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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

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

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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

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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 pseudoempathy, 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,

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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 &

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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 ($\underline{N}$ =
62) and 13% of the men ($\underline{N}$ = 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 (Denber, 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.

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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

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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

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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-mediating 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

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[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

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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

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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; Parasuraman & 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, Horwitz & 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). More

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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

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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

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[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
followingquestionnaires (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

Group	Mean	SD	N
Age			
Infertiles	32.9	4.76	51
Controls	29.7	4.78	58
Education (yrs)			
Infertiles	15.9	3.93	49
Controls	16.9	2.49	58
Religiosity[1]			
Infertiles	2.7	1.12	51
Controls	1.8	0.77	58
Yrs Married			
Infertiles	6.6	3.18	30
Controls	3.3	1.82	29

[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:

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items were exluded 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

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[3] Two of the original items were changed slightly so that all four scenarios would represent non-life-threatening events.

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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).[4]

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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[4] 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 ($\underline{t}(79)$ =
6.53, $\underline{p}<.0001$, $\underline{n}=108$) and degree of religiosity ($\underline{t}(87)$ =
5.02, $\underline{p}<.0001$, $\underline{n}=107$), 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

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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.

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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

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in two significant group differences. Infertiles
reported being more anxious than controls in anticipating
sexual relations, $\underline{F}(1,47) = 6.36$, $\underline{p}<.015$ (Table C-8), and
infertile subjects were less likely to be aroused by an
erotic film than were control subjects, $\underline{F}(1,47) = 11.79$,
$\underline{p}<.001$ (Table C-9). It should be noted that within each
group, women reported less arousal to erotic films than
men, $\underline{F}(1,47) = 7.36$, $\underline{p}<.009$.

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. Intercorrelations 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

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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, $\underline{R} = .45$, $\underline{F}(1,44) = 10.96$, $\underline{p} < .002$. Conversely, a high score on the single-item measure of marital happiness was best predicted by strong perceived friend support, $\underline{R} = .41$, $\underline{F}(1,38) = 7.74$, $\underline{p} < .008$. 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, $\underline{R} = .33$, $\underline{F}(1,42) = 4.96$, $\underline{p} < .03$. 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, $\underline{R} = .41$, $\underline{F}(1,33) = 6.55$, $\underline{p} < .015$. 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

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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 (χ^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 (χ^2 (1) = 8.47,
$\underline{p}$<.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 $\underline{n}$s 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 ($\underline{t}$(49) = 2.28, $\underline{p}$<.027) and
more likely to be satisfied with their everyday lives
($\underline{t}$(49) = 2.31, $\underline{p}$<.025) than infertiles reporting low
satisfaction. There was also a trend for high
satisfaction with support in infertiles to be associated
with lower depression, $\underline{t}$(49) = 1.97, $\underline{p}$<.054. Similar
results were found for control subjects. Those reporting
greater satisfaction with support were less sad,
discouraged and hopeless ($\underline{t}$(28) = 2.63, $\underline{p}$<.014), less
likely to feel out of control ($\underline{t}$(30) = 2.36, $\underline{p}$<.025) and
emotionally stable ($\underline{t}$(56) = 2.25, $\underline{p}$<.028) and less
depressed ($\underline{t}$(28) = 2.44, $\underline{p}$<.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

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less likely than those in the active coping group to feel sad, discouraged and hopeless, $\underline{t}(28) = 2.56$, $\underline{p} < .016$. 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, $\underline{t}(25) = 2.42$, $\underline{p} < .03$.

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, $\underline{t}(36) = 2.31$, $\underline{p} < .027$. In addition, the avoidant copers were more likely to report good marital relationships, $\underline{t}(30) = 2.73$, $\underline{p} < .01$.

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, $\underline{t}(27) = 3.87$, $\underline{p} < .001$. 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

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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

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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

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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).

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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

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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, 1982; 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,
aserting 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.

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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).[5] 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.

Appendix B

Tables B-1 to B-6

Table B-1

Emotional Status Scores by Group:

Means and Standard Deviations

Group	Mean	SD	N
CES-D[1]			
Infertiles	1.84	0.65	51
Controls	1.42	0.36	58
Emotional Status[2]			
Infertiles	2.15	0.79	51
Controls	1.74	0.64	58

[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

Group	Mean	SD	N
Current Health			
Infertiles	1.31	0.58	51
Controls	1.17	0.38	58
Health in Past Month			
Infertiles	1.59	0.85	51
Controls	1.81	0.98	58
Health in Past Year			
Infertiles	2.94	0.65	50
Controls	2.93	0.81	58
Symptoms			
Infertiles	5.06	10.04	51
Controls	2.88	1.49	58

[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

Self/Body Esteem by Group:

Means and Standard Deviations

Group	Mean	SD	N
Infertiles	1.99	0.52	50
Controls	1.67	0.43	58

Note: Self/Body Esteem scores represent a mean of scores on 12 items. Means range from one (high esteem) to four (low esteem).

Table B-4

Marital Functioning by Group:

Means and Standard Deviations

Group	Mean	SD	N
Marital Intimacy[1]			
Infertiles	2.19	1.00	51
Controls	1.90	0.91	58
Marital Happiness[2]			
Infertiles	3.05	1.83	44
Controls	2.33	1.18	58
Marital Relationship[2]			
Infertiles	1.86	1.04	51
Controls	1.59	0.75	58

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

[2] Marital Happiness and Marital Relationship are each single items. Higher scores indicate poorer marital adjustment.

Table B-5

Sexual Functioning[1] by Group:

Means and Standard Deviations

Group	Mean	SD	N
Sexual Frequency			
Infertiles	3.10	1.22	51
Controls	3.55	0.99	58
Sexual Anxiety			
Infertiles	2.20	1.22	51
Controls	1.69	0.82	58
Response to Erotica			
Infertiles	2.49	1.14	51
Controls	1.74	0.87	58

[1] The 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:

Means and Standard Deviations

Group	Mean	SD	N
Frequency Satisfaction			
Infertiles	11.80	6.77	49
Controls	10.12	5.20	58
Self-Acceptance			
Infertiles	6.16	4.77	49
Controls	4.50	3.86	58
Mean Sexual Pleasure			
Infertiles	5.27	0.70	40
Controls	5.18	0.52	58
Perceptual Accuracy			
Infertiles	13.83	7.01	40
Controls	8.40	5.07	58
Mate Acceptance			
Infertiles	10.55	8.52	49
Controls	8.22	5.66	58
Total Disagreement			
Infertiles	89.25	36.88	40
Controls	62.48	22.67	58

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Appendix C

Tables C-1 to C-9

Table C-1

Repeated Measures Analysis of Variance:
Depression (CES-D)

Source	df	Mean Square	F
Group	1	2.37	9.24*
Error S(G)	47	0.26	
Couple	1	0.63	3.70
Group x Couple	1	2.42	14.30**
Error CS(G)	47	0.17	

$\underline{N} = 49$

* $\underline{p} < .004$

** $\underline{p} < .0001$

Table C-2

Repeated Measures Analysis of Variance:

Emotional Adjustment Scale

Source	df	Mean Square	F
Group	1	1.63	2.94
Error S(G)	47	0.56	
Couple	1	0.91	2.81
Group x Couple	1	1.72	5.29*
Error CS(G)	47	0.32	

$\underline{N}$ = 49

* $\underline{p}$<.02

Table C-3

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

Source	df	Mean Square	F
Group	1	9.74	5.63*
Error S(G)	47	1.73	
Couple	1	3.72	3.77
Group x Couple	1	3.21	3.26
Error CS(G)	47	0.99	

$\underline{N} = 49$

* $\underline{p} < .02$

Table C-4

Repeated Measures Analysis of Variance:

Self/Body Esteem

Source	df	Mean Square	F
Group	1	1.56	6.87*
Error S(G)	46	0.23	
Couple	1	0.15	0.71
Group x Couple	1	0.08	0.37
Error CS(G)	46	0.21	

$\underline{N}$ = 49

* $\underline{p}$<.01

Table C-5

Repeated Measures Analysis of Variance:

Marital Happiness

Source	df	Mean Square	F
Group	1	11.67	4.60*
Error S(G)	43	2.54	
Couple	1	1.69	1.22
Group x Couple	1	3.46	2.49
Error CS(G)	43	1.39	

$\underline{N}$ = 45

* $\underline{p}$<.04

Table C-6

Repeated Measures Analysis of Variance:

Perceptual Accuracy of Spouse's Preferences

Source	df	Mean Square	F
Group	1	385.74	6.87*
Error S(G)	46	56.17	
Couple	1	0.02	0.00
Group x Couple	1	197.28	16.57**
Error CS(G)	46	11.91	

$\underline{N}$ = 48

* $\underline{p}$<.01

** $\underline{p}$<.0001

Table C-7

Repeated Measures Analysis of Variance:

Overall Sexual Disharmony/Dissatisfaction

Source	df	Mean Square	F
Group	1	10811.98	6.06*
Error CS(G)	46	1782.19	

$\underline{N} = 48$

* $p < .02$

Table C-8

Repeated Measures Analysis of Variance:

Sexual Anxiety

Source	df	Mean Square	F
Group	1	8.30	6.36*
Error S(G)	47	1.31	
Couple	1	1.14	1.53
Group x Couple	1	0.26	0.34
Error CS(G)	47	0.74	

$\underline{N} = 49$

* $\underline{p} < .02$

Table C-9

<div align="center">

Repeated Measures Analysis of Variance:

Response to an Erotic Film

</div>

Source	df	Mean Square	F
Group	1	12.04	11.79**
Error S(G)	47	1.02	
Couple	1	6.26	7.36*
Group x Couple	1	1.22	1.43
Error CS(G)	47	0.85	

$\underline{N} = 49$

* $p < .01$

** $p < .001$

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Appendix D

Tables D-1a to D-4

Table D-1a

<u>Pearson Correlations:</u>

<u>Dependent Variables with Predictor Variables</u>

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

<u>Ns</u> 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: GIS = 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

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

Table D-1b

Pearson Correlations:

Dependent Variables with Predictor Variables

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

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

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Table D-2

Intercorrelations of Predictor Variables

Variables	1	2	3	4	5	6	7	8
GSI (1)		.72** (51)	.26* (51)	-.23 (47)	-.15 (47)	.19 (51)	.15 (51)	-.21 (50)
PSS-FR (2)			.14 (51)	-.06 (47)	-.14 (47)	.22 (51)	-.02 (51)	-.03 (50)
PSS-FA (3)				-.00 (50)	.10 (47)	-.02 (51)	.02 (51)	-.16 (50)
Blunting (4)					.09 (47)	-.14 (47)	.30* (47)	.14 (46)
Monitoring (5)						.07 (47)	.19 (47)	.07 (45)
Chances (6)							.08 (51)	.17 (50)
Desire for Child (7)								-.02 (50)
Months Trying (8)								

Ns are reported in brackets.

Note: GIS = 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

<div align="center">

Stepwise Multiple Regression Analysis:

Predictor Variables and Infertility Adjustment

</div>

Predictor Variable	Beta	T-Value
Criterion: Adjustment to Infertility		
General Support Inventory	.36	2.77**
Desire for Child	.35	2.66**

Multiple R = .53

R Square = .28

$F_{(2,42)} = 8.22$, p<.001

** p<.01

Table D-4

Stepwise Multiple Regression Analysis:
Predictor Variables and Self/Body Esteem

Predictor Variable	Beta	T-Value
Criterion: Self/Body Esteem		
Perceived Family Support	.34	2.44**
Chances of Conceiving	.29	2.08*

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

Group	Low		High	
	F[a]	%	F	%
Infertile	31	60.8	20	39.2
Control	21	36.2	37	63.8

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

Gender	Low		High	
	F	%	F	%
Female	26	44.1	33	55.9
Male	26	52.0	24	48.0

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

Note: $\underline{N} = 109$

[a] F = Frequency

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Table E-2

Cell Frequencies, Chi Square Analyses:

Functional Support by Group and by Gender

Group	Low F^a	%	High F	%
Infertile	32	62.7	19	37.0
Control	18	31.0	40	69.0

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

Gender	Low F	%	High F	%
Female	23	39.0	36	61.0
Male	22	44.0	28	56.0

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

Note: $\underline{N} = 109$

^{a}F = Frequency

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Table E-3

Cell Frequencies, Chi Square Analyses:
Satisfaction with Support by Group and by Gender

Group	Low		High	
	F[a]	%	F	%
Infertile	30	58.8	21	41.2
Control	17	29.3	41	70.7

$\chi^2 (1) = 8.47, p < .004$

Gender	Low		High	
	F	%	F	%
Female	23	39.0	36	61.0
Male	24	48.0	26	52.0

$\chi^2 (1) = .57,$ n.s.

Note: $\underline{N} = 109$

[a]F = Frequency

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Appendix F

Consent Forms, Letter, Instructions and Questionnaires[6]

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[6] Items in bold were omitted for control subjects. French questionnaires are available upon request.

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

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

        (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

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

4)some of the time   5)a little of the   6)none of the
                         time   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   6)none of the
                         time   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 <u>presently</u> 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   5)quite   6)very
dissatisfied   dissatisfied ·   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 abqut 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

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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?

	MUCH EASIER	SOMEWHAT EASIER	SOMEWHAT EASIER	MUCH HARDER
1) Your friends........	1	2	3	4
2) Your family.........	1	2	3	4
3) Your mate...........	1	2	3	4
4) Your own self.......	1	2	3	4

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   We give each
other a lot   other very
of support   little support

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F 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   he/she gets
lot of support   very little
                                                    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   I get very
of support   little support

COPING INVENTORY

1. Vividly imagine that you are <u>afraid</u> of the dentist and have to get some dental work done. Which of the following would you do? Check <u>all</u> 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 <u>all</u> 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 <u>families</u>. 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

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 <u>friends</u>. 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

3. My friends enjoy hearing about what I think.

    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

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   1   2   3   4   5   6   7   perfectly
   unhappy   happy   happy

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

   1)my closest friend   4)mainly arguments
     and confidant   and unpleasantness

   2)we each do our job,   5)we see as little
     but we get along well   of each other as
                                   possible

   3)there are many
     arguments, but
     also many shared
     pleasures

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

   1)decreased   2)decreased   3)remained
     a lot   a little   the same

   4)increased   5)increased
     a little   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   5)not really

   2)yes - but at the right time 6)not at all

   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   2)moderately   3)a little   4)not at all
  anxious   anxious   anxious   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?

	DECREASE	SAME	INCREASE
1)in your mate's sexual drive....	1	2	3
2)in your own sexual drive.......	1	2	3
3)in the frequency of your sexual relations........................	1	2	3
4)in your degree of satisfaction with your sexual relations?................	1	2	3

12) How would you feel about watching an erotic film?

       0   1   2   3   4
very turned on   very turned off

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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
```

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
```

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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:

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

4. I would like it to occur:

1)Never
2)Rarely (10% of time)
3)Occasionally (25% time)
4)Fairly often (50% 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:

1)Extremely unpleasant
2)Moderately unpleasant
3)Slightly unpleasant
4)Slightly pleasant
5)Moderately pleasant
6)Extremely pleasant

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

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:

1)Extremely unpleasant
2)Moderately unpleasant
3)Slightly unpleasant
4)Slightly pleasant
5)Moderately pleasant
6)Extremely pleasant

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