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The assessment of dyadic and sexual functioning in chronic pain patients and the invested partners

Beaulieu, Cynthia Louise, Ph.D.
The Ohio State University, 1988

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UMI
THE ASSESSMENT OF DYADIC AND SEXUAL FUNCTIONING IN
CHRONIC PAIN PATIENTS AND THE INVESTED PARTNERS

DISSERTATION

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

By

Cynthia Louise Beaulieu, B.S., M.A.

* * * * *

The Ohio State University
1988

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In loving memory of Theodore W. McGowan,
a father and a friend
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INTRODUCTION

Pain is a ubiquitous medical symptom; millions of Americans are partially or permanently disabled due to chronic pain or pain related disorders (Turk, Meichenbaum, & Genest, 1983). Between 1970 and 1981, a 1.7 fold increase occurred in the relative frequency of limited activity due to impairments of the back or spine among individuals 18 years and older (Danchik & Drury, 1986). It is estimated that 50 to 75 million Americans suffer from chronic pain and cost the American people in excess of $50 billion for health care, compensation, and loss of work productivity (Bonica, 1974, 1983).

Chronic pain may be the consequence of a variety of disorders, but the medical diagnosis of chronic pain is common to all. It is estimated that 20 to 50 million Americans suffer from Arthritis (American Arthritis Foundation, 1976), approximately eight million suffer from low back pain (Clark, Gosnell, & Shapiro, 1977), and 20 million suffer from migraines (Paulley & Haskell, 1975). Approximately $900 million is spent annually on over-the-counter medications, with $100 million on aspirin alone (Turk et al., 1983). Holzman and Turk (1986)
estimate that 1200 pain clinics have been established in the United States (an increase of 400 clinics over a 6 year period).

Multidisciplinary treatment approaches to chronic pain have been developed in an attempt to discern and correct the various factors involved in the development and maintenance of chronic pain. The multidisciplinary approach to chronic pain assumes that the maintenance of pain is a function of the interactions among the somatic, psychological, and socioenvironmental systems (Turk & Holzman, 1986). However, despite the increase in service clinics and despite the increase in medical knowledge, treatment approaches to chronic pain have been found to be only marginally effective (Loeser, 1974; Tan, 1982).

Presently, chronic pain rehabilitation programs emphasize increasing physical mobility and activities of daily living (ADL). The psychological and socioenvironmental components of multidisciplinary approaches are included, but to a lesser extent. Trieschmann (1974) has suggested that "if patient reward systems were to receive the same degree of attention as ADL and mobility training, the success rate of rehabilitation efforts would likely increase, thereby decreasing the cost of disability to society at large" (p. 556).
Adequate sexual functioning is one such source of reward, and is an appropriate aspect of rehabilitation of the physically disabled (Thorn-Gray & Kern, 1983). Adequate sexual functioning is a potential reinforcer in a chronic pain sufferer's life, and can add gratification and self-worth to the life of an otherwise depressed and dependent individual. However, the impact of chronic disability on marital and sexual functioning is often ignored or overlooked by health care professionals. Chronic disability threatens basic personal resources such as sexual identity, self-esteem, intimacy, and generativity (Anderson & Wolf, 1986). These variables and the variables which serve to maintain a chronic pain disability (e.g., neuroticism, depression, and interpersonal issues) impact on sexual behavior following the onset of a disability. Health care professionals, therefore, should aid the chronically disabled in re-evaluating all areas of their life and offer guidance in adjustment, including adjustment to sexual activity (Anderson & Wolf, 1986; Griffith & Trieschmann, 1976; Thorn-Gray & Kern, 1983; Wise, 1983).

Little research exists regarding chronic pain and sexual functioning. Merskey and Spear (1967) have reported an increase in marital discord in chronic pain patients. Maruta and Osborne (1978) and Maruta, Osborne, Swanson, and Halling (1981) have reported a decrease in
sexual adjustment in chronic pain patients following the onset of pain. Spouses also report decreased sexual adjustment, but only the spouses report an increase in marital discord following the onset of pain (Maruta et al., 1981). Beaulieu and Thorn (1986) found below norm functioning in chronic pain patients, and significant differences on levels of depression and sexual variables between chronic pain patients and general medical patients and nonpatient volunteers. However, chronic pain patients did not report sexual dissatisfaction. Mohamed, Weisz, and Waring (1978) have also reported a higher incidence of marital discord in depressed patients with chronic pain compared to depressed patients with no pain. The results of these studies suggest that a problem exists in the marital and sexual relationships of chronic pain patients.

It is not surprising that couples with a chronic pain sufferer have a high incidence of marital discord and decreased sexual activity given the stresses of the chronic pain sequelae (e.g., anxiety, fear, guilt, decreased activity, depression, and bitterness) (Heinrich, Cohen, & Naliboff, 1982). Depression in particular is considered a significant influential psychological variable in the development and maintenance of the chronic pain syndrome (Blumer & Heilbronn, 1982; Fordyce, 1976; Romano & Turner, 1985; Sternbach, 1974a), and depression itself is a significant contributor to sexual dysfunctions.
(Kaplan, 1974). However, the specific role of depression in chronic pain remains controversial (Romano & Turner, 1985). Nevertheless, severity of depression has been found to be related to pain ratings, pain behavior, activity level, and medication intake (Keefe, Wilkins, Cook, Crisson, & Muhlbaier, 1986). Recent studies have also found differences between depressed and nondepressed chronic pain patients on variables such as treatment predictors (Dworkin, Richlin, Handlin, & Brand, 1986), depression in first degree relatives (France, Krishnan, & Trainor, 1986), and gender of patient (Haley, Turner, & Romano, 1985). The possible impact of depression on marital and sexual adjustment should therefore be further explored.

Several conclusions can be drawn from the literature. First, chronic pain patients have decreased sexual adjustment secondary to the onset of chronic pain (Maruta & Osborne, 1978; Maruta et al., 1981). Second, marital discord increases following the onset of pain (Maruta et al., 1981; Merskey & Spear, 1967). Third, chronic pain patients and the invested partners are discrepant in their perceptions of the discord present in their relationships (Maruta et al., 1981). Fourth, chronic pain patients score significantly below the norm in several sexual areas but do not report an overall dissatisfaction (Beaulieu & Thorn, 1986). Fifth, intrapsychic issues such as
depression are influential in maintaining the chronic pain syndrome (Blumer & Heilbronn, 1982; Fordyce, 1976; Romano & Turner, 1985; Sternbach, 1974a). Sixth, depression affects sexual functioning (Kaplan, 1974). Finally, the presence of pain in conjunction with depression affects at least the marital relationship (Mohamed et al., 1978).

The overall conclusion drawn from the literature is that there are adjustment difficulties in the marital and sexual relationships of chronic pain patients. However, the nature of the reported sexual and marital problems is not known. Therefore, the objective of the present study is to investigate the level of sexual functioning and adjustment within couples with a chronic pain sufferer, and to investigate potential areas of discrepancy between the partners.

The present study differs from previous investigations in that it incorporates a multi-measurement approach to the assessment of marital and sexual functioning. Most past research has used unitary measurement, that is, investigating only one sexual dimension at a time such as frequency, quality, and/or satisfaction within the marital and sexual relationships. Past research on marital and sexual variables has also generally relied upon open-ended interview questions, rather than empirically derived and standardized instruments.

A second purpose of the present study is to assess the
functioning of the invested partner in an attempt to add insight into the couples functioning. Maruta et al. (1981) found that chronic pain patients tended to maximize (i.e., report higher levels of) marital and sexual functioning prior to pain onset and to minimize (i.e., report lower levels of) dysfunctioning, following pain onset compared to spouses' reports. Support for this later finding is suggested by the findings of Beaulieu and Thorn (1986); chronic pain patients were found to be sexually functioning below the norm but rated their marital and sexual functioning as average or above average. Chronic pain patients may have thus been minimizing dysfunctions. The present study will therefore investigate the possible discrepancies between patients and partners, and the dimensions of marital and sexual functioning potentially accounting for the reported increases in marital discord and decreased sexual adjustment.

This investigation focuses on the significant differences of the patients and partners compared to established norms, and the significant differences between the chronic pain patients and the invested partners on multiple variables. The data indicate that both partners are significantly below the norm on variables assessing sexual attitudes, body image, and overall sexual functioning. However, neither partner reports
dissatisfaction with their individual sexual functioning nor with their sexual relationship.

Chapters one and two are a literature review of the impact of disability on sexual functioning and psychological variables in chronic pain, respectively. Chapter one provides information on sexual functioning with chronic pain, and the assessment of marital and sexual functioning. Chapter two provides information on the personality, intrapsychic, and interpersonal factors involved in chronic pain. Particular attention is given to depression in chronic pain disorders.

Chapter three describes the methodology employed in the study. This chapter includes subject selection, procedures, and materials. Also, each inventory is briefly described.

Chapter four outlines the results of the study. Normative comparative results and multivariate statistical results are reported.

Chapter five outlines present results in light of past research. Consistencies and inconsistencies are discussed. The results are interpreted and the implications of the study are discussed. The chapter ends with a summary and conclusion.
CHAPTER 1

ASSESSING THE IMPACT OF DISABILITY ON SEXUAL FUNCTIONING

Introduction

In this chapter, the impact of disability, depression, and chronic pain on sexual functioning will be discussed. Interpersonal issues are influential in adequate sexual functioning and will therefore also be discussed. Finally, the assessment of marital and sexual functioning will be discussed with reference to the psychological and intrapsychic variables most influential in adequate sexual functioning.

Chronic Pain and Disability

Disability connotes functional limitations and functional limitations connote dependency. Parsons (1951) described the sick role as: (1) beyond the individual’s control; (2) the exemption from gender role and usual task responsibilities; (3) recognized by the individual as undesirable; and (4) dependent in that the individual must seek help. Disabled individuals must react and adjust to their own identity changes. In addition, they must cope with the reactions of others and the stigma placed upon
them by society. For disabled individuals to be regarded as truly equal citizens, societal attitudes must change to the point of allowing any disabled individual to seek gratification, be eccentric, have bad taste, look foolish, or make mistakes without receiving pity (Lindemann, 1981).

In addition to influencing the adjustment of a disabled individual, society also judges which disabilities are more acceptable than others. To illustrate this, Abroms and Kodera (1979) found that college students ranked organic impairments responsive to medical treatment (e.g., ulcers, asthma, and diabetes) as more acceptable than sensorimotor impairments (e.g., speech defects, deafness, and amputations), psycho-educational impairments (e.g., learning disabilities), or functional impairments (e.g., mental illness, cerebral palsy, and mental retardation). If these findings are generalized to society as a whole, then the implications are unfavorable for chronic pain sufferers. Chronic pain can include both an organic, sensorimotor, and functional component, and chronic pain is generally unresponsive to medical treatment. Thus, chronic pain is likely to be viewed as one of the least acceptable impairments.

Adjustment to physical illness has been described as a series of seven stages: (1) initial state of crisis and disorganization accompanied by feelings of anxiety, fear, or guilt, and the need to deal with discomfort,
incapacitation, or other symptoms; (2) management of stresses due to special treatment procedures and hospitalization; (3) developing and maintaining rapport with medical staff; (4) preserving emotional status by coping with individual reactions; (5) preserving self-image and maintaining a sense of control; (6) preserving relationships with family and friends; and (7) preparing for an uncertain future (Moos & Tsu, 1977).

Adjustment in chronic pain sufferers frequently appears to break down at the third or fourth coping stage. As time passes and little alleviation from pain occurs following traditional interventions, the acute physical illness (stages 1 to 4) leads to a chronic disabling period, absent of progression through the remaining adjustment stages. This line of reasoning is supported by Sternbach (1974b) who describes acute pain as resembling anxiety (stage 1) while chronic pain resembles depression. That is, the pain sufferer "...adopts a life-style of chronic invalidism, makes the rounds of clinics and hospitals, and becomes wary and defensive in his dealings with doctors. More and more he distrusts them, and his previous attitude of hopefulness gives way to bitterness" (Sternbach, 1974b, p. 111).
Sexuality and Disability

Health care professionals ignore or overlook sexual issues with the chronically disabled for a number of reasons: (1) chronic illness is generally misconceived as a geriatric problem and the elderly are erroneously viewed to be disinterested in sex (Derogatis & Kourlesis, 1981; Strauss & Glaser, 1975); (2) our culture assumes that sexuality is reserved for the young, attractive, and healthy individual (Anderson & Wolf, 1986); (3) illness precludes sexuality, consequently, sex is viewed as an ancillary and unimportant aspect of the patient (Derogatis & Kourlesis, 1981); (4) a deficit or disease model is generally taken when studying sexuality in chronically ill populations (Zilbergeld, 1979); and (5) health care professionals may not have the expertise required to handle sexual issues and/or they may be uncomfortable in discussing these issues (Derogatis & Kourlesis, 1981; Zilbergeld, 1979). Therefore, the chronically ill and disabled contend not only with their own physical and psychological adjustment, but also with the prevailing negative views of the cultural and health care milieu.

The negative cultural and health care views concerning sexuality and chronic disability add to the difficulty in individual rehabilitation. In accord with the perceptions of others, patients may begin to devalue and desexualize themselves (Wright, 1960). The desexualized self in turn
confirms society's view of chronically disabled individuals as nonsexual. Societal confirmation leads to personal confirmation, thus, the personal belief that sex is no longer an important aspect of the chronically disabled individual's life (Hohmann, 1975).

Chronic illness can affect sexual behavior through a variety of mechanisms, including the psychological, neurological, vascular, hormonal, and muscular systems (Kaplan, 1974). Sexual adequacy is based on the interactions of biological, physiological, psychological, and social factors (Masters & Johnson, 1966, 1970). The effects of a chronic illness on sexual functioning may not only be a function of the disease process, but may also be a function of the individual's premorbid sexual functioning. Behavioral medicine emphasizes the importance of homeostasis between physiological, psychological, and socioenvironmental factors in the course of illness and treatment response (Moos & Tsu, 1977). Anderson and Wolf (1986) have incorporated the behavioral medicine perspective for illustrating homeostasis in their model of sexual functioning in individuals with chronic illness. The Anderson and Wolf model is unique in that it depicts the mutual interplay of psychological and physiological processes in sexual behavior as well as the importance of social and cultural factors.
Stein and Jessop (1982) have found that many of the psychological and behavioral issues confronted by chronically ill individuals in daily routines are not disease-based. Chronic illness threatens basic personal resources such as sexual identity and self-esteem, intimacy, and generativity (Anderson & Wolf, 1986). These variables interact and impact on sexual behavior. Psychological reactions, such as anxiety, depression, anger, guilt, or fear can lead to sexual difficulties over and above organic components (Anderson & Wolf, 1986; Beutler, 1981; Whitehead, Klyde, Zussman, Wayne, Shinbach, & Davis, 1983). Sexual dysfunctioning is not necessarily disease-specific and can affect the quality of life for many chronically disabled individuals and their families (Anderson & Wolf, 1986). The importance of sexual functioning as a central agent in psychological and marital adjustment makes the area of sexual functioning a potential component for the multidisciplinary treatment approach to chronic pain (Thorn-Gray & Kern, 1983).

Sexual intimacy can be one of the more gratifying and sought after experiences life has to offer (Derogatis & Kourlasis, 1981). By failing to recognize sexual issues in the chronically disabled, health care professionals also fail to recognize a fundamental reward system in the patient's life. Increasing the number of reward systems in a disabled individual's life is suggested to increase
adjustment during the rehabilitation process (Trieschmann, 1974).

To summarize, disabled individuals have various factors influencing their potential for adequate sexual functioning. Disabled individuals need to contend not only with the fundamental factors involved in sexual functioning (i.e., psychological, biological, physiological, and social), but also with other areas of their lives affected by the disability. These new needs involve contending with negative societal views and misconceptions, health care professionals' reluctance to acknowledge sexual issues, and threatened personal resources. The health care professional can play an integral role in the rehabilitation of a disabled individual, including rehabilitating fundamental reward systems such as sexual functioning.

Sexuality and Depression

Depression and stress-related disorders are frequently related to the onset of sexual dysfunctions. Depression, in particular, is frequently reported in patients seeking sexual therapy (Kaplan, 1974). Severe levels of depression need not be present for depression to have an impact on sexual functioning. Decreased sexual interest and loss of arousability have been found in mild to moderately depressed individuals. Erectile and orgasmic
abilities, and desire are also significantly decreased secondary to acute depressive states.

Sexual desire, in particular, can be extinguished by moderate levels of depression. Loss of sexual desire is not surprising given the sequela of depression: appetite and weight disturbances, constipation, difficulty initiating and/or maintaining sleep, slowed mental processing abilities, psychomotor retardation, and impaired vital functions. A depressed individual appears to be unable to engage in functions that preserve both self and species. It is therefore not surprising that depression can devastate sexual functioning (Kaplan, 1974).

Depression can be either a cause of or a reaction to sexual dysfunctioning. Causative and reactive depression should be differentiated given the difference in therapeutic intervention and prognosis. Reactive depression has a good prognosis for sexual therapy and tends to dissipate with sexual therapy. Depression causing sexual dysfunction or depression in a sexual partner has a poor prognosis for sexual therapy. The poor prognosis is attributed to the fact that the depressed individual is unlikely to initiate or engage in therapeutic activities. It is therefore suggested that the depression in these later cases be treated prior to initiating sexual therapy (Kaplan, 1974).
To summarize, depression even at mild levels can affect sexual functioning. In particular, sexual desire, sexual interest, and erectile and orgasmic abilities can be significantly affected by the presence of depression. In addition, the differentiation of reactive and causative depression needs careful attention prior to implementing intervention strategies. A sexual dysfunction with reactive depression does not preclude sexual therapy, however, depression causing a sexual dysfunction does preclude sexual therapy. In the later case, it is recommended that the depression be treated prior to sexual therapy.

**Sexuality and Chronic Pain**

Sexual functioning is likely to be affected by chronic pain. As mentioned above, a chronic pain disability affects the various body systems responsible for adequate sexual functioning. Merskey and Spear (1967) have reported that chronic pain patients have a fairly high incidence of marital discord and sexual difficulty in comparison to psychiatric patients. Maruta and Osborne (1978) and Maruta, Osborne, Swanson, and Halling (1981) have also reported a general deterioration in frequency and quality of sexual activity. Frequency of sexual activity and the ability to gain satisfaction through sexual activity tended to decrease following the onset of
Maruta and Osborne (1978) interviewed 66 married patients referred to their pain management clinic. Of the 66 patients, 41 were female and 25 were male. The mean age and years of education were 42 years and 12.7 years respectively for females, and 46 years and 11.6 years respectively for males. During the first day of admission to the inpatient program, a psychologist interviewed each patient and filled out a "study questionnaire". The questionnaire consisted of six major areas of investigation: (1) an overall evaluation of the marriage; (2) an evaluation of sexual adjustment in the marriage; (3) an evaluation of the effect of pain on sexual activity (frequency, quality, and consequences); (4) an evaluation of the frequency of sexual activity prior to and following the onset of pain; (5) feelings concerning the frequency of sexual activity; and (6) the report of sexual difficulties (e.g., inhibited sexual desire, inhibited sexual excitement, inhibited orgasm).

The percentages of the responses to the interview questions were calculated. Fifty-eight percent of the patients reported deterioration in sexual adjustment; 58% reported a reduction in frequency, 53% reported a deterioration in quality, and 45% reported an immediate increase of pain following sexual intercourse. Forty-eight percent of the patients reported a desire for
Increased frequency of sexual activity. Fifty-four percent of the females reported a sexual dysfunction following pain onset, compared to 20% prior to pain onset, and 44% of the males reported a sexual dysfunction following pain onset, compared to 0% prior to pain onset. Fifty-three percent of the patients rated their marital adjustment as unchanged. The authors conclude that "sexual adjustment is an additional problem for patients with chronic pain, and a potential source of marital discord" (Maruta & Osborne, 1978, p. 533).

In a later study, Maruta et al. (1981) interviewed 50 married patients referred to their pain management clinic and their spouses. Of the 50 patients, 25 were female and 25 were male. The mean age and years of education were 43.3 years and 12.3 years respectively for the patients, and 43.0 years and 12.1 years respectively for the spouses. During the first day of admission to the inpatient program, patients were interviewed following the format in their earlier study (Maruta & Osborne, 1978). An interview following a similar format was conducted with the spouses during the last three days of the pain program.

The percentages of the patients' and spouses' responses to the interview questions were calculated. Sixty-two percent of the patients and 68% of the spouses reported a reduction in frequency of sexual activity
following the onset of pain. The authors also reported that the patients tended to maximize (i.e., reported higher levels of) the frequency of sexual activity prior to pain and tended to minimize (i.e., reported lower levels of) dysfunctioning following the onset of pain, relative to their spouses' reports. Approximately half of the patients and half of the spouses reported a deterioration in the quality of sexual activity (specific percentages were not reported). Approximately two-thirds of the patients reported pain following sexual activity and a majority of the spouses reported recognition of the pain (again, specific percentages were not reported). Both patients and spouses reported satisfaction with their sexual adjustment prior to the onset of pain; however, 50% of both groups reported dissatisfaction following the onset of pain. Finally, 96% of the patients and 98% of the spouses reported average or above average marital adjustment prior to pain, but 82% of patients and only 46% of spouses reported average or above average marital adjustment following pain onset. The authors conclude that "between the tendency of the patient to minimize and deny conflicts in marriage and the reluctance of the spouse to bring up anything 'irrelevant', 'unimportant', and 'too personal', clinical information obtained only from the patient gives us a skewed viewed of the marital environment" (Maruta et al., 1981, p. 310).
In an attempt to discern the dimensions and level of sexual adjustment in chronic pain patients, Beaulieu and Thorn (1986) utilized a multi-measurement approach to marital and sexual functioning. Thirty chronic pain patients referred to the pain management clinic, 20 general medical patients returning for a medical office visit, and 30 nonpatient volunteers were solicited for the study. No significant differences were found between the three groups on demographic information. The samples were composed primarily of white, middle-aged, moderately educated, middle to working class individuals. The demographic characteristics are consistent with the studies by Maruta and colleagues. All subjects were assessed using three inventories: (1) the Beck Depression Inventory, (2) the Dyadic Adjustment Scale; and (3) the Derogatis Sexual Functioning Inventory. The later two scales are multi-measurement scales for assessing marital and sexual functioning. Given the past reports of existing sexual adjustment problems in chronic pain patients, this study was conducted to discern the potential nature of the sexual adjustment problems in comparison to chronic, nonpain related medical disorders, and nonpatient volunteers.

The global marital and sexual satisfaction ratings of chronic pain patients in the Beaulieu and Thorn (1986) study are consistent with Maruta et al. (1981) findings
for chronic pain patients. That is, chronic pain patients were found to differ significantly from others in areas found to be essential for adequate sexual functioning, however, they were not reporting dissatisfaction with these levels. Therefore, as Maruta et al. (1981) concluded, spouse or partner ratings should be collected during assessment for marital and sexual functioning, and the partners should be included in treatment development.

Beaulieu and Thorn found depression to be the one variable accounting for the most variance between the groups (35%), with the chronic pain group reporting significantly higher levels of depression than the general medical or nonpatient volunteer groups. Thus, it is possible that the etiological factor in sexual dysfunction or dissatisfaction in chronic pain patients is depression, rather than pain per se. Nevertheless, when the effects of depression were parceled out, chronic pain patients were found to endorse more negative sexual attitudes and fewer sexual fantasy items than the other two groups. Therefore, at least some differences in sexual functioning in chronic pain patients appear to exist irrespective of depression. Chronic pain patients may experience sexual difficulties subsequent to the depression, subsequent to the disability, or both. In Chapter 2, the influential role of depression in the development and maintenance of chronic pain, and its impact on marital adjustment will be
discussed.

**Interpersonal Issues and Sexuality**

Sexual union represents an interchange between two individuals. The diagnosis of a sexual dysfunction in one partner should not imply the lack of involvement of the other partner in treatment (Kaplan, 1974). Presently, there is very little data concerning the incidence and prevalence of sexual disorders in couples. Frank, Anderson, and Rubinstein (1978) sampled 100 marital couples described as "happily" married. Of the 100 sampled, 40% of the male partners reported erectile or ejaculatory difficulties, and 63% of the female partners reported arousal or orgasmic difficulties. In addition, 50% of the males and 77% of the females reported other sexual difficulties such as lack of interest or inability to relax.

Derogatis, Meyer, and Gallant (1977) investigated the sexual characteristic of the invested partners in comparison to the sexual characteristics of the presenting partners. Of the 48 essentially asymptomatic invested partners, male invested partners showed significantly more psychological symptoms than the female invested partners. The distress levels of the male invested partners were virtually as high as the male partners presenting with a sexual dysfunction. Females did not show this pattern of
distress. The authors attributed their findings to the definition of the male role held by our society. That is, the male is responsible for sexual satisfaction in the relationship, and if the female partner is dissatisfied then it is the male's fault (Derogatis et al., 1977). Thus, regardless of the diagnosis of a sexual dysfunction in the male partner, the male is likely to be more distressed by the situation.

When assessing sexual functioning in a dyad, satisfaction with the present relationship requires consideration. Dyadic issues such as frequency of sexual activity, the variety of sexual activity, sexual and non-sexual communication difficulties, and the interpersonal relationship are reportedly common complaints regarding satisfaction (Derogatis, 1980, 1983). Sexual difficulties in a couple can result from either an intrapsychic, interpersonal, or experiential-behavioral basis (Schmidt, 1983). Interpersonal factors can influence the development, maintenance, and therapeutic prognosis of a sexual dysfunction. The assessment of the interpersonal relationship therefore merits consideration when assessing sexual functioning.

Assessing Marital and Sexual Functioning

A common misconception held by many health care professionals is that the assessment and treatment of
sexual dysfunctions are simplistic. In the past, the assessment of sexual behaviors has focused on a dichotomous categorization: the sexually healthy versus the sexually dysfunctional (Wincze, 1982). However, sexual functioning is more accurately depicted along a continuum, with transient episodes of dysfunction occurring periodically throughout the lives of many individuals (Kaplan, 1974).

Sexual dysfunctions traditionally refer to impairments of the sexual response cycle, and assessment of sexual adequacy is generally based on the interactions between the biological, physiological, psychological, and socio-environmental systems (Masters & Johnson, 1966, 1970). Adequate assessment of sexual functioning would include the four systems and their interactions (Conte, 1986). Therefore, health care professionals are presently taking a more multidimensional approach to both the assessment and treatment of sexual dysfunctions.

The assessment of sexual functioning generally follows one of three forms: (1) self-report through interviews, questionnaires, or behavioral records; (2) direct behavioral observations and ratings; or (3) physiological recordings and medical evaluations (Conte, 1986; Wincze & Lange, 1981). Direct behavioral observations and ratings of sexual behavior have not been widely used due to the intrusive nature of the technique, and because questions
of moral and ethical considerations in the practice of this assessment technique have been raised (Conte, 1986; Wincze, 1982). Little systematic research utilizing direct behavioral observations has been performed, except for the work of Masters and Johnson (1966, 1970). Like direct behavioral observations, physiological recordings have the disadvantage of being intrusive. In addition, physiological recordings require expensive equipment, which can be impractical and time consuming with respect to maintenance (Conte, 1986; Wincze, 1982).

Self-report techniques are based on the assumptions that individuals will respond in a truthful and accurate manner to questions posed to them and that their responses are valid (Conte, 1986). Self-report techniques are viewed as subjective and therefore possibly less valid than either behavioral observations or physiological recordings because of the possible response biases on the part of the respondent. On the other hand, other researchers argue that regardless of whether or not the responses are factual accounts of actual behavior, the manner in which individuals perceive themselves and their functioning, and subsequently the manner in which they report themselves, is an important component of the assessment of the individuals (Spanier & Filsinger, 1983).

Self-report techniques not only are less directly intrusive into the lives of the respondents, but also are
more economical and comparable to normative data (Wincze, 1982). Ideally, assessment of sexual functioning would involve self-report, behavioral ratings, and physiological measures because of the multidimensionality of sexual functioning and expression. Discrepancies between self-report measures and other assessment techniques should be regarded as a sign for further research into the variable(s) responsible for the agreement or disagreement (Conte, 1986). Disagreement, therefore, should not a priori lead to claims of inferiority of self-report techniques.

Of the various forms of self-report techniques, questionnaires are the more popular form, in comparison to interviews and behavioral records. Questionnaires attempt to objectify assessment procedures in an efficient manner. Generally, questionnaires follow one of two forms: (1) unidimensional, or unitary, scales which are designed to assess one aspect of sexuality, particularly sexual experience or attitudes, and (2) multidimensional, or multi-measurement, inventories which are designed to elicit a variety of information concerned with the various factors involved in sexual functioning, including affective, cognitive, and attitudinal components (Conte, 1986). The value of self-report questionnaires has therefore increased in recent years because of the development of multidimensional inventories.
 Conte (1983, 1986) has reviewed several of the unitary and multi-measurement self-report questionnaires. Since unitary questionnaires address a very restricted sample of behavior in sexual functioning, these instruments are considered more useful in research settings than in clinical settings (Conte, 1986). On the other hand, multi-measurement inventories have been developed primarily from clinical experience with sexually dysfunctional individuals. Multi-measurement inventories are therefore utilized in the diagnostic process and in the assessment of therapeutic change (Conte, 1986).

Of the multi-measurement inventories presently available, the Derogatis Sexual Functioning Inventory (DSFI; Derogatis, 1975a; Derogatis & Melisaratos, 1979) is highly rated because of the provision for assessing the individuals' perceptions, attitudes, and satisfactions concerning their partners (Conte, 1986; Schiavi, Derogatis, Kuriansky, O'Connor, & Sharpe, 1979). The biggest criticism aimed at the DSFI has been its length, usually requiring 45 minutes to complete.

In accord with the need to use a multi-measurement approach for adequate assessment of sexual functioning, adequate assessment of marital adjustment requires the assessment of at least four areas: (1) consensus; (2) cohesion; (3) satisfaction; and (4) affectional expression (Spanier & Cole, 1976). The Dyadic Adjustment Scale (DAS;
Spanier, 1976; Spanier & Cole, 1976; Spanier & Filsinger, 1983) is designed to assess the four areas of adjustment in both married and unmarried couples. The DAS is an updated and expanded version of the Lock-Wallace Marital Adjustment Scale (MAS; Locke & Wallace, 1959). The DAS has also empirically established the four individual scale areas listed above. Thus, the DAS is considered a more multi-measurement approach to marital assessment than is the MAS.

To summarize, adequate assessment of marital and sexual functioning is complex. The development of multi-measurement inventories has given researchers viable alternatives to the direct behavioral observation and physiological recording techniques for assessing marital and sexual functioning. Multi-measurement assessment allows for a more effective tailoring of treatment for sexual dysfunctions and the couple’s needs.
CHAPTER 2
PSYCHOLOGICAL FACTORS IN CHRONIC PAIN

Introduction
In this chapter, the personality, intrapsychic, and interpersonal factors involved in chronic pain will be examined. The role of these three factors in the development and maintenance of chronic pain will also be discussed. Particular attention will be given to the role of depression in chronic pain disorders.

Personality Factors
Psychological tests have been useful in determining personality profiles associated with pain patients and in predicting psychological factors which may influence pain treatment efforts (Grzesiak, 1980). The Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1940, 1967) is used extensively in pain clinics (Fordyce, 1979). Generally, MMPI chronic pain profiles fall into one of four categories: (1) the hypochondriacal profile, characterized by extreme somatic preoccupation; (2) the reactive depression profile, characterized by good premorbid adjustment and dysphoric mood; (3) the
somatization reaction profile, characterized by somatic preoccupation and denial of psychological and interpersonal difficulties; or (4) the manipulation reaction profile, characterized by the use of pain behaviors for personal gains (Grzesiak, 1980). The success of pain rehabilitation programs have been found to vary with the specific personality profiles. For example, favorable treatment responses have occurred with reactive depression, moderate treatment responses with somatization reaction, and poor treatment response with the hypochondriacal and manipulative reaction profiles (Grzesiak, 1980).

Bond (1973) used the Eysenck Personality Inventory (EPI) to study personality and pain behaviors. Bond found that pain patients scored relatively high on neuroticism, however, the complaints of pain were associated with relatively higher scores on the extroversion end of the introversion-extroversion dimension. The association of extroversion with increased pain expression was also reported by Merskey (1972) in psychiatric patients with pain. These findings are of interest because of the connection between pain expression and patient request for treatment. Little is known of chronic pain patients aside from those chronic pain patients who are seen in pain clinics. Chronic pain patients seen in the clinics may represent only pain patients who express their pain
outwardly. Since introverts are unlikely to express pain behaviors, treatment prescriptions are likely to be less drastic than the pain patient expressing many intense pain behaviors (Grzesiak, 1980).

The results of the MMPI and EPI studies suggest that neurotic and maladaptive personality patterns are found in chronic pain patients. A crucial question to ask, however, is to what extent are the neurotic and maladaptive personality patterns a result of the chronic pain disorder, or a premorbid and potentially predisposing characteristic (Grzesiak, 1980).

In an attempt to address this question, several investigators have reported on life circumstance variables. For example, Merskey (1965) found the following characteristics in psychiatric patients with pain: (1) a near relative with a pain related illness; (2) relatively low intelligence; (3) previously or presently employed in semi-skilled and unskilled labor; (4) a history of pain related illnesses; (5) numerous health-care consultations and diagnostic studies; and (6) numerous surgeries. Sternbach, Murphy, Akeson, and Wolf (1973) also identified a constellation of life history variables which they termed the "low-back loser" profile. The "low-back loser" was characterized by: (1) negative physical findings and lack of improvement with treatment; (2) pending litigation for compensation,
unemployment, and financial difficulties; and (3) significant depression, chronic invalidism, and engagement in "pain games" (Sternbach et al., 1974).

To summarize, personality profiles of chronic pain sufferers are typically characterized by neuroticism, including preoccupation with bodily functions, depressive symptomatology, and manipulative tendencies. Merskey (1965) and Sternbach (1974a) have also found evidence to suggest that chronic pain sufferers have lifestyles which maintain present neurotic tendencies. Whether or not pain sufferers' life histories predispose them to pain disorders cannot be properly addressed by these studies given their retrospective nature. At the very least, chronic pain sufferers have lifestyles which can maintain the present state of affairs.

**Depression and Chronic Pain**

Individuals are not passive in their response to noxious sensory stimulation. Rather, pain sufferers continuously evaluate and form beliefs in order to make sense of the pain experience. However, over prolonged periods of time, "given the discrepancy between the beliefs about acute illness and omnipotent physicians and the reality of chronic pain, it is not surprising that patients become despondent, perceive their plight as helpless and beyond their control, and become embittered
and pessimistic about their future. These patients often reduce their activity levels, alter their social roles, and may come to view little contingency between their behavior and symptoms" (Turk & Holzman, 1986, p. 6).

Depression is considered an influential psychological variable in the development and maintenance of chronic pain (Blumer & Heilbronn, 1982; Fordyce, 1976; Romano & Turner, 1985; Sternbach, 1974a). However, researchers are divided on the specific role depression plays in the chronic pain syndrome. One line of research postulates that the pain disorder represents a "masked depression"; that is, the pain disorder is the manifestation of an underlying clinical depression. The second line of research postulates that the depression is a reaction to the chronic pain disorder, and that depression may be present in only a subset of the chronic pain disorders. The evidence for each line of research will be briefly discussed below.

Blumer and Heilbronn (1982) described a set of clinical features they termed the "pain-prone disorder". The clinical features included: (1) somatic preoccupation and complaints; (2) denial of conflicts and idealization of socioenvironmental factors; (3) depression; and (4) a characteristic family history. Blumer and Heilbronn further suggested that the pain is a result of unbearable guilt and anguish which is repressed and displaced onto
the body. Thus, chronic pain is viewed as a somatic expression of an unresolved psychic conflict, or masked depression.

Blumer and Heilbronn cite various clinical and research findings to support their theory. First, they cite studies reporting pain symptoms in depressed psychiatric patient populations as support for their theory of masked depression in chronic pain patients. They also cite studies reporting success of antidepressant therapy in alleviating pain symptoms as evidence for their theory.

The "pain-prone" theory, however, has been seriously criticized (Roy, Thomas, & Matas, 1984; Turk & Salovey, 1984). First, the theory is criticized for its circularity; "patients are described as having somatic complaints because they are really depressed, and somatic complaints are then viewed as evidence for depression" (Turk & Salovey, 1984, p. 400). In addition, the association of pain and depression in chronic pain disorders and reported pain symptoms in depressed psychiatric populations does not necessarily make the two disorders equivalent (Turk & Salovey, 1984).

Roy et al. (1984) reviewed the studies investigating the incidence of pain in depressed populations and the incidence of depression in pain populations. The studies reviewed showed a range of 13% to 100% of depressed
patients reporting pain, and a range of 30% to 100% of pain patients reporting depression. However, these percentages are based on early studies which are criticized for unsound methodology such as poor subject selection criteria, inconsistent nosological classification, and inconsistent use of psychometric instruments (Roy et al., 1984). In more recent and well controlled studies, Roy et al. report a 5% to 38% incidence of depression in chronic pain sufferers. The conceptual and methodological problems of early studies prevent conclusions from being drawn regarding the association of chronic pain and depression (Romano & Turner, 1985). The evidence cited for support of Blumer's and Heilbronn's (1982) pain-prone theory may therefore be unsubstantiated, or at least premature.

Nevertheless, the above findings do not negate the importance of depression as an influential variable following the onset of a pain disorder, particularly given its potential role in influencing treatment outcome (Fordyce, 1976). For example, severity of depression has been found to be related to subjective pain intensity, pain behavior, activity level, and medication intake, which could account for outcome variance (Keefe et al., 1986). Recent studies have therefore begun to investigate the differences between depressed and nondepressed chronic pain patients.
Dworkin et al. (1986) found different sets of predictor variables for treatment response between depressed and nondepressed chronic pain patients. Beneficial treatment response in nondepressed chronic pain patients was associated with a greater number of treatment visits, absence of compensation for injury, lesser variety of previous treatments, and low back pain. Beneficial treatment response in depressed chronic pain patients was associated with employment and lower chronicity. The authors add that activity and active treatment involvement appear particularly important in depressed chronic pain patients (Dworkin et al., 1986).

Researchers have also investigated the association of depression with other variables. France et al. (1986) found a higher incidence of major depression in first degree relatives of depressed chronic pain patients compared to nondepressed chronic pain patients, but the incidence of familial alcohol dependence did not differ between the two groups. Also, sex differences have been reported. Depression in chronic pain females was associated with report of pain intensity, while depression in chronic pain males was associated with impaired activity (Haley, Turner, & Romano, 1985).

To summarize, depression is considered an important influential variable in chronic pain populations. Although the specific role of depression remains
controversial, its influence on treatment outcome merits further research consideration.

**Interpersonal Issues and Chronic Pain**

The socioenvironmental component, or interpersonal context, has been recognized as an influential variable in chronic pain disorders. Interactions between the patient and physician, the patient and spouse, the patient and family, and the patient and the work setting are reported to be influential in the evaluation and treatment of chronic pain patients (Heinrich et al., 1982; Maruta et al., 1981; Merskey & Spear, 1967; Mohamed, Weisz, & Waring, 1978; Sternbach, 1974a). The conclusion drawn from the literature is that "investigators and clinicians must recognize that chronic pain problems occur in individuals whose personal histories, coping styles, strengths and weaknesses, and social, cultural, and physical environments profoundly affect the character, course, and experience of the pain problem" (Heinrich et al., 1982, p. 119).

Increased incidences of marital discord have been reported in chronic pain patients (Merskey & Spear, 1967) and in spouses of chronic pain patients (Maruta et al., 1981). Depressed patients with chronic pain have also been found to have a higher incidence of marital discord than nondepressed patients (Mohamed et al., 1978).
It is not surprising that chronic pain sufferers have a high incidence of marital discord given the chronic pain sequelae. Individuals seek goals such as companionship, sexuality, and self-esteem from the home environment (Heinrich et al., 1982). However, the initial anxiety experienced following pain onset soon leads to chronic depression and social withdrawal (Heinrich et al., 1982; Sternbach, 1974b). Chronic pain prevents the individual from performing not only self-care tasks, but also role tasks. A shift in responsibilities occurs. Friends, spouse, and other family members assume the extra responsibilities, frequently without direct communication (Heinrich et al., 1982). The chronic pain patient develops feelings of guilt over the occurrence. In addition, friends and family develop mixed feelings: bitterness towards the chronic pain sufferer because of added responsibilities and guilt because of the bitterness and resentment that is felt. Misunderstandings are not uncommon and effective communication deteriorates (Heinrich et al., 1982).

In an attempt to identify the influential factors in maintaining the sufferer's role, Waring (1977) termed the chronic sufferer's shift into chronic invalidism as a "sick role homeostasis". According to Waring, the pain sufferer becomes unhampered by demands from others and receives sympathy and attention from others for
suffering. The sympathy and attention act as reinforcers and therefore perpetuate impaired functioning, lowered activity levels, and the accompanying dysphoric mood. Thus, the inclusion of the invested partner during the evaluation period is strongly suggested and warranted (Heinrich et al., 1982).

To summarize, chronic pain sufferers not only need to cope with intrapsychic issues, but also with interpersonal issues. Marriages and families are affected by members with chronic pain disorders. Other interpersonal contexts are also affected. For example, social and recreational activities decrease as a function of social withdrawal by the patient, and as a function of friends distancing themselves from the patient subsequent to the patient's preoccupation with illness and discomfort (Heinrich et al., 1982). Therefore, the literature strongly suggests that the interpersonal component should be given as much consideration as the intrapsychic component in the chronic pain experience, evaluation, and treatment.

Statement of the Problem

The conclusions drawn from the literature review in chapters one and two include: (1) decreased sexual adjustment in chronic pain patients following the onset of pain; (2) increased marital discord following the onset of pain; (3) disagreements between patients and partners on
the levels of reported marital and sexual functioning following the onset of pain; (4) below norm functioning in chronic pain patients on several sexual variables but no reported overall dissatisfaction; (5) depression plays an influential role in maintaining the chronic pain syndrome; (6) increased marital discord with the presence of pain in conjunction with depression; and (7) decreased sexual functioning with depression. Thus, significant adjustment difficulties in the marital and sexual relationships of chronic pain patients is found.

The purpose of the present study is to attempt to specify the nature of the reported adjustment problems through the use of a multi-measurement approach to the assessment of marital and sexual functioning. Past research has utilized a unitary measurement approach to assessment. Consequently, no information is available as to which areas in the marital and sexual relationships are problematic or which areas are perceived differently by the partners. Presently, one can only conclude that marital and sexual problems do exist in couples with a chronic pain sufferer. This study will, therefore, attempt to determine which marital and sexual areas are potential targets for intervention.

Based on the conclusions drawn from the literature, the following hypotheses have been generated:

1. Chronic pain patients will report significantly
more depressive symptomatology than will the invested partners.

2. Invested partners will report significantly more marital discord than will the chronic pain patients.

3. Chronic pain patients will differ significantly from the norm in areas of sexual functioning.

4. Invested partners will differ significantly from the norm in areas of sexual functioning.
Subjects

Subjects were solicited from 62 consecutive admissions to the inpatient pain management program located in the Department of Physical Medicine at the Ohio State University Hospitals. Subjects were also solicited from outpatient pain management services in Jacksonville, Florida. For inclusion in the study, subjects were required to meet four selection criteria: (1) present age within the 20 to 60 year age range; (2) duration of benign, nonmalignant pain of 6 months or longer; (3) married, cohabitating, or in a stable intimate relationship; and (4) no secondary medical diagnosis.

Of the 62 admissions to the inpatient service, 28 patients met the criteria, with 14 patients and their spouses agreeing to participate in the study. Seven additional patients and their spouses were solicited from the outpatient services for a total of 21 couples participating in the study. The 21 couples consisted of 14 white and 7 nonwhite couples. Twelve of the couples had males as the identified patient and 9 of the couples
### Table 1
Summary of Solicitation and Refusal Data

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatients admitted</td>
<td>62</td>
<td>--</td>
</tr>
<tr>
<td>Inpatients meeting criteria</td>
<td>28</td>
<td>45</td>
</tr>
<tr>
<td>Inpatients or partners refusing to participate</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Inpatients and partners agreeing to participate</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Outpatients and partners agreeing to participate</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>TOTAL SAMPLE</td>
<td>21</td>
<td>--</td>
</tr>
</tbody>
</table>

Reasons for subjects failing to participate:

- patient refusals: 2 (14%)
- partner refusals: 5 (36%)
- patient and partner refusals: 3 (21%)
- unavailability of partner: 2 (14%)
- other: 2 (14%)
- TOTAL: 14 (100%)

Reasons for subjects failing to meet criteria:

- out of age range (> 60 years): 6 (18%)
- single, no appropriate relationship: 5 (15%)
- divorced, no appropriate relationship: 8 (24%)
- widowed, no appropriate relationship: 2 (6%)
- separated: 8 (24%)
- secondary medical disorder: 8 (24%)
- TOTAL: 33 (100%)
had females as the identified patient. Table 1 illustrates the reasons for exclusion of 33 patients and the reasons for the lack of participation of 14 patients. The primary reasons for exclusion included the lack of an appropriate relationship (52%), and a secondary medical diagnosis (24%) (e.g., diabetes mellitus, spinal cord injury, poliomyelitis, cerebral vascular accident, cerebellar-pontine tumor, amputation, and recent myocardial infarction). Table 2 lists the chronic pain diagnoses of the 21 patients participating in the study. The primary diagnosis involved chronic back or low back disorders (76%), with chronic low back pain constituting a little over half of the sample (57%).

Materials

Derogatis Sexual Functioning Inventory (DSFI). The DSFI is a multidimensional self-report inventory designed to measure the current sexual functioning of an individual. The inventory is composed of 10 substantive domains developed from a combination of clinical experience, theory, and empirical measurement. The substantive domains and a brief description of the items are listed in Table 3.

The DSFI contains 260 items, five items are gender specific, and two items are not included in the final scoring. A Global Sexual Satisfaction Index (GSSI) is
<table>
<thead>
<tr>
<th>Chronic Pain Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myofascial Pain Syndrome, Low Back</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Myofascial Pain Syndrome, Back</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Myofascial Pain Syndrome, Low Back with radiculopathy</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Myofascial Pain Syndrome, Back with radiculopathy</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Myofascial Pain Syndrome, Abdomen</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Chronic Low Back Pain</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Fibrocytis</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Phlebitis</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 3
Summary of DSFI Subscales and Item Descriptions

<table>
<thead>
<tr>
<th>DSFI Subscale</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>26 true-false items</td>
</tr>
<tr>
<td>Experience</td>
<td>24 yes-no items</td>
</tr>
<tr>
<td>Sexual Drive</td>
<td>7 items rated on a 9 point scale</td>
</tr>
<tr>
<td>Sexual Attitude</td>
<td>30 items weighted positively for healthy sexual functioning</td>
</tr>
<tr>
<td>Psychological Symptoms</td>
<td>53 items from the Brief Symptom Inventory</td>
</tr>
<tr>
<td>Affect</td>
<td>40 adjectives from the Affect Balance Scale</td>
</tr>
<tr>
<td>Gender Role Definition</td>
<td>30 gender adjectives rated on a 5 point scale</td>
</tr>
<tr>
<td>Sexual Fantasy</td>
<td>20 common sexual fantasy themes answered on a check-no check basis</td>
</tr>
<tr>
<td>Body Image</td>
<td>10 nonsex-specific and 5 sex-specific items rated on a 5 point scale</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>10 true-false items</td>
</tr>
</tbody>
</table>
also obtained by asking subjects to rate their satisfaction of the quality of their sexual activities. The GSSI is rated on a 9 point scale ranging from 8 "could not be better" to 0 "could not be worse". The 10 raw scores generated from the 10 domains and the GSSI are converted to T-scores (mean = 50, SD = 10). A Sexual Functioning Index (SFI) is derived from the summation of the 10 domain T-scores. Published normative data on a sample of 200 individuals are available (Derogatis, 1975a; Derogatis & Melisaratos, 1979). Total time for administration is approximately 30 to 40 minutes (see Appendix A).

Internal consistency and test-retest reliability for the 10 DSFI domains have been demonstrated. Internal consistency coefficients (N = 325) for 9 of the 10 domains range from .56 to .97, with the Information subscale having the lowest internal consistency. A test-retest reliability analysis (N = 60), with a 14-day retest interval, report reliability coefficients ranging from .42 to .96. Overall, the DSFI appears to be a stable instrument (Derogatis, 1976, 1980).

The theoretical rationales for the development of the DSFI impart content validity to the scale (Derogatis, 1976, 1980). Other studies have established predictive validity with sexual dysfunctions (Derogatis & Meyer, 1979a), with the invested partner (Derogatis & Meyer,
1978b), and with male transsexuals (Derogatis, Meyer, & Vaquez, 1978). Studies have also shown discriminative ability of the individual subtests Experience (Derogatis, Melisaratos, & Clark, 1976), Symptoms (Derogatis et al., 1977), and Gender Role Definition (Derogatis, Meyer, & Dupkin, 1976). The DSFI, therefore, has demonstrated validity in various areas.

Two entirely separate scales have been incorporated into the DSFI, the Brief Symptom Inventory (Derogatis, 1975b) and the Affect Balance Scale (Derogatis, 1975c). However, Derogatis (1975a) employs only the most sensitive indices from these two scales within the DSFI profile—the General Severity Index (GSI) and the Affect Balance Index (ABI), respectively.

Dyadic Adjustment Scale (DAS). The DAS is a self-report inventory designed to measure adjustment in both married and unmarried couples. The scale is derived from the Locke-Wallace Marital Adjustment Scale (MAS; Locke & Wallace, 1959). The DAS has revised and increased items from the MAS. The DAS contains 32 items with a score range of 0 to 151. The DAS also consists of four empirically derived subscales: (1) the Dyadic Consensus subscale (13 items) consists of items assessing the degree to which the couple agrees on matters of importance to the relationship; (2) the Dyadic Satisfaction subscale (10 items) consists of items assessing the degree to which the
couple is satisfied with the present state of the relationship and is committed to its continuance; (3) the Dyadic Cohesion subscale (5 items) consists of items assessing the degree to which the couple engages in activities together; and, (4) the Affectional Expression subscale (4 items) consists of items assessing the degree to which the couple is satisfied with the expression of affection and sex in the relationship. The subscale score ranges are: Dyadic Consensus (0 to 65); Dyadic Satisfaction (0 to 50); Dyadic Cohesion (0 to 24); and Affectional Expression (0 to 12). All items are answered on a Likert-type scale, except for two items in the Affectional Expression subscale which are answered on a yes-no basis. The mean total score obtained for a sample of happily married individuals (N = 200) was 104 and the mean total score obtained for a sample of divorced individuals (N = 100) was 77. The total time for administration is 10 to 15 minutes (Spanier, 1976; Spanier & Cole, 1976; Spanier & Filsinger, 1983) (see Appendix B for the complete scale).

Internal consistency has been reported for the DAS and the four subscales. An alpha coefficient of .96 has been reported for the DAS, with coefficients ranging from .73 to .94 for the subscales (Spanier, 1976). The DAS and the individual subscales are considered reliable for assessing dyadic adjustment.
The convergent validity of the DAS has also been examined through correlational studies utilizing the MAS. The two scales have a reported correlation of .86 for married respondents and .88 for divorced respondents. Other studies have established content validity through ratings of three judges, and concurrent criterion-related validity utilizing married and divorced samples (Spanier, 1976). The DAS is therefore considered valid for assessing dyadic adjustment.

**Beck Depression Inventory (BDI).** The BDI is a 21-item self-report inventory designed to assess an individual’s affect, particularly depressive affect, within the past few weeks. The score of the BDI ranges from 0 to 63. Scores ranging from 0 to 10, 11 to 23, and 24 to 63 are considered normal or mildly depressed, moderately depressed, and severely depressed, respectively (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The total time for administration is approximately 10 minutes (see Appendix C for the complete inventory).

The BDI has been shown to be internally consistent based on a Kruskal-Wallis nonparametric analysis of variance by ranks ($p < .001$), and through a split-half reliability analysis ($\text{Spearman-Brown} \ \rho = .93$). A variation of the test-retest reliability procedure, with a retest interval ranging from 2 to 6 weeks, found the BDI to correspond with changes in the clinical depth of
depression. The BDI is therefore considered reliable for assessing depressive affect (Beck et al., 1961).

The incremental scores of the BDI correspond with increments in the magnitude of depression as rated by experienced psychiatrists (r = .67). In addition, the categories of normal/mild, moderate and severe have been found to be significantly discriminative (p < .0004). A predictive validity study (N = 33) found an 85% prediction rate. The BDI is therefore considered valid for assessing depressive affect (Beck et al., 1961).

Demographic Information. Demographic variables pertaining to the subject's sex, age, highest level of education attained, income level, length of marriage or relationship, religious preference, chronic pain diagnosis (patients only), date of injury (patients only), and medications were collected (see Appendix D).

Procedure

Subjects were initially approached during their first week of admission to the inpatient program. Subjects who expressed an interest in participating in the study consulted their spouse. Interested couples who agreed to participate were administered the questionnaires during the first weekend of admission to the inpatient program. Outpatients and their spouses were assessed as soon as possible upon their participation in their respective
All questionnaires were administered at the site of treatment.

On the day of the assessment, both partners were read the following: (1) a general description of the study and a description of why the study in which they were to participate was being conducted; (2) a description of each inventory they were to answer; (3) a description of the nature of the items contained in the inventories; (4) a statement concerning the voluntary nature of their participation and the guarantee of anonymity; and (5) a statement emphasizing their privilege to discontinue at their own volition without fear of penalty (see Appendix E). Subjects were also asked to sign a standard Ohio State University Research Foundation consent form (see Appendix F). Both the instructions to subjects and the consent form were signed in duplicate.

The directions and the format of each inventory, and the demographic sheet were then reviewed with each of the subjects. Questions raised by the subjects were answered as clearly as possible. Subjects were instructed that the order in which the inventories were answered was not of importance. In addition, subjects were instructed that conversation between each other was not permitted at anytime while the inventories were being answered (an experimenter remained in the room to insure compliance with this instruction). Total time required for
administration averaged 1 hour and 15 minutes. Following completion of the inventories, the couple received $20. In addition, a short debriefing session was conducted with each couple to further explain the purpose of the study and to answer remaining questions.
Data Reduction

Total raw scores were calculated for the BDI, DAS, and DSFI, and for the subscales of the DAS and DSFI. The DSFI raw scores were then converted to T-scores and the Sexual Functioning Index (SFI) was calculated. Table 4 contains the list of variables resulting from the scoring and the variables implemented in the analyses.

The sexual functioning data were first subjected to normative comparisons. The data of both the chronic pain patients and the invested partners were compared to the norm. A second group of analyses of the data involved multivariate analyses examining the differences between patients and partners. The multivariate analyses involved four steps. The variables were first subjected to a multivariate analysis of variance (MANOVA), with group as the independent variable. Second, a stepwise discriminant analysis was performed to determine which of the variables accounted for the most variance between the groups (Pedhazur, 1982). Third, a discriminate analysis was performed, utilizing the significant variables from the
Table 4
Summary of the Multivariate Analysis of Variance Variables

<table>
<thead>
<tr>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Beck Depression Inventory score</td>
</tr>
<tr>
<td>2. Dyadic Adjustment Scale score</td>
</tr>
<tr>
<td>3. DAS Consensus subscale</td>
</tr>
<tr>
<td>4. DAS Satisfaction subscale</td>
</tr>
<tr>
<td>5. DAS Cohesion subscale</td>
</tr>
<tr>
<td>6. DAS Affectional Expression subscale</td>
</tr>
<tr>
<td>7. DSFI Information score</td>
</tr>
<tr>
<td>8. DSFI Experience score</td>
</tr>
<tr>
<td>9. DSFI Sexual Drive score</td>
</tr>
<tr>
<td>10. DSFI Sexual Attitude score</td>
</tr>
<tr>
<td>11. DSFI General Severity Index for Psychological Symptoms</td>
</tr>
<tr>
<td>12. DSFI Affect Balance Index</td>
</tr>
<tr>
<td>13. DSFI Gender Role Definition score</td>
</tr>
<tr>
<td>14. DSFI Fantasy score</td>
</tr>
<tr>
<td>15. DSFI Body Image score</td>
</tr>
<tr>
<td>16. DSFI Satisfaction score</td>
</tr>
<tr>
<td>17. DSFI Global Sexual Satisfaction Index</td>
</tr>
<tr>
<td>18. DSFI Sexual Functioning Index</td>
</tr>
</tbody>
</table>
stepwise procedure, to determine the ability of the significant variables to appropriately classify the subjects into their respective groups. Finally, an analysis of covariance (ANCOVA) was performed to determine if the significant variables covaried with other variables and consequently masked their effects. All statistical analyses were performed using the SAS statistical software package (SAS Institute Inc., 1985). The demographic variables were analyzed using the Kolmogorov-Smirnov two-tailed nonparametric test for two samples (Siegel, 1956).

Data Analyses

Demographic Variables. The chronic pain patients were not found to differ significantly from their partners on education level or religious preference ($K = 4, K = 1, D D$ respectively). Table 5 lists the demographic variables and their frequency of occurrence with respect to group. The couples were composed primarily of white, Christian, high school graduates, early middle-aged, working to middle class individuals. The present demographic variables are commensurate with the DSFI normative sample, except for income and education. The present sample consisted primarily of working to middle class individuals while the normative sample consisted primarily of lower-middle to upper class individuals.
Table 5
Summary of Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th></th>
<th>Partners</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>57</td>
<td>9</td>
<td>43</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>43</td>
<td>12</td>
<td>57</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>39</td>
<td>--</td>
<td>41</td>
<td>--</td>
</tr>
<tr>
<td>Range</td>
<td>28-58</td>
<td></td>
<td>28-67</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>7</td>
<td>33</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>Caucasian</td>
<td>14</td>
<td>67</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>some high school</td>
<td>11</td>
<td>52</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>high school graduate</td>
<td>3</td>
<td>14</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>some college</td>
<td>6</td>
<td>29</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>college graduate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>some graduate school</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>graduate degree</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Yearly Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0-$10000</td>
<td>6</td>
<td>29</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>$10000-$20000</td>
<td>5</td>
<td>24</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>$20000-$30000</td>
<td>6</td>
<td>29</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>$30000-$40000</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>$40000-$50000</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>&gt;$500000</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Relationship (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>1-37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean duration</td>
<td>3.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>8 months-12 years</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BDI and DAS Descriptive Analyses. Table 6 lists the mean raw scores of the BDI for the patients and partners. The mean BDI score for patients is 17.0 and places them in the moderately depressed category based on the BDI categorization system (moderate range BDI scores = 11.0-23.0). The mean BDI score for the partners is 6.2 and places them in the normal/mildly depressed category (mild range BDI scores = 0.0-10.0).

Table 7 lists the mean raw scores of the DAS for the present samples and for the published married and divorced samples (Spanier, 1976). The reported overall DAS scores in the scale construction samples are 114.8 for married couples and 70.7 for divorced couples. A score of 100-151 is arbitrarily considered good marital adjustment (Spanier & Filsinger, 1983). Taking into account the standard deviation ranges for the means of the published data, the present DAS subscale scores for patients and partners: (1) are commensurate with the divorced group for dyadic consensus; (2) are commensurate with the married group for dyadic cohesion, affectional expression, and overall dyadic adjustment; and (3) are intermediate between the published divorced and married scores on dyadic satisfaction. Thus, compared to published data, dyadic consensus scores for both patients and partners are considered in the poorly adjusted range.
Table 6

Summary of Means for the Multivariate Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Patients</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>17.0 11.1</td>
<td>6.2 4.6</td>
</tr>
<tr>
<td>Dyadic Adjustment Scale b</td>
<td>105.4 19.4</td>
<td>97.5 19.4</td>
</tr>
<tr>
<td>DAS Consensus subscale b</td>
<td>48.8 8.4</td>
<td>43.0 10.7</td>
</tr>
<tr>
<td>DAS Satisfaction subscale b</td>
<td>33.5 6.8</td>
<td>32.4 6.9</td>
</tr>
<tr>
<td>DAS Cohesion subscale b</td>
<td>14.8 4.7</td>
<td>15.2 7.8</td>
</tr>
<tr>
<td>DAS Affectional Expression</td>
<td>9.8 6.7</td>
<td>8.0 2.4</td>
</tr>
<tr>
<td>DSFI Information</td>
<td>41.1 10.8</td>
<td>41.8 10.8</td>
</tr>
<tr>
<td>DSFI Experience</td>
<td>39.7 7.6</td>
<td>41.1 10.9</td>
</tr>
<tr>
<td>DSFI Sexual Drive</td>
<td>45.5 9.2</td>
<td>44.3 5.0</td>
</tr>
<tr>
<td>DSFI Sexual Attitude</td>
<td>34.1 8.2</td>
<td>34.8 9.0</td>
</tr>
<tr>
<td>DSFI Psych. Symptoms</td>
<td>37.2 12.7</td>
<td>51.9 15.4</td>
</tr>
<tr>
<td>DSFI Affect</td>
<td>38.7 11.9</td>
<td>46.4 10.2</td>
</tr>
<tr>
<td>DSFI Gender Role</td>
<td>44.7 11.9</td>
<td>47.6 13.3</td>
</tr>
<tr>
<td>DSFI Fantasy</td>
<td>41.8 9.5</td>
<td>39.8 10.5</td>
</tr>
<tr>
<td>DSFI Body Image</td>
<td>25.0 1.6</td>
<td>25.0 0.2</td>
</tr>
<tr>
<td>DSFI Satisfaction</td>
<td>46.0 10.6</td>
<td>50.9 9.8</td>
</tr>
<tr>
<td>DSFI GSSI</td>
<td>48.7 11.9</td>
<td>48.0 12.5</td>
</tr>
<tr>
<td>DSFI SFI</td>
<td>24.9 6.5</td>
<td>29.7 10.0</td>
</tr>
</tbody>
</table>

patients v. partners (Stepwise Discriminant Analysis),

\[ p < .0002, \ p < .003; \]

patients v. norms (T-score comparison), \[ p < .01; \]

partners v. norms (T-score comp.), \[ p < .01, p < .003. \]
Table 7
Summary of DAS Scores for Present Data and for Published Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Present Patients</th>
<th>Present Partners</th>
<th>Published Married</th>
<th>Published Divorced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Consensus</td>
<td>48.8</td>
<td>8.4</td>
<td>43.0</td>
<td>10.7</td>
</tr>
<tr>
<td>Satisf.</td>
<td>33.5</td>
<td>6.8</td>
<td>32.4</td>
<td>6.9</td>
</tr>
<tr>
<td>Cohesion</td>
<td>14.8</td>
<td>4.7</td>
<td>15.2</td>
<td>7.8</td>
</tr>
<tr>
<td>Afft.Exp.</td>
<td>9.8</td>
<td>6.7</td>
<td>8.0</td>
<td>2.4</td>
</tr>
<tr>
<td>DAS</td>
<td>105.4</td>
<td>19.4</td>
<td>97.5</td>
<td>19.4</td>
</tr>
</tbody>
</table>


a patients and partners commensurate with divorced scores
b patients and partners intermediate between married and divorced scores
c patients and partners commensurate with married scores
Normative Data Comparison. Table 6 lists the mean T-scores for the DSFI subscales for the patients and partners. Examining the DSFI T-scores indicate below norm functioning in some areas for patients and partners (normative mean T-score = 50, S.D. = 10). However, neither patients nor partners differed from the norm on individual sexual satisfaction, as measured by the DSFI Satisfaction subscale, and sexual relationship satisfaction, as measured by the DSFI GSSI. Chronic pain patients scored 1.0 standard deviation below the norm on psychological symptoms ($p < .11$) and affect ($p < .16$); 1.5 standard deviations below the norm on sexual attitude ($p < .07$); and 2.5 standard deviations below the norm on body image and the sexual functioning index ($p < .01$). Additionally, invested partners scored 1.5 standard deviations below the norm on sexual attitude ($p < .07$); 2.0 standard deviations below the norm on the sexual functioning index ($p < .02$); and 2.5 standard deviations below the norm on body image ($p < .01$). Therefore, according to DSFI norms, patients and partners both differed significantly from the norm on body image and the sexual functioning index.

MANOVA Results. The MANOVA and the following statistics were performed to examine patient-partner differences. The overall MANOVA statistic, Wilks' Gamma, was significant, $F(18,23) = 3.38$, $p < .004$. Table 6 lists
the means of the variables included in the analyses, by group. Given the significance of the MANOVA, the remaining analyses were performed.

**Stepwise Discriminant Analysis Results.** Five variables were removed by the analyses with stepwise selection: (1) BDI, (2) DAS Consensus subscale, (3) DSFI Satisfaction subscale, (4) DSFI Global Sexual Satisfaction Index, and (5) DSFI Fantasy subscale. However, only the BDI and DAS Consensus subscale were significant, $p < .0002$ and $p < .003$, respectively. The five variables accounted for 73% of the total variance, with the two significant variables accounting for 51% of the variance. These results are reported in Table 8.

**Discriminant Analysis Results.** The two significant variables from the stepwise discriminate analysis, BDI and DAS Consensus, were subjected to a discriminant analysis to determine the ability of the two variables to appropriately classify the subjects into their respective groups. Table 9 illustrates the classification results. The two variables appropriately classified 83% of all subjects into their respective groups. The variables appropriately classified 79% of the chronic pain patients and 90% of the invested partners. The two variables can therefore significantly distinguish between the patients and the partners.
Table 8
Summary of Stepwise Discriminant Analysis Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variance</th>
<th>F-value</th>
<th>alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory</td>
<td>.30</td>
<td>16.88</td>
<td>0.0002</td>
</tr>
<tr>
<td>DAS Consensus subscale</td>
<td>.21</td>
<td>10.28</td>
<td>0.003</td>
</tr>
<tr>
<td>DSFI Satisfaction</td>
<td>.08</td>
<td>3.29</td>
<td>0.08</td>
</tr>
<tr>
<td>DSFI GSSI</td>
<td>.08</td>
<td>3.15</td>
<td>0.08</td>
</tr>
<tr>
<td>DSFI Fantasy</td>
<td>.06</td>
<td>2.45</td>
<td>0.13</td>
</tr>
</tbody>
</table>
Table 9

Summary of Discriminant Analysis Results

<table>
<thead>
<tr>
<th>Classified Group</th>
<th>Patients N</th>
<th>Partners %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients Selected Group</td>
<td>16</td>
<td>76.19</td>
<td>100</td>
</tr>
<tr>
<td>Partners</td>
<td>2</td>
<td>9.52</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classified Group</th>
<th>Patients N</th>
<th>Partners %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partners</td>
<td>5</td>
<td>23.81</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Since a priori probabilities of group membership is .50, a Chi-square goodness-of-fit test was performed to determine the significance of the classification of the groups. A 33% increase in classification was found to be significant, \( \chi^2 = 19.06, \ p < .001 \). Thus, the variables significantly classified, above chance level, the subjects into their respective groups.

**ANCOVA Results.** An ANCOVA was performed in order to statistically control for effects of the BDI and DAS Consensus variables. It was suspected that these variables may covary with other variables, and by controlling for their significant effects, other significant differences might be found between the patients and partners. However, no significant differences were found between groups when controlling for depression and dyadic consensus. Thus, differences between the groups did not occur secondary to variable covariation. These results suggest that the significance of depression and dyadic consensus is not due to their covarying with other measured variables.
CHAPTER 5
DISCUSSION

Summary of Results

The results of the present study found significant differences between chronic pain patients and their partners on self-report of depression and dyadic consensus. Chronic pain patients reported a higher level of depression and dyadic consensus compared to the invested partners. Although patients and partners differed on the reported level of dyadic consensus, both scores for patients and partners are commensurate with data published with divorced couples. In other words, although partners were reporting less dyadic consensus, both patients and partners were reporting levels of consensus which are considered to suggest marital problems. Results of the present study also indicate significant below norm functioning on body image, \( p < .01 \) for patients and \( p < .02 \) for partners; and on overall sexual functioning, \( p < .01 \) for both patients and partners. Both groups were also below the norm on sexual attitudes, but not to a significant degree. Although patients and partners were significantly below the norm on overall sexual functioning,
neither group reported sexual dissatisfaction, patient mean = 48.7, partner mean = 48.0.

The present results can also be summarized by demonstrating the consistencies and inconsistencies between these results and earlier chronic pain and sexuality research, primarily the previous research by Beaulieu, and by Maruta. In addition, the present results can be summarized by demonstrating how these results extend the previous findings of Beaulieu and of Maruta.

The present results are consistent with Beaulieu and Thorn (1986) in that depression was again found to be a significant variable in discriminating chronic pain patients, with chronic pain patients reporting higher levels of depression. In addition, as with the earlier Beaulieu study, chronic pain patients were found to be below the norm on the variables measuring sexual attitudes, psychological symptoms, affect, body image, and on the sexual functioning index which measures overall sexual functioning. Both studies have found that chronic pain patients rate their individual sexual satisfaction (DSFI Satisfaction subscale) and their sexual relationship satisfaction (DSFI GSSI) as average or above average.

The present results extend knowledge imparted by the previous studies by demonstrating significant differences between chronic pain patients and the invested partners on measured levels of depression and on dyadic consensus.
Patients are more depressed than are partners and the invested partners are more dissatisfied with consensus issues than are the chronic pain patients.

The present findings also illustrate below norm functioning for the invested partners on the variables measuring sexual attitudes, body image, and overall sexual functioning. However, like the chronic pain patients, the invested partners rate their individual sexual satisfaction and their sexual relationship satisfaction as average or above average.

The present findings are consistent with Maruta and Osborne (1978) and Maruta et al. (1981) in that chronic pain patients appeared to report less dysfunction concerning dyadic consensus and sexual functioning. The results are inconsistent in that the invested partners in the present study did not report an overall decrease in marital adjustment, only in dyadic consensus, and the present study did not find overall marital or sexual dissatisfaction in either the chronic pain patients or the invested partners.

The present results extend the findings of Maruta by suggesting that invested partners as well as chronic pain patients may have a tendency to report less dysfunctioning, and that marital adjustment may decrease due to specific changes in marital adjustment such as dyadic consensus rather than "overall" marital discord.
The present findings also extend the Maruta studies by illustrating below norm functioning on a number of sexual variables for both the chronic pain patients and the invested partners.

**Interpretation of Results**

Beaulieu and Thorn (1986) found moderate to severe levels of depression in chronic pain patients, compared to general medical patients and nonpatient volunteers. The present study also found similar levels of depression; the average depression score for the chronic pain patients fell in the moderately depressed category (BDI score ranging from 11 to 23) while the average depression score for the invested partners fell in the normal/mildly depressed category (BDI score ranging from 0 to 10) (Beck et al., 1961).

Depression is considered an influential psychological variable in the development and maintenance of chronic pain (Blumer & Heilbronn, 1982; Fordyce, 1976; Romano & Turner, 1985; Sternbach, 1974a). Depression has also been found to have a profound impact on activity level and general functioning (Williams, Barlow, & Agras, 1972). Although depression is frequently observed with chronic pain disabilities the specific role it plays remains controversial (Romano & Turner, 1985). Thus, chronic pain patients may experience marital and sexual difficulties
secondary to the depression, given that depression is associated with marital discord (Mohamed et al., 1978) and impaired sexual functioning (Kaplan, 1974; Renshaw, 1974).

Mohamed et al. (1978) found higher levels of marital discord in depressed patients with persistent pain compared to depressed patients with no report of pain. Although the present study made no systematic attempt to group subjects on the basis of depression, an attempt was made post-hoc to investigate the level of overall dyadic adjustment in the five most depressed (BDI mean = 32.2) and the five least depressed (BDI mean = 4.0) chronic pain patients. The two groups did not differ with respect to length of marriage or length of pain duration. Eighty percent of the most depressed pain patients were females and eighty percent of the least depressed pain patients were males. The average overall dyadic adjustment score for the depressed group was 87.0 and the overall score for the nondepressed group was 116.6. This difference in overall dyadic adjustment was significant, t(8) = 3.14, p < .01. These preliminary results support the Mohamed et al. findings in that individuals with depression and pain report lower marital adjustment.

Maruta and Osborne (1978) reported that 53% of chronic pain patients rated their marriages as unchanged following the onset of pain. Similarly, Beaulieu and Thorn (1986) also found that chronic pain patients rated their
marriages as average or above average. However, Maruta et al. (1981) found no significant differences between retrospective ratings of chronic pain patients and spouses on their overall marital adjustment prior to pain, but did find a difference between the two groups following the onset of pain. Following pain onset, a significantly larger number of chronic pain patients rated their marriages as above average than did their spouses.

The findings of the present study are unexpected given the previous findings of Maruta and Osborne (1978) and Maruta et al. (1981). In particular, it was hypothesized that the patients and partners would be discrepant in their self-report of overall marital adjustment, with partners reporting lower marital adjustment compared to patients. However, the present study did not find any patient-partner discrepancies on either overall marital adjustment or sexual adjustment, discrepancies which were found in the Maruta studies. The reason for the disparate findings between the Maruta studies and the present study is possibly due to the significant differences between the studies in their measurement approaches. The Maruta studies utilized an interview-format with six general questions. The present study utilized a multi-measurement approach with empirically derived and standardized instruments. The present study was not only more sophisticated in the use of measurement instruments, but
also in the scope of the areas assessed. The disparate findings, therefore, could possibly be due to the fact that the Maruta studies were only tapping into very specific areas of overall functioning and adjustment. Thus, the Maruta finding that patients and spouses differed in ratings of marital adjustment could have been due to the fact that they tapped into the consensus issue, the only discrepant rating between partners in the present study.

One purpose of the present study was to attempt to investigate the patient-partner discrepancies in the relationship, and to determine which area(s) of perceived marital adjustment differ between partners. The present findings suggest that dyadic consensus is an area of discrepant reporting by partners, with the invested partner reporting lower scores than the chronic pain patient. Dyadic consensus refers to the degree to which the couple agrees on matters of importance in the relationship (Spanier, 1976; Spanier & Filsinger, 1983). The items on the DAS which measure dyadic consensus include such issues as matters of recreation, friends, behavioral conventionality, philosophy of life, the amount of time spent together, making major decisions, and leisure time interests and activities. A significant discrepancy on this subscale suggests disparate perceptions on what the couple finds important in the
relationship, with the invested partner perceiving more disagreement than the chronic pain patient on these issues.

Depression may be an influential factor in accounting for the discrepancies found between partners on marital adjustment instruments. Depression has been found to have a profound impact on activity level and general functioning (Williams et al., 1972). As pain becomes a chronic state, patients may reduce their activity levels, decrease their share of responsibilities, alter their social role, socially withdraw, and become bitter (Heinrich et al., 1982; Turk & Holzman, 1986). The chronic pain patients may still view their opinion of important relationship issues as unchanged, however, their behavioral performance has changed. Since communication generally deteriorates in a couple following the onset of pain (Heinrich et al., 1982), partners are left to rely upon behaviors to infer positions on an issue. The invested partners may view radical changes in the chronic pain patients' behaviors and therefore infer more discrepancy between their own views on an issue and the chronic pain patients' views. If this is a valid interpretation of the present findings, then addressing the issues of depression and communication in chronic pain programs, with the participation of the invested partner, would be expected to resolve the dyadic consensus
discrepancy.

Sexual variables per se were not found to differ significantly between groups when the effects of depression and dyadic consensus were controlled. However, normative comparisons with patients and partners demonstrated significant below norm functioning on several sexual variables. Of particular note is the 1.0 to 2.5 standard deviations below norm functioning in both partners in the areas of sexual attitudes, body image, and overall sexual functioning, with clinically significant differences compared to the norm on body image and the sexual functioning index. That is, both partners endorsed negative sexual attitudes, dissatisfaction with their body image, and evidenced low overall sexual functioning. In addition, no discrepancies were found between partners on ratings of their own sexual satisfaction (see DSFI Satisfaction subscale scores), or on their personal evaluation of satisfaction with the sexual relationship (see DSFI GSSI scores). Both partners reported norm levels for both their own self satisfaction and their satisfaction with their sexual relationship. The individual and global satisfaction ratings by chronic pain patients in this study are consistent with previous findings (Beaulieu & Thorn, 1986).

Although the chronic pain patients and their partners subjectively rated their sexual satisfaction as average,
this does not rule out the possibility of sexual dysfunctioning. The Sexual Functioning Index (SFI) scores for both the chronic pain patients and the partners are significantly below norm functioning (see Table 6, p. 55). The invested partners are two standard deviations below the norm ($p < .02$) and the chronic pain patients are two and one-half standard deviations below the norm ($p < .01$). The SFI is based on the summation of the 10 domain T-scores of the DSFI, not on a subject's subjective rating and is thus seen as a more objective overall measure of the quality of sexual functioning than is a global rating of sexual satisfaction. These results suggest that chronic pain couples may be dysfunctional but are not distressed by their level of sexual functioning.

Variables such as sexual attitudes are not considered transient and may reflect persistent beliefs concerning sexual functioning. Overly rigid and conservative attitudes could account for difficulties in sexual adjustment particularly when changes in sexual practices are required. Also, the specific role of depression in potentially decreasing sexual functioning merits further investigation. Thus, the present results illustrate the complexity of sexual functioning in couples with a chronic pain sufferer. The area of sexual adjustment is not as straightforward as the Maruta studies may have suggested given the below norm functioning in both chronic pain
patients and invested partners.

**Implications**

The first issue to consider when addressing the implications of the present results is the characteristics of the present sample. Table 1 (see p. 43) illustrates the refusal rate for the study. Of 28 couples who qualified to participate, only 14 (50%) agreed. Fifty percent is a fairly high refusal rate and will restrict the generalizability of the present findings. The most frequent verbalized response for not participating is a reluctance on either the part of the patient or the spouse in responding to questions of sexual functioning. Therefore, the present findings may only be valid for patients and spouses who are not hesitant in discussing sexual issues, who feel sexual functioning is an appropriate area for rehabilitation with chronic pain disorders, or who feel comfortable enough with their own adjustment to discuss the issues.

A second issue to consider is the role of depression. Only five chronic pain patients had BDI scores in the normal range (scores ranged from 0 to 8) while 16 chronic pain patients had BDI scores in the moderately to severely depressed range (scores ranged from 12 to 47). A comparison between the five most depressed and the five least depressed chronic pain patients found a significant
difference in overall marital satisfaction. Given that higher levels of marital discord have been found in depressed patients with persistent pain (Mohamed et al., 1978) and given the influential role of depression in decreasing sexual functioning (Kaplan, 1974; Renshaw, 1974), the present findings may be more relevant to chronic pain couples with moderate to severe levels of depression in the patient.

A third issue to consider is the etiological or contributive role of the depression and dyadic consensus variables in marital and sexual functioning. Although significant differences have been found between the partners on the variables assessing depression and dyadic consensus, the differences may be reactions to rather than precipitant causes of sexual dysfunctioning, or the differences may be associated with the presence of a third factor such as chronic pain (Derogatis & Meyer, 1979a).

A fourth and final issue to consider is the relevance of the significant differences between the couples and normative data in designing sexual dysfunctioning interventions in chronic pain management programs. These results, at the very least, also suggest that couples with a chronic pain sufferer may benefit from sexual awareness and sexual enhancement activities. However, the presence of negative sexual attitudes in both partners suggests traditional, conservative, and inflexible attitudes
regarding sexual functioning. Attitudinal rigidity may interfere with sexual adjustment, particularly when a chronic pain disability necessitates the adoption of novel sexual behaviors (e.g., new sexual positions). Treatment programs suggesting alterations in traditional sexual practices may be met with resistance on the part of both partners. Prior assessment of sexual attitudes will prevent direct confrontation of individual value systems during therapy and may reveal an individual's dominant emotional themes (Derogatis, 1976, 1980). Practitioners treating sexual dysfunctions in chronic pain patients should therefore assess negative sexual attitudes and the likelihood of treatment interference.

Conclusion

The purpose of the present study was to investigate the nature and level of marital and sexual functioning in couples with a chronic pain sufferer. Based on perceived flaws in past unitary measurement approaches to marital and sexual functioning, the present study utilized a multi-measurement approach to assessment. The present study found significant differences between the chronic pain patients and the invested partners. Chronic pain patients were significantly more depressed, and the partners reported lower levels of dyadic consensus. The importance of depression as an influential role in marital
and sexual functioning of chronic pain patients is further supported by these data. Although differences in sexual satisfaction were not found between the partners, both partners were found to be sexually dysfunctional based on normative comparisons.

The findings in the present study further support the importance of marital and sexual functioning as a target area for rehabilitation. Addressing these issues in a multidisciplinary approach would likely lead to increased availability of reward systems and consequently, increased carry over of treatment, particularly into the home environment.


Derogatis, L. R., Meyer, J. K., & Dupkin, C. N. (1976). Discrimination of organic versus psychogenic impotence with the DSFI. Journal of Sex & Marital Therapy, 2, 229-239.


APPENDIX A

DEROGATIS SEXUAL FUNCTIONING INVENTORY

The DSFI cannot be included in this document due to copyright restrictions. However, the inventory can be purchased from:

Clinical Psychometrics Research
P.O. Box 425
Riderwood, MD. 21139

(301) 321-6165
APPENDIX B

DYADIC ADJUSTMENT SCALE
**DYADIC ADJUSTMENT SCALE**

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

<table>
<thead>
<tr>
<th></th>
<th>Always Agree</th>
<th>Almost Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Almost Always Disagree</th>
<th>Almost Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Handling family finances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Matters of recreation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Religious matters</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Demonstrations of affection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Sex relations</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Conventionality (correct or proper behavior)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Philosophy of life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Ways of dealing with parents or in-laws</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Aims, goals, and things believed important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Amount of time spent together</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Making major decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Household tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Leisure time interests and activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Career decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. How often do you discuss or have you considered divorce, separation, or terminating your relationship?  

17. How often do you or your mate leave the house after a fight?  

18. In general, how often do you think that things between you and your partner are going well?  

19. Do you confide in your mate?  

20. Do you ever regret that you married? (or lived together)  

21. How often do you and your partner quarrel?  

22. How often do you and your mate "get on each other's nerves?"  

23. Do you kiss your mate?  

24. Do you and your mate engage in outside interests together?  

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you discuss or have you considered divorce, separation, or terminating your relationship?</td>
<td>How often do you or your mate leave the house after a fight?</td>
<td>In general, how often do you think that things between you and your partner are going well?</td>
<td>Do you confide in your mate?</td>
<td>Do you ever regret that you married? (or lived together)</td>
<td>How often do you and your partner quarrel?</td>
<td>How often do you and your mate &quot;get on each other's nerves?&quot;</td>
<td>Do you kiss your mate?</td>
<td>Do you and your mate engage in outside interests together?</td>
</tr>
<tr>
<td>All of the time</td>
<td>Most of the time</td>
<td>More often than not</td>
<td>Occasionally</td>
<td>Rarely</td>
<td>Never</td>
<td>All of the time</td>
<td>Most of the time</td>
<td>Some of the time</td>
</tr>
</tbody>
</table>
How often would you say the following events occur between you and your mate?

<table>
<thead>
<tr>
<th>Event</th>
<th>Never</th>
<th>Less than once a month</th>
<th>Once or twice a month</th>
<th>Once or twice a week</th>
<th>Once a day</th>
<th>More often</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Having a stimulating exchange of ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Laugh together</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Calmly discuss something</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Work together on a project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Being too tired for sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Not showing love</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Dot</th>
<th>Extremely Unhappy</th>
<th>Fairly Unhappy</th>
<th>A Little Unhappy</th>
<th>Happy</th>
<th>Very Happy</th>
<th>Extremely Happy</th>
<th>Perfect</th>
</tr>
</thead>
</table>

32. Which of the following statements best describes how you feel about the future of your relationship?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want desperately for my relationship to succeed, and would go to almost any length to see that it does.</td>
<td></td>
</tr>
<tr>
<td>I want very much for my relationship to succeed, and will do all I can to see that it does.</td>
<td></td>
</tr>
<tr>
<td>I want very much for my relationship to succeed, and will do my fair share to see that it does.</td>
<td></td>
</tr>
<tr>
<td>It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.</td>
<td></td>
</tr>
<tr>
<td>It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.</td>
<td></td>
</tr>
<tr>
<td>My relationship can never succeed, and there is no more that I can do to keep the relationship going.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

BECK DEPRESSION INVENTORY
PLEASE NOTE:

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

These consist of pages:

P. 95-97
APPENDIX D
DEMOGRAPHIC SHEET
DEMOGRAPHIC INFORMATION

Sex: ------Male ------Female

Age: ------

Education Level: ---some high school (K-12 years)
---high school graduate (13 years)
---some college, vocational, or technical training (13-16 years)
---college graduate (17 years)
---some graduate or professional schooling (18-24 years)
---graduate or professional degree (> 24 years)

Ethnic Background: ---Caucasian
---Black
---Oriental
---Hispanic
---Other

Yearly Income Level: ---$0-10,000
---$10,000-20,000
---$20,000-30,000
---$30,000-40,000
---$40,000-50,000
---more than $50,000

Length of Marriage/Relationship: ------years

Type of Pain: ___________________________ Date of Onset: _________

Medication (Name & Dosage): ___________________________
APPENDIX E

INSTRUCTIONS TO SUBJECTS
Instructions to Subjects

The study in which you are about to participate attempts to investigate the marital and sexual functioning in the chronic pain patient and their spouse or partner. You will be administered several self-report, paper and pencil questionnaires. Each questionnaire is designed to measure different aspects of your marriage, or heterosexual relationship and your sexual functioning within this relationship. The purpose of this investigation is to assess the area of sexual and dyadic functioning comprehensively and therefore develop more effective and thorough rehabilitation programs for those seeking it.

The inventories included and their descriptions are as follows:

1) Derogatis Sexual Functioning Inventory (DSFI)—designed to measure the quality of your individual sexual functioning.
2) Dyadic Adjustment Scale (DAS)—designed to assess the degree of satisfaction with your relationship.
3) Beck Depression Inventory (BDI)—designed to assess your moods.

You will also be asked to fill out some demographic information (sex, age, education level, ethnic background, preferred religion, income level, years married or years in your present relationship, type of pain, date of onset of pain, and medication).

Your participation in this study is completely voluntary. The questions are quite direct and one questionnaire contains descriptive language relating to sexual functioning. If you want to leave a question blank, you may do so, although we would appreciate all of your answers. If at any time during the completion of the inventories you feel as though you cannot continue, you are free to leave without penalty. Please remember that the questions pertain to you and your partner. Responses should be as accurate as you can possibly approximate.

Additionally, your name will not appear on any research record. Your responses will be kept anonymous.

Having read the description of the study, if you have any questions pertaining to the design, purpose, or instructions please feel free to address them with the experimenter. (Pause)

At this time, you will need to sign the bottom of this written summary as well as a consent form. Please read the consent form carefully before signing. Thank you.

Signature of Participant______________________________Date__________
APPENDIX F

OSU RESEARCH FOUNDATION CONSENT FORM
CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to participating in (or my child's participation in) research entitled:

The Assessment of Dyadic and Sexual Functioning in Chronic Pain Patients

and the Invested Partners

Dr. Beverly E. Thorn or his/her authorized representative has

explained the purpose of the study, the procedures to be followed, and the expected duration of my (or my child's) participation. Possible benefits of the study have been described as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that I am (or my child is) free to withdraw consent at any time and to discontinue participation in the study without prejudice to me (or my child). The information obtained from me (or my child) will remain confidential unless I specifically agree otherwise by placing my initials here _______________.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: __________________ Signed: __________________ (Participant)

Signed: __________________

(Principal Investigator or his/her Authorized Representative)

Signed: __________________

(Person Authorized to Consent for Participant - If Required)

Witness: __________________

HS-027 (Rev. 12/81) -- To be used only in connection with social and behavioral research.