleasant
   1) Extremely unpleasant
   2) Moderately unpleasant
   3) Slightly unpleasant
   4) Slightly pleasant
   5) Moderately pleasant
   6) Extremely pleasant

How would you like to respond to this activity? How would you like your mate to respond? (In other words, how pleasant do you think this activity ideally should be for you and your mate?)

3. I would like to find this activity:
   6. I would like my mate to find this activity:
   1) Extremely unpleasant
   2) Moderately unpleasant
   3) Slightly unpleasant
   4) Slightly pleasant
   5) Moderately pleasant
   6) Extremely pleasant
   1) Extremely unpleasant
   2) Moderately unpleasant
   3) Slightly unpleasant
   4) Slightly pleasant
   5) Moderately pleasant
   6) Extremely pleasant

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