The Relationship between Child Sexual Abuse and Hypoactive Sexual Desire Disorder in Adult Women: An Investigation of Contributory Factors and Treatment Outcomes

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THE RELATIONSHIP BETWEEN CHILD SEXUAL ABUSE AND HYPOACTIVE SEXUAL DESIRE DISORDER IN ADULT WOMEN: AN INVESTIGATION OF CONTRIBUTORY FACTORS AND TREATMENT OUTCOMES

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF PSYCHOLOGY

BY

DAVID B. SARWER

CHICAGO, ILLINOIS
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CHAPTER 1

STATEMENT OF THE PROBLEM

Hypoactive Sexual Desire Disorder (HSD) is commonly considered the most prevalent sexual dysfunction, with some estimates suggesting that one in five adults in the United States has lost interest in sexual activity. Previous research suggests that between 31% and 49% of women suffer from a decrease in sexual interest some time during adult life (LoPiccolo, 1980; Schover & LoPiccolo, 1982; Segraves & Segraves, 1990; Segraves & Segraves, 1991). In addition, the disorder encompasses 30% (Pietropinto, 1986) to greater than 50% (Schover & LoPiccolo, 1982) of referrals to sexual dysfunction therapy clinics.

The exact numbers of individuals who experience hypoactive sexual desire are not known. Part of the ambiguity of the exact prevalence of HSD can be accounted for by the methods used to assess the disorder. Ambiguity in the diagnostic criteria of HSD also contributes to nonspecific prevalence rates. For example, the diagnostic criteria for HSD has changed with the publications of DSM III (APA, 1980), DSM III-R (APA, 1987), and DSM IV (APA, 1994). The present definition remains imprecise and primarily is based upon clinical judgement of sexual interest compared to an unspecified norm of sexual behavior.
Nevertheless, the present DSM IV diagnostic criteria of HSD remains the accepted method for classification.

Attempts to understand both the nature and loss of desire have come from physiological, psychodynamic, behavioral, and family systems models. Regardless, a majority of the empirical research has been more atheoretical, focusing on personality traits and factors associated with HSD. One historical factor frequently found in women with HSD is being the victim of child sexual abuse. Some data indicate that greater than 50% of female survivors of child sexual abuse experience sexual desire difficulties in adulthood (Becker, Skinner, & Abel, 1983; Becker, Skinner, Abel, & Treacy, 1982). This is compared to an estimated prevalence rate between 1% and 35% for HSD in women in the general population (Nathan, 1986). Research has identified relationships between several variables of the sexually abusive situation and adult traumatization. However, previous work has not examined the relationship between such variables and sexual dysfunction including HSD.

Although a great deal has been written about the relationship between sexual desire and child sexual abuse, Rosen and Leiblum (1988) have noted the need to more clearly identify the variables that relate child sexual abuse to adult sexual dysfunction. In addition, little is known about the relationship between child sexual abuse, HSD, and subsequent therapeutic treatment outcome. As such, the
present study will explore the relationship between child sexual abuse and HSD in women who have sought out therapy at a sexual dysfunction clinic. The proposed study has three primary objectives. First, the study will attempt to identify variables that discriminate women with and without sexual dysfunction, specifically HSD. Second, the study will serve as an initial investigation of the relationship between the variables of the sexual abuse and sexual dysfunction. Third, the study will investigate variables related to successful, short-term sexual dysfunction treatment outcome.
CHAPTER 2
REVIEW OF THE LITERATURE

The following literature review is divided into several major sections. First, the nature of sexual desire will be discussed. Second, the evolution of the clinical description of the loss of sexual desire and the development of current diagnostic categories will be described. Third, the prevalence of HSD will be discussed. Finally, psychodynamic and behavioral perspectives of HSD will be compared with regard to therapeutic conceptualization, etiology, treatment approach, and treatment outcome.

The Nature of Sexual Desire

One of Masters and Johnson's (1966) greatest contributions to the understanding of human sexuality was their description of the four phases of the human sexual response cycle. The phases of excitement, plateau, orgasm, and resolution outlined the physiological changes of the human body to sexual stimulation. Although the human sexual response cycle described the physiological changes that accompany sexual arousal, and provided a framework from which to categorize sexual dysfunctions, the cycle failed to address more cognitive and affective aspects of sexual response, such as sexual desire. For example, in both The
Human Sexual Response (1966) and Human Sexual Inadequacy (1970), Masters and Johnson saw a lack of sexual desire not as a separate dysfunction, but as a response to another dysfunction, such as premature ejaculation or anorgasmia.

In 1979, Kaplan modified Masters and Johnson's sexual response cycle by converting it to a triphasic model of sexual response, consisting of desire, excitement, and orgasm phases. In contrast to Masters and Johnson's physiologically-dominated descriptions of the excitement and orgasm phases, Kaplan (1979) defined sexual desire as an appetite or drive which is produced by the activities of a specific neural system in the brain, and consisting of specific sensations which move the individual to seek out or become receptive to sexual experience. Several other writers have emphasized the importance of sexual desire in sexual responsiveness (e.g. Leiblum & Rosen, 1988; Zilbergeld & Rinkleib-Ellison, 1980). For example, Leiblum and Rosen (1988) separate the affective elements of sexual desire from the physiological response characteristic of sexual arousal. They defined sexual desire as a subjective feeling state that may be triggered by both internal and external cues and may or may not result in overt sexual behavior. In contrast to sexual desire, Leiblum and Rosen (1988) defined sexual arousal as being characterized by physiological responses such as penile tumescence and vaginal lubrication.
In an attempt to answer the question, "What is sexual desire?" Levine (1988) defined sexual desire as the psychological energy that precedes and accompanies sexual arousal and tends to produce sexual behavior. As such, sexual desire consists of a sexual drive (which is the product of a neuroendocrine generator of sexual impulses), a sexual wish (the desire component), and a sexual motivation. Borrowing from psychodynamic theory, sexual motivation accounts for the willingness of both the individual and his or her partner to behave sexually, with the presence of desire implying that the individual is able to transfer positive internalized images of past important attachment figures to the current partner (Levine, 1988). Schover (1986) separates Levine’s (1988) idea of sexual desire as both a motivation and a drive, by suggesting that sexual desire is more analogous to a motivation or interest in sexual behavior than it is similar to a biological drive.

Although these theories of sexual desire place the emphasis of desire in mental processes, many theorists and researchers also consider the role of brain structures and hormones in sexual desire. For example, both Kaplan (1979) and MacLean (1976) have suggested that the limbic system plays an important role in all appetitive functions, including sexual desire. Others have implicated the role of various hormones, such as testosterone, in sexual desire (Kaplan, 1974; 1979). Nevertheless, review of the empirical
literature suggests that the relationship between sexual desire and either specific brain structures or gonadal hormones remains unclear and awaits further empirical investigation (e.g. Bancroft, 1980; Bancroft, 1988; Schreiner-Engel & Schiavi, 1986; Schreiner-Engel, Schiavi, White, & Ghizzani, 1989; Stanislaw & Rice, 1988). As such, it may be most useful at the present time to follow the lead of Moser (1992) and Radin (1989), who contend that desire consists of both a hormonal influence as well as a strong affective or cognitive component.

In summary, although not included in the initial conceptualization of the sexual response cycle by Masters and Johnson, sexual desire currently is considered a central part of sexual response. Whether sexual desire is considered a subjective feeling state, a motivation, a drive, or the product of structural or hormonal interactions, sexual desire is an important component of the sexual response cycle.

The Definition of Hypoactive Sexual Desire Disorder

In the same manner that conceptualizations of the nature of desire have changed, so have definitions of the loss of sexual desire. The same year that Kaplan commented on the absence of desire in Masters and Johnson’s (1966) sexual response cycle, Lief (1977) used the phrase "inhibited sexual desire" to describe individuals having a significant problem in feeling enough desire to either
initiate or respond to sexual cues. Lief (1977) noted that inhibition of sexual response can occur throughout the sexual response cycle, not only during the desire phase, but also during excitement, plateau, and orgasm. However, it was not until the release of DSM III (APA, 1980) that a lack of desire was recognized as a separate diagnostic category called Inhibited Sexual Desire. Although the importance of loss of desire as a clinical phenomena was formally noted, the definition of Inhibited Sexual Desire suggested a rather vague, non-specific condition which relied heavily on clinical judgment for application.

With the release of DSM III-R in 1987 (APA, 1987), sexual desire disorders were divided into two categories. Hypoactive Sexual Desire Disorder (HSD) replaced Inhibited Sexual Desire and was somewhat more specifically defined as, "Persistently or recurrently deficient or absent sexual fantasies and desire for sexual activity. The judgment of deficiency or absence is made by the clinician, taking into account factors that affect sexual functioning, such as age, sex, and the context of the person's life" (p. 293). In addition, a more severe form of loss of sexual desire was added to DSM III-R, in the form of Sexual Aversion Disorder, defined as, "Persistent or recurrent extreme aversion to, and avoidance of, all or almost all genital sexual contact with a sexual partner" (p. 293). Whereas HSD describes neutral or non-existent feelings toward sexual relations,
Sexual Aversion Disorder seems to describe more negative reactions of disgust or anxiety to sexual contact.

With the publication of DSM IV (APA, 1994), the definitions of HSD and Sexual Aversion Disorder changed only slightly. The DSM IV criteria for HSD continues to emphasize the importance of "persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity" (p. 498). New to the DSM IV criteria is that, "the disturbance causes marked distress or interpersonal difficulty" (p. 498). Also, the diagnostic criteria is applicable only if the dysfunction is not better accounted for by another Axis I disorder and is not due exclusively to the direct physiological effects of a substance or a general medical condition. Finally, the DSM IV definition of HSD has increased the applicability of the disorder specifiers in making a diagnosis. Although these specifiers were used in DSM III-R, clinicians now are asked to more specifically delineate the disorder on three dimensions: onset (lifelong or acquired), context (generalized or situational), and etiological factors (due to psychological factors or due to combined factors such as a medical condition).

Difficulties in defining HSD

Several writers have noted the limitations of the DSM III-R diagnostic criteria for HSD. These include the existence of a rather non-specific diagnostic criterion, a lack of an objective measure of the loss of desire either
through sexual behavior or cognition, and an emphasis on clinical judgement of sexual interest in the absence of an appropriate norm of sexual behavior. In response, several writers have offered alternative categorization strategies. These limitations and alternatives are now discussed.

Both Kaplan (1977; 1979) and Radin (1989) have commented on the vague and imprecise nature of the diagnostic criteria. Prior to the inclusion of Inhibited Sexual Desire in DSM III (APA, 1980), Kaplan (1977) stated that it was not possible to formulate a precise definition of a sexual desire disorder. In an attempt to specify and further understand the nature of desire disorders, Kaplan (1979) formulated four subtypes of sexual desire disorders. The primary or secondary subtypes are based on time of onset of the disorder and they are analogous to the lifelong or acquired disorder specifiers currently found in DSM IV (APA, 1994). The global or situational subtypes are based on contextual differences of the disorder and are analogous to the generalized or situational context specifiers currently new to DSM IV (APA, 1994).

Radin (1989) further divided sexual desire disorders on the basis of origin. Not only did he use the categories of primary, secondary, situational, or global, but he also divided the disorders as being of an interpersonal origin (developed out of the current intimate relationship) or of an intrapsychic origin (developed out of early life
traumas). Unlike Kaplan’s distinctions, this classification has not been incorporated into DSM IV (APA, 1994).

Others have attempted to specify the nature of the disorder by objectively measuring the loss of desire. For example, Schreiner-Engel and Schiavi (1986) operationally defined the loss of desire on the basis of the frequency of all sexual activity (including both intercourse and masturbation) and by subjective interest of participating in each activity. Segraves and Segraves (1991) further delineated the disorder as: (1) subjective sexual desire less than or equal to once every two weeks, (2) frequency of self-initiated sexual activity less than or equal to once every two weeks, and (3) absence or marked decrease in the frequency of sexual fantasy.

Defining sexual desire disorders on the basis of the frequency of sexual activity has been heavily criticized. For example, Schwartz and Masters (1988) have suggested that it is not appropriate to define the disorder only by a low rate of sexual initiating behaviors, but that persistently negative receptivity to sexual advances by a partner also must be considered. Furthermore, Arnett, Prosen, and Toews (1986) as well as Trudel (1991) have noted that sexual desire can not be assessed by the frequency of sexual activity as individuals may engage in intercourse for other reasons, such as a sense of obligation to the partner, than as the product of a heightened level of desire.
Others have criticized the emphasis on clinical judgement in the diagnostic formulation. For example, Kaplan (1979) has noted how the diagnosis is made on the basis of clinical expertise in comparing patients' experience with a sense of normal desire. As such, the diagnosis is based more on clinical deduction than empirical measurement. Although the DSM IV (1994) criteria maintains the role of clinical judgment in diagnosis, the addition of the third diagnostic criteria, that the disturbance causes marked distress or interpersonal difficulty, allows for input from the patient(s) to determine if the current level of sexual desire is problematic.

However, the clinician still must make a judgment of the deficiency of desire compared to an unspecific norm of sexual expression. Some would argue that the norm may be the frequency of sexual behavior as compared to accepted norms, however, as noted above, others have criticized the use of the frequency of behavior to assist in diagnosis (e.g. Schwartz & Masters, 1988). DSM IV (1994) suggests that clinicians take into account variables such as age and life context in diagnosis. However, there currently are few specific norms for the clinician to use for comparison. Although it makes intuitive sense that the norm varies by age, gender, or race, or even less concrete variables such as socialization factors, there is little data to support this belief. In addition, it is not clear how HSD applies
to "normal asexuality" like celibacy, when an individual experiences no desire and is not troubled by it. These issues need to be addressed in order to reduce the reliance on clinical judgment for diagnosis.

Further heightening the confusion of the nature of HSD is the consideration of dual or differential diagnosis, such as non-sexual pathology (e.g. depression) which may serve to decrease sexual desire (Trudel, 1991). Although the loss of desire may be an easily identifiable psychological symptom, it may be the result of a larger psychological problem, such as marital discord or depression. Perhaps in light of these issues, several writers have commented on the difficulty of diagnosing HSD. For example, Rosen and Leiblum (1988) suggest that HSD is really a heterogeneous class of disorders without a norm of sexual desire for appropriate comparison. Trudel (1991) further speculates that as more scientific approaches to studying desire are developed, there will not be a widely accepted definition of a sexual desire disorder, due to the range of desire experienced by individuals.

In summary, although the loss of sexual desire is currently acknowledged as a psychiatric disorder, it is apparent that current definitions of the sexual desire disorders are imprecise. The present definitions rely heavily on clinical judgment in comparing patients' sexual receptivity to some unspecified norm of sexual behavior.
Although other attempts have been made to improve the DSM III-R definitions, these definitions often are criticized for failing to measure non-behavioral sexual receptivity, such as the occurrence or prevalence of sexual fantasy. Given the infancy of the development of the understanding of both the nature and loss of sexual desire, and considering both the flaws and lack of acceptance of the operationalized definitions, the DSM criteria of the desire disorders must be considered as the accepted standards of the disorder at present. As such, the DSM diagnostic criteria will be used in the present study.

Prevalence of Hypoactive Sexual Desire Disorder

HSD is considered the most prevalent sexual dysfunction, effecting as many as 38 million Americans, or one in every five adults (Rosellini, 1992). The disorder comprises 30% (Pietropinto, 1986) to greater than 50% (Schover & LoPiccolo, 1982) of the referrals to sex clinics. It is believed that these numbers are increasing (LoPiccolo & Freidman, 1988), due to the recognition of HSD as a distinct dysfunction as well as a greater cultural acceptance of sexual activity and sex therapy.

In what is considered the initial prevalence study of sexual desire disorders, Lief (1977) found that in a sample of 115 patients at the Marriage Counsel of Philadelphia, 19% of men and 37% of the women received a diagnosis of Inhibited Sexual Desire. Subsequent studies using small,
clinical populations have found the prevalence of hypoactive desire to fall between 1% to 38% of men and between 31-49% of women (LoPiccolo, 1980; Schover & LoPiccolo, 1982; Segraves & Segraves, 1990; Segraves & Segraves, 1991). In her review of the prevalence literature from both clinical and non-clinical populations, Nathan (1986) estimates the prevalence of the disorder between 1% and 15% for men and between 1% and 35% for women. The wide discrepancy in the prevalence rates is accounted for by the manner in which the level of desire is measured. For example, the lowest percentages seem to result from surveys in which the disorder is defined as never experiencing sexual desire over the life span. In contrast, the higher prevalence rates result from surveys in which individuals indicate a change in their own or their partner's sexual interest, which is the more widely used assessment of desire (Nathan, 1986).

Exact prevalence rates for the disorder are not known, in large part because of the lack of clear objective definitions of the condition. There are other reasons why only estimates of the numbers of individuals who suffer from this disorder exist. Nathan (1986) noted that it is difficult to obtain the exact numbers of individuals suffering from HSD as the disorder does not fall into categories for which health statistics are commonly collected, such as number of reported cases or hospitalizations related to the disorder. As such, survey
research has yielded a majority of the prevalence data. Much of this survey research has been limited by methodological problems, a majority of which are related to the nature of the sample studied. Samples have been small and taken primarily from clinical populations. They also have been rather non-generalizable, based primarily on younger, better educated, higher income, Caucasian, and married individuals (Heiman, Gladue, Roberts, & LoPiccolo, 1986; Nathan, 1986).

In summary, regardless of the exact number of persons with HSD, and the limitations of the prevalence research, it is clear that the disorder is highly prevalent in both clinical and non-clinical populations and impair a substantial number of individuals. Although HSD is found in both genders, there is a higher prevalence of the disorder in women (e.g. Nathan, 1986). In addition, a majority of the previous research on HSD has been conducted on women. Following on this research, the present paper will focus primarily upon HSD in adult women.

Theories of Hypoactive Sexual Desire

Several psychological theories, including psychodynamic, behavioral, and family systems approaches, have been used to explain the loss of sexual desire. The present paper will focus on the two most common theories: the psychodynamic and behavioral approaches. Although these two theories share several characteristics, they differ in
several important ways. The psychodynamic theories emphasize the role of historical factors, such as childhood trauma, in the course of the loss of desire. Although the theory and etiology of the loss of desire is well conceptualized by this perspective, the psychodynamic theories offer little in terms of specific treatment approaches and treatment outcome data. The behavioral explanation for the loss of desire focuses on current issues in the ongoing relationship. In contrast, the behavioral perspective offers more in terms of specific treatment approaches and treatment outcome data.

Before considering these two theories, it is necessary to mention that some cases of HSD can be traced to physiological causes. Although only a small percentage of desire disorders are linked to physiological causes (Kaplan, 1979), it is important for the mental health professional to remember that a variety of medical conditions, as well as normal physiological changes over the life span, can contribute to decreased sexual desire (Kaplan, 1974). As such, a thorough physical examination often is a prerequisite to sexual dysfunction therapy.

The following section of the paper will detail the psychodynamic and behavioral approaches to HSD. The theoretical conceptualization, etiological factors, treatment approaches, and treatment outcome literature will be reviewed for both approaches. Subsequently, the two
perspectives will be compared, with the strengths and limitations of each noted.

The Psychodynamic Approach to the Loss of Sexual Desire
Theoretical Conceptualization

There are several psychodynamic and object relations based theories of sexual dysfunction (e.g. Kaplan, 1979; Radin, 1989). The most fully developed approach comes from Kaplan (1979). In Disorders of Sexual Desire, Kaplan (1979) outlined a general theory of dysfunction based on psychodynamic principles. Consistent with Masters and Johnson (1970), Kaplan (1979) views sexual dysfunction as being caused by anxiety. The anxiety is the product of unresolved Oedipal and pre-Oedipal conflicts and traumas which may be imagined or real, such as in the case of child sexual abuse (Kaplan, 1979). Such anxiety predisposes the individual to unconsciously view sex as a competitive act for which he or she could be punished. The initial punisher is the parent or caretaker, whom may have given the child either implicit or explicit negative messages about sexuality. Consistent with the theory of transference, in adulthood, the punisher becomes the present partner. As such, Kaplan (1974) traces the root of all dysfunction to unconscious conflicts of childhood.

While the nature of the sexual conflict is variable, the quality of the conflict is not evenly distributed across the triphasic model of sexual response (Kaplan, 1979). In
addition, it is the interaction of the sexually related anxiety with specific defenses that produces the specific sexual syndrome (Kaplan, 1979). Consistent with this thinking, Kaplan (1979) has formulated an Intrapsychic Conflict Model consisting of three levels of conflict which correspond to the triphasic model, with the level of etiology being determined by non-specific, multiple causes (Kaplan, 1979). The Mild Level Conflicts are conscious conflicts in the current relationship or mild childhood conflicts which are seen as the root of the orgasm disorders. The Mid-level Conflicts are not conscious to the client and may revolve around numerous fears and are the origination point of the arousal disorders.

The Severe Level Conflicts consist of profound and tenacious sexual anxieties and which are associated with more serious problems within the current relationship. The roots of these problems often are traced to Oedipal and pre-Oedipal injuries (including incest or child sex abuse) and result in hostile and neurotic associations in the present intimate relationship. It is at this level where a majority of the desire disorders are found, and they are the least amenable to traditional sex therapy (Kaplan, 1979).

Kaplan (1979) claims that the vast majority of desire disorders can be traced to conflicts at this level. From her perspective, the loss of desire serves as a defense against the damaging "psychic introjects" from early
parental interactions or from re-experiencing the abusive situation (Kaplan, 1979). In more concrete terms, the child learned to inhibit his or her sexuality and feel guilty about sexual pleasure, due to non-encouraging and destructive responses to sexuality by the family (Kaplan, 1979). In the present relationship, the individual experiences the resulting anxiety very early in the sexual response cycle. The individual defends against the anxiety by suppressing the desire, by focusing on the negative elements of the present situation, resulting in the involuntary, unconscious, yet active suppression of sexual desire (Kaplan, 1979). Again in more behavioral terms, the individual learns to "turn off libido" (Kaplan, 1979).

**Etiological Factors**

Much of the previous research on HSD has involved a comparison of personality characteristics and variables found in women with and without HSD. Although most previous investigations of HSD have been atheoretical, examinations of historical or intrapsychic factors are consistent with the psychodynamic theories of the loss of desire. In comparing sexually dysfunctional women to non-dysfunctional women on a variety of personality characteristics, Heiman, Gladue, Roberts, and LoPiccolo (1986) found that historical factors produced greater discrimination between the groups than current relationship factors. For example, dysfunctional women reported less arousal and pleasure in
their first coital experience than did non-dysfunctional women. In addition, dysfunctional women perceived their mothers to have been less affectionate, more likely to lose emotional control, and to have more negative qualities in general than did non-dysfunctional women. Similarly, Stuart, Hammond, and Pett (1987), in comparing women with and without HSD, found that women with HSD perceived their parents' attitudes toward sex and their parents' affectionate interaction with one another to be significantly less positive.

Child sexual abuse. One historical variable which appears to be strongly related to HSD is being the victim of child sexual abuse. Prior to the first empirical investigation of this variable, both Kaplan (1979) and Lief (1977) implicated its role in the loss of desire. Since then, numerous researchers have found a relationship between child sexual abuse and adult sexual problems, including the loss of sexual desire (e.g. Bagley & Ramsay, 1985; Becker, Skinner, Abel, & Treacy, 1982; Briere & Runtz, 1988; Finkelhor, 1979). For example, Courtois (1979) found that 80% of the victims of child sexual abuse surveyed reported some type of sexual problem in adulthood. Similarly, Becker, Skinner, and Abel (1983) found that more than 50% of female survivors of sexual assault experience subsequent sexual desire difficulties. Given the estimated prevalence of HSD at between 1% and 35% of the general population of
women (Nathan, 1986), it appears that female child sexual abuse victims may be more prone to the loss of desire. This idea will be directly investigated in the present study.

It appears that elements of the abusive situation can influence the degree of adult traumatization and disturbance. For example, the relationship between the victim and perpetrator can influence the severity of adult disturbance, with abuse by the father, step-father, or father figure resulting in greater psychological trauma (Browne & Finkelhor, 1984; Feinauer, 1989; Russell, 1986). The degree of sexual contact also appears to influence the amount of psychological trauma, with sexual penetration as compared to non-penetrative abuse resulting in greater trauma (Bagley & Ramsay, 1985; Browne & Finkelhor, 1986; Russell, 1986). These former victims report more marital disruption and decreased satisfaction in their heterosexual relationships (Finkelhor, Hotaling, Lewis, & Smith, 1989). Finally, the use of physical force during the abuse also increases the degree of adult traumatization (Finkelhor, 1979; Fromuth, 1986).

The relationship between other elements of the abuse and later life trauma is less clear. For example, it is not clear if pre- or post-pubescent abuse is more traumatic, with some researchers finding more severe trauma for pre-pubescent victims (e.g. Courtois, 1979), post-pubescent victims (e.g. Murphy, et al., 1988), and other researchers
identifying no relationship to age of abuse (e.g. Finkelhor, 1979; Bagley & Ramsay, 1985). The relationship between the duration and/or frequency of the abuse and later life trauma also is unclear. In their review of the literature, Browne and Finkelhor (1986) found only four of nine studies which identified a relationship between longer duration and greater traumatization (e.g. Bagley & Ramsay, 1985; Tsai, Feldman-Summers, & Edgar, 1979).

**Male child sexual abuse.** Although the present study is focused on the relationship between child sexual abuse and female dysfunction, a brief discussion of male child sexual abuse is warranted. In their extensive review of the literature on child sexual abuse, Peters, Wyatt, and Finkelhor (1986) found that while the prevalence rate for female child sexual abuse is between 6% to 62% of the adult population, the prevalence rate for male abuse is between 3% and 31%, with a vast majority of studies placing the prevalence rate between 3% and 9% of adult males (e.g. Finkelhor, 1979).

The large discrepancy between reported rates of child sexual abuse may, in part, be explained by the different sampling techniques used to collect information on sexual abuse (Kendall-Tackett, Williams, & Finkelhor, 1993; Violato & Genius, 1993) as well as by the different definitions of abuse which may be used (Hunter, 1990; Schechter & Roberge, 1976; Vander Mey, 1988; Watkins & Bentovim, 1992). In
addition, it is believed that male child sexual abuse is a grossly underreported occurrence (Fischer, 1991; Hunter, 1990; Nasjleti, 1980; Vander Mey, 1988; Watkins & Bentovim, 1992). In their review of the research on male child sexual abuse, Watkins and Bentovim (1992) outlined the reasons why male abuse is underreported. Male victims may not conceptualize or acknowledge a childhood sexual experience as abusive (Hunter, 1990). Given that a vast majority of male child sexual abuse is perpetrated by males, boys may not report such victimization out of a fear either that the experience makes them homosexual (Hunter, 1990) or they will be stigmatized by others as homosexual, a sexual orientation which boys often are socialized to denigrate (Watkins & Bentovim, 1992). Watkins and Bentovim (1992) also suggest that the abuse may be underreported as boys' reactions to the abuse may involve more externalizing behaviors (i.e. disruptive behavior), which may be considered a more normative element of male socialization, and therefore may not be seen as an indicator of sexual abuse. Finally, Watkins and Bentovim (1992) suggest that male sexual abuse may be underreported due to society's denial of father-son abuse, mother-son abuse, and sibling-sibling abuse, as well as a failure to properly distinguish between "normal" sexual experimentation of children and abuse (Vander Mey, 1988).

Fischer (1991) suggests that male abuse also may not be reported as more male than female adult victims have
reported both liking the abuse as well as experiencing no stress from the abuse. Nasjleti (1980) believes that males who report liking the abuse are doing so as a defensive reaction to the abuse. He suggests that since boys are not socialized to allow themselves to feel vulnerable and helpless, they may discredit or ignore such feelings about the abuse. In turn, if they report or reveal the abuse, they may minimize the effect of the abuse on their lives or, more often in the case of abuse perpetrated by a female, state that they enjoyed the abuse.

Both male and female victims of child sexual abuse display many of the same initial reactions to the abuse (Watkins & Bentovim, 1992). However, it does appear that male victims engage in more externalizing behavior (Watkins & Bentovim, 1992) and are more likely to become perpetrators of sexual assault in adulthood than female victims (Cantwell, 1988; Rogers & Terry, 1984). In comparing the variables of the abusive situation, it appears that while females tend to be abused for longer durations (Hunter, 1991), males tend to be abused at a younger age (Finkelhor, 1984) and are more often abused by a non-family member (Finkelhor, 1984).

There is little research on the long term effects of male child sexual abuse. Both males and female victims appear to suffer from low self-esteem, anxiety, guilt, and rumination (Finkelhor, 1984; Hunter, 1991). Although there
exists less research than for female victims, abused males do appear to suffer from more sexual dysfunctions than non abused men (Finkelhor, 1984; Fromuth & Burkhart, 1989). For example, Johnson and Shrier (1985) found that 25% of sexually abused males surveyed reported a sexual dysfunction as compared to 5% of non-abused males surveyed.

Although the above research provides some understanding of the effects of child sexual abuse on adult sexual functioning, research on the long-term effects of sexual abuse is still in its infancy (Kendall-Tackett, Williams, & Finkelhor, 1993). Agreement has yet to be reached on the most appropriate methodology to study the long term effects of abuse. Samples of individuals may be biased, either in terms of self-selection or as part of a population at an abuse treatment program (Kendall-Tackett, Williams, & Finkelhor, 1993). Due to variability in the abusive situations, it is often difficult to identify an appropriate control or comparison group for victims of sexual abuse (Browne & Finkelhor, 1986). Reports of abuse may be categorized differently from study to study, and may be contaminated by either inaccurate self-report or clinical judgment (Finkelhor, Hotaling, Lewis, & Smith, 1990; Kendall-Tackett, Williams, & Finkelhor, 1993). Disparate definitions have been used to operationalize sexual abuse (Violato & Genius, 1993). In addition, the effects of the abuse may be confounded by additional psychological
dysfunction in the family of origin (Browne & Finkelhor, 1986). Although this initial work provides useful information on the long term effects of abuse, it is clear that subsequent research must address several of these criticisms.

In summary, it appears that victims of child sexual abuse may experience more difficulty in adult sexual functioning. Many of these adult difficulties appear to be related to various elements of the abusive situation. Elements such as a close relationship between perpetrator and victim, the inclusion of sexual penetration in the abuse, and the use of physical force all appear to be related to greater adult traumatization. Less clear is the relationship between duration and frequency of the abuse and degree of dysfunction. Regardless, the relationship between these elements of the abusive situation and sexual dysfunction, including HSD, have yet to be explored, and warrant further investigation in the present study.

Psychodynamic Therapeutic Approaches to HSD

Within her description of the sexual desire disorders, Kaplan (1979) also described a more psychodynamically based approach to treatment. Although Kaplan (1977) offers that behavioral sexual dysfunction therapy may be useful in increasing a desire disordered patient’s motivation for change, Kaplan (1979) recommended a modified and lengthier version of psychosexual therapy for the desire disorders.
This form of psychosexual therapy includes not only the more behavioral techniques and exercises of traditional sexual dysfunction therapy, but also more dynamically based insight-oriented work which emphasizes historical intrapsychic issues.

Consistent with Kaplan's (1979) psychodynamic approach, several writers have developed models from which to conceptualize the therapeutic work with adult survivors of abuse. Maltz and Holman (1987), McGuire and Wagner (1978), and Weiner (1988) all suggest that the intrapsychic issues involved in the abuse, such as anger and confrontation, must be addressed in therapy before behavioral interventions can be prescribed for the adult couple. To this end, Maltz and Holman (1987) describe an incest resolution therapy in which a goal of therapy is understanding the incest and its impact on the individual.

Maltz (1988) has proposed a four stage approach to couples therapy with childhood sexual abuse victims. In this approach, the non-abused partner is seen as a secondary victim of the abuse and the addressing of the sexual problems is an important part of the final stages of recovery. The stages of therapy include: 1) identifying and assessing the nature of the problem, 2) placing the incest in perspective of the family of origin and current relationship, 3) encouraging the couple to change old sexual patterns, and 4) creating positive sexual experiences.
It is in these later stages of couple's therapy that Maltz (1988) suggests the implementation of more traditional, behaviorally based forms of sexual dysfunction therapy, which emphasize the role of sensate focus exercises or non-sexual, mutual body pleasing exercises for both partners. McGuire and Wagner (1978) feel that survivors of sexual abuse respond well to these exercises when three important issues first are addressed. Prior to the implementation of the exercises, the patient must 1) identify and express anger about the abuse, 2) express feelings of guilt associated with the abuse, and 3) feel in control of the initiation and pacing of the sensate focus exercises. The implication is that victims of abuse can reach some sense of understanding of the effects of the abuse on their adult functioning and perhaps gain or regain some control of their sexuality.

In summary, consistent with the emphasis the psychodynamic theories of HSD place upon childhood conflicts, corresponding therapeutic approaches emphasize the need to address the childhood conflicts, with the patient attempting to resolve the issues surrounding the abuse in therapy. Maltz and Holman (1987) as well as others suggest that these issues must be addressed prior to addressing the present sexual functioning with behavioral exercises. In the absence of insight into the childhood traumas, behavioral interventions such as sensate focus
exercises are thought to be minimally effective.

**Psychodynamic Treatment Outcome for HSD**

Kaplan (1979) also discussed the issue of treatment outcome. From her clinical experience, Kaplan (1979) suggested that only 10% to 15% of the individuals with a desire disorder can be cured by traditional sex therapy, compared to 90% with orgasm disorders and 50% to 80% with arousal disorders. Although others have suggested a poor prognosis for treatment of the desire disorders, in fact, there exist very few systematic treatment outcome studies. The current author was unable to locate a single treatment outcome study based on a psychodynamic treatment approach. Therefore, even though the therapeutic approaches of Maltz (1988) and others make intuitive sense, there currently appears to be no empirical outcome data supporting their effectiveness in the treatment of HSD in abuse victims.

In summary, the psychodynamically based theories of sexual dysfunction trace the problem to the intrapsychic conflicts of childhood, some of which may result from sexual traumatization. Although current factors of the relationship may maintain the loss of desire, etiological emphasis is placed on pre-Oedipal and Oedipal traumas, including sexual abuse. The empirical literature suggests a relationship between child sexual abuse and adult disturbance, with various circumstances of the abusive situation being related to more severe disturbance. There
are several psychodynamic approaches to therapy which emphasize the need to resolve issues surrounding the abuse prior to the sexual issues. Although these therapies provide a potentially useful way to conceptualize the loss of desire in relation to the individual's personality, there presently exists no empirical literature supporting their clinical effectiveness.

The Behavioral Approach to the Loss of Desire

Theoretical Conceptualization

In contrast to the psychodynamic conceptualization of sexual dysfunction, which emphasizes the role of unresolved childhood conflicts, the behavioral conceptualization emphasizes the role of anxiety in the development and maintenance of all of the sexual dysfunctions, including HSD (Barlow, 1986). The anxiety is seen as preventing an individual from experiencing sexual arousal, and may inhibit autonomic nervous system functioning such that physiological response to sexual stimuli is impossible (Kaplan, 1974). A wide range of anxieties and fears, such as fears of inadequacy or poor performance, may deter sexual functioning (Masters & Johnson, 1970).

In contrast to the psychodynamic perspective, the behavioral conceptualization is not focused on the origin of HSD, but on the present state or nature of the dysfunction. The focus is not necessarily on the dynamics of the ongoing intimate relationship, but rather it is on the failure of
one partner to respond to sexual cues and stimuli. Both Rook and Hammen (1977) and LoPiccolo (1980) suggest that individuals with low sexual desire fail to perceive and attend to arousal cues in the sexual situation. These individuals either attribute physiological arousal to non-erotic stimuli or use a limited array of environmental cues to define a situation as sexual. In addition, these persons may have limited expectations of their sexual arousal ability. Rook and Hammen (1977) feel that the essential problem is a failure to discriminate erotic signal cues from non-erotic signal cues in a sexual situation. This may be the function of restrictive learning history, negative or restricted interpersonal self-instructions, or a lack of cognitive complexity (Rook & Hammen, 1977; Southern, 1985).

Masters and Johnson (1970) also emphasize the role of an individual's learning history in the development of a sexual dysfunction by suggesting that individuals have learned to feel anxious or guilty about sex. Individuals then focus on that anxiety during a sexual encounter, which distracts them from attending to sexual cues. It is this cognitive distraction, due to the anxiety, that precludes sexual desire and subsequent arousal (Barlow, 1986; Bozman & Beck, 1991; Heiman, 1977). As indirect evidence of the role of cognitive distraction in the loss of sexual desire, Nutter and Kearns-Condron (1983) have identified differences in sexual behavior between women with and without HSD. They
found that women with HSD engage in less sexual fantasy during foreplay, coitus, and masturbation, and report fewer sexual daydreams than non-disordered women. As such, a major focus of treatment is to identify and eliminate any anxiety that might interfere with sexual arousal.

In summary, behavioral theories of sexual dysfunction emphasize the role of anxiety in both the development and maintenance of the disorders. More specifically, the behavioral conceptualization focuses on the failure to attend and respond to sexual cues. In theory, the individual is cognitively distracted by anxiety and fears related to sexual performance. Although several writers have speculated on the origin of this learned, dysfunctional response to sexual stimuli (e.g. Masters & Johnson, 1970), the true origin of the anxiety is not clear. As such, the psychodynamic theoretical approach to HSD more clearly articulates the origin of the disorder at the present time than the behavioral conceptualization.

**Etiological Factors**

In contrast to the psychodynamic theory, the behavioral theory places a greater emphasis on the role of current factors in the maintenance of HSD. One such factor is nature of the ongoing intimate relationship. For example, Stuart, Hammond, and Pett (1987) found that women suffering from HSD were less satisfied with both sex and marriage than non-dysfunctional women. Murphy and Sullivan (1981) found
that women experiencing "sexual aversion" held higher levels of anxiety about sex as well as other non-sexual areas of their lives, again emphasizing the role of anxiety in the maintenance of HSD.

Other researchers have identified additional variables in the current life situation related to low desire. Avery-Clark (1986), investigating women enrolled at the Masters and Johnson Institute for sexual dysfunction therapy, found that women with full-time careers were two times more likely to present with a desire disorder than either employed women who held a full-time or part-time "job" (e.g. saleswoman at a department store) or unemployed women, who presented with more arousal disorders. Avery-Clark (1986) suggested that the increased stress of the second career in the intimate relationship may be contributing to the increased prevalence of the sexual desire disorders.

A third variable in the current life situation which often is related to sexual dysfunction is additional psychopathology. Such psychopathology may increase the current level of distress in the relationship and impair an individual's ability to function sexually. While Faulk (1973) initially found no relationship between sexual dysfunction in women and various neurotic disorders, both Derogatis and Meyer (1979) as well as Derogatis, Meyer, and King (1981) have identified relationships between sexual dysfunction and general psychological distress, specifically
symptoms of depression and anxiety. Schreiner-Engel and Schiavi (1986) found that a significant proportion of women diagnosed with hypoactive desire had a positive history of psychopathology, specifically affective disorders. In addition, Heiser and Hartman (1987) found a higher prevalence rate of HSD among alcoholic women than among non-alcoholic matched control women.

Other researchers have attempted to use the MMPI to identify psychopathology in women with HSD. In two separate studies, Stuart, Hammond, and Pett (1986, 1987) found no significant differences between women with or without HSD on any of the clinical subscales of the MMPI. However, Safir and Almagor (1991) found significant elevations on the Schizophrenia scale in women suffering from the loss of desire, suggesting a relationship between the loss of desire and more severe psychopathology. Nevertheless, the study only included ten women, and therefore, the validity of the finding is called into question.

In summary, it appears that there are at least three variables in the current life situation which are often associated with the loss of sexual desire. For example, it appears that there exists a relationship between HSD and stress in other areas of life, such as in the ongoing intimate relationship and employment. In addition, it appears that there is a relationship between HSD and additional psychopathology. Although the relationship
between HSD and the dynamics of the ongoing intimate relationship will not be assessed in the present study, the relationship between HSD and both employment type and additional psychopathology will be investigated in the present study.

**Behavioral Therapeutic Approaches to HSD**

Behavioral approaches to treatment the sexual dysfunctions focus on the anxiety related to sexual functioning. In the case of HSD, the anxiety may be of many things, a fear of failure to sexually respond, a fear of performance, or a fear of losing control. In contrast to the psychodynamic approaches to treatment of HSD, which provides the patient with insight into the loss of desire, the behavioral approach uses a series of therapeutic techniques to unlearn old, dysfunctional patterns of sexual response, and to re-teach old behaviors or teach new behaviors in the absence of anxiety.

To this end, patients are encouraged to move toward several goals in therapy (Kelly, 1992). Patients are encouraged to gain a sense of permission to value their sexuality. They are encouraged to make sexual activity a priority in their busy lives. When possible, they are asked to eliminate elements of their lives which are blocking full sexual response, such as excessive substance use. Therapists also attempt to reduce the pressure on sexual performance and prescribe specific sexual exercises to
promote more adaptive sexual behavior.

The most common of these exercises are sensate focus exercises. These are mutual body pleasuring exercises which provide the couple with the opportunity to develop and appreciate the physical sensations generated by one another. Couples are asked to engage in the exercises daily and take turns as the giver and receiver. Over the course of therapy, couples progress through a series of exercises. The first exercises involve non-genital facial touching. This is followed by non-genital body touching and massaging. Over time, the couple moves on to genital touching and eventually resumes sexual intercourse. Although behavioral sexual dysfunction therapy tends to be short-term and time-limited, progression through the sensate focus exercises is graduated in order to provide the couple with a pattern of successful experiences.

Hurlbert's (1993) Orgasm Consistency Training is a new approach to the treatment of HSD. Borrowing from behavioral and cognitive theory, Hurlbert (1993) suggests that most cases of sexual dysfunction are temporary conditions determined by sexual technique and skill deficits and not enduring individual problems. In addition to utilizing the hallmarks of sexual dysfunction therapy, such as sensate focus exercises and communication skills training, directed masturbation and the coital alignment technique for intercourse are taught to the couple. The program is aimed
at increasing sexual satisfaction and intimacy by expanding the couple's repertoire of sexual technique and skill.

In summary, the behavioral approaches to the treatment of HSD are similar to the behavioral approaches to the treatment of the other sexual dysfunctions. The therapy tends to be short-term, with an emphasis on the current problematic behavior. The therapy is behavior-focused with couples performing a series of exercises, most commonly sensate focus exercises, that teach more functional sexual response patterns and increase the range of sexual skills.

**Behavioral Treatment Outcome for HSD**

In contrast to the psychodynamic treatment of HSD, which offers no outcome data, there exists treatment outcome data for behavioral treatment approaches to HSD. In general, it seems that approximately one-half to two-thirds of sexually dysfunctional patients will show some improvement immediately after treatment (Barlow, 1986).

For example, in an examination of the factors related to successful sexual dysfunction treatment outcome, Schover and LoPiccolo (1982) reviewed the treatment of 747 couples complaining of changes or differences in sexual desire at a sexual dysfunction clinic. Using a behavioral model of therapy, they found significant post-treatment gains in the frequency of masturbation, the frequency of sexual activity, an increase in marital satisfaction, and an increase in overall life satisfaction. These changes were maintained at
post-therapy follow up at both three and twelve months.

More recently, Hawton, Catalan, and Fagg (1991) investigated 60 couples enrolled in sex therapy with one partner having HSD. Sixty-three percent of the couples completed the treatment program, with 57% considered successful on the basis of self-reported increases in sexual behavior. The male partner's level of motivation was the principle predictor of successful treatment and was seen a necessary prerequisite for behaviorally based treatment. In contrast, unsuccessful outcome was related to a younger age of the couple, to a shorter duration of the sexual problem, and to the couple being judged to have made less progress by the third treatment session.

Although these two studies suggest that desire disorders can be treated successfully by behavioral treatments, the empirical quality and clinical utility of some of the other treatment outcome research is limited. For example, several of the studies involve small sample sizes, confounded treatments, and a lack of objective treatment outcome data, with outcome based upon subjective estimation of change by the patient, the partner, and/or the clinician (Heiman, Gladue, Roberts, & LoPiccolo, 1986; LoPiccolo & Stock, 1986). However, in the absence of objective treatment outcome measures, sex therapy treatment outcome research is forced to rely on both patient self-report and clinical judgment as the measures of behavioral
change. Unfortunately, the current state of affairs seems to suggest little understanding of the relevant patient and treatment variables for the successful treatment. As such, the present study will attempt to identify the relevant variables for successful treatment outcome.

Nevertheless, many writers suggest that behavioral approaches to the treatment of desire disorders are ineffective (Bagarozzi, 1987; Moser, 1992). Consistent with his family systems view of the loss of sexual desire, Bagarozzi (1987) suggests that behavioral techniques may not be successful due to the failure to recognize that the meaning of the sexual exchange in the marital relationship. Moser (1992) offers that if sexual desire is more analogous to a drive or motivation, which may not be learned, it may be ineffective to attempt to "teach" someone to have sexual desire through more behavioral techniques. Finally, in cases of child sexual abuse, the psychodynamic approach to HSD suggests that in the absence of addressing intrapsychic issues, behavioral interventions will be unsuccessful.

In summary, although the behavioral theoretical approach to HSD is not as explicitly articulated as the psychodynamic approach, the approach pinpoints anxiety as the central feature of all sexual dysfunction. Regardless of the origin of the anxiety, the behavioral perspective focuses on the role of the anxiety in the maintenance of the disorder. The treatment approach addresses the anxiety
through specific techniques such as sensate focus exercises. Although treatment outcome data in some cases have been limited, there is some evidence for the effectiveness of behavioral treatments for HSD. Nevertheless, there currently is little understanding of the relevance of specific factors and variables, such as childhood sexual abuse, in treatment outcome. The present study will attempt to address this issue.

Summary of the Literature

Although a great deal has been written about sexual desire, our understanding of the nature of sexual desire remains incomplete. Although many writers place the nature of sexual desire in the realm of mental processes, others see it as the product of brain structures or hormonal interactions. The definition of the sexual desire disorders has changed over time, with the current DSM IV definition often being criticized for its ambiguity, while remaining as the standard diagnostic criterion for the disorder. In addition, there is little agreement on the prevalence of the sexual desire disorders, although it is commonly viewed as a sexual problem which effects millions.

Although sharing some elements, the psychodynamic and behavioral perspectives of HSD differ on theoretical conceptualization, etiological factors, treatment approach, and treatment outcome data. The psychodynamic approach views the loss of sexual desire as related to unresolved
childhood conflicts and traumas. Most relevant of these to the present study is childhood sexual abuse. In contrast, the behavioral perspective focuses more on the current role of anxiety in the inhibition of sexual functioning. Among current factors, variables such as employment type and therapy history are to be investigated in the present study.

From the existing literature, it currently is not clear if historical factors, more consistent with a psychodynamic understanding of HSD, or current relationship factors, more consistent with a behavioral understanding of HSD, are more central to the development of HSD. At the present time, it may be safest to state that both can contribute to the loss of sexual desire. Some of the most concrete evidence for the etiology of HSD in women comes from the relationship of the disorder to child sexual abuse. Although current factors also will be investigated, the relationship between sexual abuse and HSD will serve as a major focus of the current study.

In considering treatment of HSD in abuse victims, an insight-oriented therapy model which addresses intrapsychic issues related to the abuse prior to addressing the sexual difficulties in the present relationship, would seem to be most effective in treating HSD in victims of child sexual abuse. However, at the present time, there is no empirical evidence to support the effectiveness of such an approach.

In contrast, the effectiveness of a behavioral
treatment approach, which emphasizes the current relationship and the failure of an individual to respond to sexual arousal cues, has empirical support (e.g. Hawton, Catalan, & Fagg, 1991; Schover & LoPiccolo, 1982). In addition, its effectiveness with sexual abuse victims has yet to be investigated. Such behavioral approaches, including the one under investigation in the present study, do not specifically address the issues of child sexual abuse. Similarly, the mechanism by which behavioral change occurs remains unclear. As such, the present study will further investigate the potential effectiveness of a behaviorally-based treatment model for sexual dysfunction, specifically in women with HSD and women who were the victims of child sexual abuse.

As Trudel (1991) suggests, perhaps the most relevant information needed regarding the sexual desire disorders involves the exploration of the variables that differentiate couples with and without sexual desire disorder. Similarly, Rosen and Leiblum (1988) stress the importance of identifying the relevant factors that relate childhood sexual abuse to adult sexual dysfunction. Following these suggestions, the present study has three primary objectives. First, the proposed study will attempt to identify historical and current variables which differentiate dysfunctional and non-dysfunctional women as well as women with HSD from other sexual dysfunctions. Second, the study
will investigate the relationship between various elements of child sexual abuse and sexual dysfunction in adult women. Finally, the study will investigate the variables related to successful treatment outcome in a behaviorally based model of sexual dysfunction therapy.
CHAPTER 3

HYPOTHESES

Taken from the previous literature on sexual dysfunction and child sexual abuse, as well as utilizing additional variables of the data set, it was hypothesized that several types of variables would discriminate between women with and without a dysfunction, women with HSD and other dysfunctions, and between successful and non-successful treatment outcomes. These hypotheses are specifically discussed and numerated below.

Hypothesis 1: Women with and without a sexual dysfunction diagnosis

It was hypothesized that two categories of variables, historical and abuse variables, would differentiate women with and without a sexual dysfunction.

Hypothesis 1a: Historical variables. Several historical variables were hypothesized to differentiate between women with and without a dysfunction. These variables included level of education, employment, employment type, previous psychotherapy, history of alcohol abuse, and being the victim of child sexual abuse. Several of these variables, such as being the victim of sexual abuse, previous psychotherapy, a history of alcohol abuse,
and employment type, have been associated with sexual dysfunction. The relationship between education and employment and sexual dysfunction was being explored for the first time in the present study. Of these variables, being the victim of sexual abuse, a history of alcohol abuse, and a history of previous psychotherapy were hypothesized to serve as the best predictors of a sexual dysfunction.

**Hypothesis 1b: Abuse variables.** It also was hypothesized that in women who were sexually abused, several variables of the abusive situation would discriminate women with and without a sexual dysfunction. These variables included the nature of the relationship with the abuse perpetrator, the age of the onset of the abuse, the duration and frequency of the abuse, the nature of the sexual activity occurring in the abuse, and the use of physical force in the abuse. It was predicted that women who were sexually abused by a close family member as opposed to a stranger, at a younger age, and with the sexual abuse involving sexual penetration in contrast to non-penetrative abuse would predict sexual dysfunction. In addition, it was hypothesized that women who were abused more frequently, for a greater length of time, and also were physically assaulted would be more likely to have a dysfunction.

**Hypothesis 2: Women with HSD and women with another sexual dysfunction**

It was hypothesized that of women with a dysfunction,
the two categories of variables would discriminate women with HSD from those with another sexual dysfunction.

**Hypothesis 2a: Historical variables.** Several of the historical variables also were hypothesized to distinguish between women with HSD and another dysfunction. Of these, a history of sexual abuse, previous psychotherapy experience, and employment type were hypothesized to discriminate between the groups. More specifically, it was hypothesized that sexual abuse, previous psychotherapy experience, and employment in a "profession" would predict an HSD diagnosis.

**Hypothesis 2b: Abuse variables.** In women who have been sexually abused, it was hypothesized that variables of the abusive situation would discriminate between women diagnosed with HSD and those diagnosed with another dysfunction. It was anticipated that the nature of the relationship to the abuser would be the strongest predictor of HSD, followed by the occurrence of sexual penetration, younger age of onset, inclusion of physical force, greater duration, and finally, greater frequency of the abuse.

**Hypothesis 3: Treatment Outcome**

The present study also set out to investigate treatment outcome for women with a sexual dysfunction. This hypothesis was explored for all women with a diagnosis and for specific diagnostic groups. The ability of two sets of variables, the historical variables previously investigated and variables of the treatment, to discriminate between the
groups was tested. The subject groups and variables are described and numerated below.

Hypothesis 3a: Treatment outcome in all women. Two sets of variables, historical and treatment variables, were hypothesized to distinguish between successful and non-successful treatment in women with a sexual dysfunction. It was hypothesized that the six historical variables investigated in Hypothesis One and Two also would discriminate between successful and unsuccessful treatment outcome. In addition, it was hypothesized that several variables of the treatment would discriminate between the groups. These variables included the total amount of sensate focus homework completed, the amount of homework completed each week, each partner's judged motivation for treatment at the onset of treatment, the duration of the marriage, the duration of the wife's sexual symptom, the presence of male dysfunction, and the presence of a secondary female dysfunction. More specifically, it was hypothesized that successful treatment outcome would be predicted by greater amounts of homework completed, higher levels of each partner's motivation, longer duration of the marriage, shorter duration of the sexual symptom, and absence of an additional dysfunction diagnosis.

Hypothesis 3b: Treatment outcome in women with HSD.

It also was hypothesized that historical and treatment variables would discriminate successful and non-successful
treatment outcomes in women diagnosed with HSD.

Hypothesis 3c: Treatment outcome in other dysfunction. It was hypothesized that these variables would discriminate successful and non-successful treatment outcomes in women diagnosed with another dysfunction.

Hypothesis 3d: Treatment outcome in abused women. It also was hypothesized that historical and treatment variables would discriminate successful and non-successful treatment outcomes in women who were sexually abused. Finally, it was hypothesized that in abused women, several of the abuse variables would discriminate successful and unsuccessful treatment.
Subjects

Subjects were 412 female partners from married couples who had completed the Sexual Dysfunction Clinic treatment program at Loyola University of Chicago from 1987 through 1993. As such, this study was conducted on archival data extracted from patient's medical records from the clinic. Based on previous research with sexual dysfunction clinic populations (e.g. Schreiner-Engel & Schiavi, 1986) specific subject inclusion criteria for data analysis were established. Women between the ages of 20 and 65 years, who had a relationship with the current sexual partner for at least one year's duration, and who had no significant medical history that may effect sexual desire (i.e. diabetes, hypertension, estrogen therapy) were included in the study. Of the 412 women, 359 met the inclusion criteria and were included in data analysis.

The average age of these 359 women was 40.51 years (SD = 9.04). On average, the women were married for 13.21 years at the onset of treatment (SD = 10.24). With regard to the racial composition of the sample, 94% of the sample was Caucasian, 3% African-American, and 3% Asian-American and
Hispanic-American. With regard to religious beliefs, 48% of the sample was Catholic, 33% Protestant, 10% Jewish, and 8% endorsed Other religious beliefs. Fifty-five percent considered themselves actively "Practicing" their religion. In considering education and employment, 55% of the sample reported having completed four years of college or more and 75% were employed at treatment, with 55% reporting professional employment. Thirty-nine women (11%) reported a current or past problem with alcohol use and nine women (3%) reported a history of illicit drug use. Seventy-three women (20%) reported being the victim of child sexual abuse and 38% acknowledged previous psychological treatment.

The Loyola University of Chicago Sexual Dysfunction Clinic

The Clinic and Patients. The Loyola University of Chicago Sexual Dysfunction Clinic has been in existence for more than 20 years. During that time the clinic has treated more than 2,000 heterosexual couples spanning the entire range of the sexual dysfunctions. The director of the clinic is Dr. Domeena Renshaw, a psychiatrist and internationally recognized expert in the field of sexual dysfunction and sexual dysfunction therapy.

Couples coming to the clinic are primarily from the metropolitan Chicagoland area. They are referred to the clinic either by therapists or physicians or learn of the clinic through word of mouth. The couples' initial contact with the clinic is through an intake worker who collects
basic demographic information, and based on the self-reported sexual problem, produces an initial diagnosis for the couple. This diagnosis is then evaluated by a co-therapist team during the first treatment session, through a collection of a detailed personal and sexual history. It is this detailed history, summarized as part of the couple’s medical record, that served as the data in the present study. The co-therapists take their diagnostic impressions back to a supervisor. In consultation with the supervisor, the initial diagnosis is compared to the information collected by the therapists in order to confirm the diagnosis. After the diagnosis is agreed upon, it is confirmed by Dr. Renshaw.

The sexual dysfunction clinic uses DSM criteria to establish diagnosis. The HSD diagnostic criteria in DSM III-R is: A. "Persistently or recurringly deficient or absent sexual fantasies and desire for sexual activity. The judgment of deficiency or absence is made by the clinician, taking into account factors that affect sexual functioning, such as age, sex, and the context of the person’s life." B. "Occurrence not exclusively during the course of another Axis I disorder (other than a Sexual Dysfunction), such as Major Depression" (p. 293). Although relying heavily on clinical judgment and self-report, in the absence of objective measures of sexual desire, this criteria remains as the standard diagnostic tool for HSD.
All subjects in the present study completed the seven week program at the clinic and received both the initial diagnosis and treatment outcome assessment. In the seven weeks, the couple received approximately 35 hours of direct contact with the therapist team. Treatment data during the course of therapy consisted of the number of sensate focus exercises the couple engaged in throughout the week. At the completion of therapy, the presence of the sexual symptom, as reported by the couple, was reassessed by the therapist team and supervisors. Couples were considered to have successfully completed treatment if their symptom had improved and they were engaging in intercourse during weeks four through seven of treatment. Couples were considered non successful treatments if their symptoms did not improve and they were not engaging in intercourse in the final four weeks of treatment. Similar outcome criteria are commonly used in dysfunction treatment (e.g. Hawton, Catalan, & Fagg, 1991; Renshaw, 1988).

The Treatment Model. The sexual dysfunction therapy is based on a Masters and Johnson (1970) model of sexual dysfunction therapy. The behaviorally based model emphasizes the use of sensate focus homework exercises across the seven weeks of therapy, with the patient’s returning to the clinic once a week to meet with their therapist team. Couples also received sexual education materials in both written and visual form over the seven
weeks. In addition, couples participated in a variety of psychotherapeutic exercises with their therapist teams, ranging from non-verbal exercises to Gestalt empty chair exercises. Finally, couples completed numerous questionnaires assessing each individual’s and the couple’s views of their relationship and sexuality, such as body image preferences and emotional wants and needs.

The treatment sessions begin and end with a "round table" session, in which the couple meets with the therapist team. During these sessions, the work from the previous week or evening is reviewed and upcoming therapeutic tasks are discussed. The first session of therapy consists primarily of the collection of an extensive personal history from each member of the couple. All aspects of the individual’s history are explored, with specific attention to the sexual history. Again, it is this historical information, as well as the treatment data in terms of the number of sensate focus exercises completed, that is entered into the medical record and served as the data for the present study. The primary task of the second session is the completion of the physical and sexological exam, to rule out the possibility of a physiological cause of the sexual problem. Also in the second session, couples receive a "mini" human sexuality course, in which they learn about their sexual anatomy and physiology.

During the third and forth sessions at the clinic the
tasks primarily consists of psychotherapeutic exercises such as a "Fantastic Voyage" throughout the individual's body, empty chair exercises completed individually, and non-verbal communication exercises and empty chair exercises completed together by the couple. These exercises are used to assist the couple in becoming more aware of both their own and their partner's sexuality and personality. During the fifth and sixth sessions, couples receive individual feedback on the myriad of questionnaires they completed in the previous weeks. The seventh and final session serves as a wrap-up and summary of the therapy.

As noted above, the emphasis of the therapy is on the sensate focus exercises completed at home by the couple. The couple is asked for thirty minutes each day to be alone and complete the prescribed sensate focus exercises. During the first week, couples are asked to simply touch and caress each other's faces. During the second week, couples move on to caressing and massaging each other's bodies, avoiding breast and genital touching. In the third week, couples are asked to continue to face and body touch and now are allowed to engage in breast and genital touch and mutually masturbate one another. In the fourth week, all couples are asked to practice the squeeze technique (most frequently used in the treatment of rapid ejaculation) from the woman-on-top intercourse position. Even in the absence of a diagnosis of rapid ejaculation, the use of the squeeze
technique allows the man to become more aware of his sexual responsiveness. In the fifth week and beyond, all restrictions on intercourse are removed. However, couples are asked to continue to engage in the sensate focus face and body touching as part of foreplay, as it is this touching and caressing that, in theory, has removed the anxiety of performing intercourse, and that has "reconnected" the sensations of bodily touch with arousal.

The Therapists. The therapist teams consist of a male-female multi-disciplinary dyad of health professionals. One member of each team is either a medical student or medical doctor, who conducts the physical examination with both partners; the other member of the team is typically a trainee or professional in mental health (i.e. psychology, social work). The therapist team receives fifteen hours of sexual education and sex therapy training prior to the onset of therapy. The therapist teams are supervised by experienced sexual dysfunction therapists who are, in turn, supervised by Dr. Renshaw.

Measures

Several categories of variables taken from the initial patient history as well as the throughout the course of treatment were used in the present study. This information initially was collected by the co-therapists through self-report by the patient and is reported back to the supervisors who then summarize the information on pre-
printed supervision summary cards. This information is
organized on the supervision summary cards in numerous ways,
as categorical variables, dimensional scales, or
frequencies. The card becomes part of the medical record,
and the data in the present study was obtained from them.
The patient variables investigated included:

Demographics: age, race, occupational status, occupation
classification, religion, education, motivation for therapy;

Marital History: duration of present marriage in years,
number of children from current marriage;

Psychological History: type of previous therapy
(individual, marital, family, or sexual), duration of
therapy in number of sessions attended;

Medical History: illnesses, surgeries, medications, illicit
drugs use history, alcohol use history;

Sexual History: primary sexual problem, secondary sexual
problem, duration of problem in months, current frequency of
intercourse per month, frequency of masturbation;

History of Sexual Abuse: presence of sexual abuse, age
abuse began, relationship to perpetrator (father, sibling,
step-father, relative, stranger), frequency of abuse per
month, duration in months, type of abuse (penetrative or
non-penetrative), presence of physical force;

Treatment Data: frequency of sensate focus exercises per
week, assessment of treatment outcome (successful or non
successful), assessment at follow up (maintain or regress).
CHAPTER 5
PROCEDURE

Subject Groups

Sexual Dysfunction Groups. To test Hypotheses 1a and 1b and Hypothesis 2a and 2b, women were classified by their sexual dysfunction diagnosis. Of the 359 women in the present sample, 51% (n = 182) presented with a sexual dysfunction. For the other 177 women, their male partner had a diagnosed sexual dysfunction. Of the 182 women with a dysfunction, 124 women (68%) met diagnostic criteria for HSD. Thirty-four women (18%) were diagnosed with an orgasm disorder, and 24 women (13%) were diagnosed with a pain disorder (vaginismus or dyspareunia) (See Table 1).

Of the 182 dysfunctional women, 102 (56%) of the husbands had no dysfunction diagnosis. Thirty five (19%) were diagnosed with HSD, 22 (12%) were diagnosed with an erectile disorder, and 19 (10%) were diagnosed with premature ejaculation. Forty four of the 182 women with a dysfunction also had a secondary dysfunction diagnosis. Fifteen of the women were diagnosed with HSD, 14 with an orgasm disorder, and 15 with a pain disorder.

Sexual Abuse Groups. For tests of additional hypotheses, women were classified as being the victim of
child sexual abuse. Following the suggestion of Violato and Genius (1993), sexual abuse was operationalized as unwanted, physical sexual contact (ranging from genital touching to penetration) while the victim is considered a child by legal definition (age fourteen or younger). The sexual contact must be considered abusive by the victim, meaning that childhood sexual play is only categorized as abusive if the victim labeled it as such upon questioning. Exposure to sexual stimuli or materials is not considered abusive in the present study as it does not involve physical contact.

As noted above, 73 (20%) of the 359 women reported child sexual abuse (See Table 1). Women who reported being abused were significantly more likely to have a sexual dysfunction than women who did not report being abused, $F(3, 358) = 4.64, p < .01$. Among women with a dysfunction, orgasm disorders were more likely to be associated with abuse (44%) than HSD (22%) or pain disorders (17%), with significance level based on Tukey's HSD test.

In considering the sexual dysfunction diagnosis of non-abused women, 97 (34%) of the 286 women were diagnosed with HSD; 19 (7%) were diagnosed with an orgasm disorder; and 20 (7%) were diagnosed with a pain disorder. One hundred and fifty women (52%) had no diagnosis (See Table 1).
Table 1

Sexual Dysfunction Diagnoses for the Entire Sample (N = 359) and for Women Who Were (n = 73) or Were Not Sexually Abused (n = 286).

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sexual Dysfunction</th>
<th>Abused</th>
<th>Not Abused</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>124</td>
<td>27</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>(22%)(^b)</td>
<td></td>
<td>(78%)</td>
</tr>
<tr>
<td>HSD</td>
<td>34</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>(44%)(^a)</td>
<td></td>
<td>(56%)</td>
</tr>
<tr>
<td>Inhibited Female</td>
<td>24</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>(17%)(^b)</td>
<td></td>
<td>(83%)</td>
</tr>
<tr>
<td>Vaginismus/ Dyspareunia</td>
<td>177</td>
<td>27</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>(15%)(^b)</td>
<td></td>
<td>(85%)</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>359</td>
<td>73</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td>(20%)</td>
<td></td>
<td>(80%)</td>
</tr>
</tbody>
</table>

Note. \(a\) and \(b\) indicates significant difference between the dysfunction groups, \(p < .01\).
CHAPTER 6
RESULTS

Variable Comparison

Prior to hypothesis testing with discriminant function analysis, the various groups of women to be investigated in Hypothesis 1 and 2 were compared on three categories of variables: demographic and behavioral, historical, and abuse variables. These results are summarized below.

Women with and without a Sexual Dysfunction Diagnosis

Demographic and Behavioral Variables. Table 2 summarizes the demographic and behavioral variables for women with and without a diagnosis. These variables included age, race, religion, duration of sexual symptom, and frequency of intercourse and masturbation per month. Women diagnosed with a dysfunction were significantly younger, $t(353) = 3.23, p < .001$, and reported engaging in significantly more intercourse per month than non-dysfunctional women, $t(350) = 2.62, p < .01$. In contrast, women with a dysfunction reported engaging in significantly less masturbation per month, $t(350) = 3.54, p < .001$ (See Table 2).

Historical Variables. Table 3 summarizes the historical variables for women with and without a sexual
dysfunction. Although several of these variables were continuous, all variables were dichotomized for parsimony. These variables included: education (no four year college degree versus four year college degree), employed (yes or no), employment type (professional or non-professional), previous therapy experience of any type (yes or no), alcohol problem (yes or no), and victim of sexual abuse (yes or no). Chi-square analysis indicated that a greater percentage of women with a sexual dysfunction reported a college education, $X^2 (1) = 9.35, p < .01$, and a history of child sexual abuse, $X^2 (1) = 5.56, p < .02$ (See Table 3).

**Abuse Variables.** Table 3 also summarizes the abuse variables for abused women with ($n = 46$) and without ($n = 27$) a dysfunction diagnosis. Continuous variables again were dichotomized for parsimony. These variables included the mean age of the sexual abuse, relationship to the perpetrator (relative or non-relative), abuse involving sexual penetration (yes or no), abuse involving physical force (yes or no), frequency of the abuse (one time or more than one time), and duration of the abuse (one time or continuous). Although no significant differences exist between the groups, larger percentages of women with a sexual dysfunction diagnosis reported sexual abuse involving sexual penetration, physical force, more frequent occurrence, and abuse involving a relative (See Table 3).
Table 2

**Demographic and Behavioral Variables for Women with or without a Sexual Dysfunction.**

<table>
<thead>
<tr>
<th>Sexual Dysfunction Group</th>
<th>No Dysfunction ((n = 177))</th>
<th>Dysfunction ((n = 182))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age(^a)</td>
<td>42.11</td>
<td>38.95</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>92.70%</td>
<td>96.10%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Catholic</td>
<td>50.80%</td>
<td>46.10%</td>
</tr>
<tr>
<td>% Protestant</td>
<td>32.20%</td>
<td>34.80%</td>
</tr>
<tr>
<td>% Jewish</td>
<td>12.40%</td>
<td>8.40%</td>
</tr>
<tr>
<td>% Practicing</td>
<td>58.80%</td>
<td>50.60%</td>
</tr>
<tr>
<td>Duration of Sx/Years</td>
<td></td>
<td>8.59</td>
</tr>
<tr>
<td>Frequency of Intercourse/Month(^a)</td>
<td>1.18</td>
<td>1.88</td>
</tr>
<tr>
<td>Frequency of Masturbation/Month(^a)</td>
<td>2.10</td>
<td>0.96</td>
</tr>
</tbody>
</table>

*Note.* \(^a\) indicates significant difference between the groups, \(p < .01\).
Table 3

Percentages for Historical and Abuse Variables for Women with or without a Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Sexual Dysfunction Group</th>
<th>No Dysfunction</th>
<th>Dysfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% College Graduate(a)</td>
<td>47.30%</td>
<td>61.70%</td>
</tr>
<tr>
<td>% Employed</td>
<td>75.10%</td>
<td>74.20%</td>
</tr>
<tr>
<td>% Professional</td>
<td>52.00%</td>
<td>58.30%</td>
</tr>
<tr>
<td>% Previous Treatment</td>
<td>57.10%</td>
<td>65.93%</td>
</tr>
<tr>
<td>% Alcohol Problem</td>
<td>9.10%</td>
<td>13.00%</td>
</tr>
<tr>
<td>% Sexually Abused(a)</td>
<td>15.30%</td>
<td>25.80%</td>
</tr>
<tr>
<td>Abuse Variables</td>
<td>(n = 27)</td>
<td>(n = 46)</td>
</tr>
<tr>
<td>Mean Age of Abuse</td>
<td>9.15</td>
<td>8.78</td>
</tr>
<tr>
<td>% Force</td>
<td>11.10%</td>
<td>23.90%</td>
</tr>
<tr>
<td>% Continuous</td>
<td>42.30%</td>
<td>45.65%</td>
</tr>
<tr>
<td>% More than Once</td>
<td>29.60%</td>
<td>37.00%</td>
</tr>
<tr>
<td>% Penetration</td>
<td>25.90%</td>
<td>45.70%</td>
</tr>
<tr>
<td>% Relative</td>
<td>59.30%</td>
<td>67.40%</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, \(p < .05\).
Women with HSD and Women with Other Diagnoses

Demographic and Behavioral Variables. Table 4 presents demographic and behavioral variables for women with HSD (n = 123) and women with another dysfunction (n = 54). Women with HSD were found to be significantly older than women with another diagnosis, t(176) = 2.17, p < .04 (See Table 4).

Historical Variables. Percentages of women diagnosed with HSD or another dysfunction endorsing each of the historical variables are found in Table 5 (See Table 5). A greater percentage of women with HSD reported a previous therapy experience, X^2 (1) = 11.82, p < .001, (See Table 5). Of the 93 women with HSD who reported previous therapy, 45 reported individual therapy, 38 marital therapy, seven family therapy, and three previous sexual therapy. Of the 27 women with another dysfunction who reported previous therapy, fourteen reported individual therapy and thirteen marital therapy. The two groups did not significantly differ in the type of therapy. On average, both groups reported being in treatment for more than 50 sessions.

Abuse Variables. Percentages of abused women diagnosed with HSD (n = 27) or another dysfunction (n = 19) endorsing each of the six abuse variables are found in Table 5 (See Table 5). A greater percentage of women with HSD reported abuse involving physical force, X^2 (1) = 6.19, p < .02; and penetration, X^2 (1) = 4.88, p < .03, (See Table 5).
Table 4

Demographic and Behavioral Variables for Women with HSD or another Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Sexual Dysfunction Group</th>
<th>HSD (n = 123)</th>
<th>Other (n = 54)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age^a</td>
<td>39.99</td>
<td>36.83</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>99.19%</td>
<td>90.74%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Catholic</td>
<td>42.74%</td>
<td>53.70%</td>
</tr>
<tr>
<td>% Protestant</td>
<td>36.29%</td>
<td>31.48%</td>
</tr>
<tr>
<td>% Jewish</td>
<td>9.68%</td>
<td>5.55%</td>
</tr>
<tr>
<td>% Practicing</td>
<td>58.80%</td>
<td>50.60%</td>
</tr>
<tr>
<td>Duration of Sx/Years</td>
<td>8.81</td>
<td>7.91</td>
</tr>
<tr>
<td>Frequency of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercourse/Month</td>
<td>1.89</td>
<td>1.79</td>
</tr>
<tr>
<td>Frequency of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masturbation/Month</td>
<td>1.02</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, p < .04.
Table 5

Percentages for Historical and Abuse Variables for Women with HSD or Another Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Sexual Dysfunction Group</th>
<th>HSD</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% College Grad</td>
<td>58.90%</td>
<td>72.00%</td>
</tr>
<tr>
<td>% Employed</td>
<td>71.80%</td>
<td>79.30%</td>
</tr>
<tr>
<td>% Professional</td>
<td>55.23%</td>
<td>65.20%</td>
</tr>
<tr>
<td>% Previous Therapy</td>
<td>74.20%</td>
<td>48.30%</td>
</tr>
<tr>
<td>% Alcohol Problem</td>
<td>15.30%</td>
<td>6.90%</td>
</tr>
<tr>
<td>% Sexually Abused</td>
<td>21.30%</td>
<td>32.80%</td>
</tr>
<tr>
<td>Abuse Variables</td>
<td>(n = 27)</td>
<td>(n = 19)</td>
</tr>
<tr>
<td>Mean Age of Abuse</td>
<td>8.78</td>
<td>8.79</td>
</tr>
<tr>
<td>% Force</td>
<td>37.04%</td>
<td>5.26%</td>
</tr>
<tr>
<td>% Continuous</td>
<td>51.85%</td>
<td>36.84%</td>
</tr>
<tr>
<td>% More than Once</td>
<td>40.74%</td>
<td>31.58%</td>
</tr>
<tr>
<td>% Penetration</td>
<td>59.26%</td>
<td>26.32%</td>
</tr>
<tr>
<td>% Relative</td>
<td>59.26%</td>
<td>78.95%</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, p < .03.
Hypothesis Testing

The main hypotheses in the present study, that women with different types of sexual dysfunctions would be discriminated by variables previously found to be associated with the grouping factor, were analyzed by discriminant function analysis. The major purpose of discriminate function analysis is to predict subjects’ group membership from a set of predictors (Tabachnick & Fidell, 1989). There are two important features of the analysis. The first involves interpreting the discriminant functions that separate the groups from each other, while the second involves the ability of the function to classify cases correctly into their respective groups (Tabachnick & Fidell, 1989). Both features were utilized in the present study.

Although discriminant function analysis shares many commonalities with multivariate analysis of variance (MANOVA), there also are several differences. In contrast to MANOVA, with discriminant function analysis, the predictors serve as independent variables while the dependent variables are the subject groups. Although both statistical methods allow for an assessment of the ability of a set of variables to predict group membership, discriminant analysis also allows for an assessment of the predictors’ ability to actually classify cases into groups (Tabachnick & Fidell, 1989). Finally, discriminant function analysis is somewhat more robust to issues and assumptions
such as unequal sample sizes, multivariate normality (specifically with sample sizes greater than 20 per group), and homogeneity of variance-covariance matrices (assessed by Box’s M). In addition, if continuous variables are not normally distributed, it is recommended that the variable(s) be transformed to ensure normality, using techniques such as logarithm or square root transformations (Tabachnick & Fidell, 1989). All discriminant function analysis performed in the present study were assessed for these issues and any violations and corrections were noted.

In order for a case (subject) to be included in the analysis, it must have a complete set of data points for each of the predictor variables or it is excluded from the analysis. If a substantial number of cases are excluded, the group mean for each variable can be substituted for the missing data points. In addition, at least twenty subjects per group are recommended to run the discriminant function analysis to ensure multivariate normality.

There are several different discriminant function analysis procedures, including standard (direct), hierarchical, and stepwise. The stepwise discriminant function analysis method was used in the present study as there existed no theoretical reason to think that any of the predictors would be stronger than others (Tabachnick & Fidell, 1989). The stepwise procedure also allows for the selection of the most useful discriminating variable(s) and
eliminates unnecessary variables from the analysis (Klecka, 1980). In the present study, predictor variable entry into the equation was determined by statistical criteria, $F > 3.84$ (Norusis, 1994) with variables entering the discriminant equation on the basis of their ability to maximize separation among the groups, as measured by the magnitude of the $F$ (Stevens, 1992). For each step of the analysis, a Wilk’s lambda value is generated, ranging from 0 to 1.0. Smaller values of lambda suggest larger differences between group means, while larger values have the opposite meaning. In the present study, all of the Wilk’s lambdas are greater than 0.80, which was anticipated, given the dichotomized data points, which limits the potential range of difference between the group means.

When all significant variables have been entered, a canonical discriminant equation is produced. This is the discriminant equation, which, if significant, best discriminates between the groups and serves as the model to classify subjects in the classification stage of the analysis. The eigenvalue which is generated indicates the percentage of variance accounted for by the equation, with higher values suggesting that more variance is accounted for by the equation. The equation also generates a canonical correlation, which is the degree of association between the discriminant function and the groups. Correlations approaching 1.0 indicate strong association between the
function and groups, while correlations near zero indicate small, yet often significant associations, as determined by the discriminant function. Finally, the correlation between the predictor variables and the function is generated, providing information on the strength of the relationship between the predictor variables and the equation.

The analysis also produces a correlation matrix between the predictor variables. This allows for an assessment of the relationship between the predictor variables. Ideally, small to moderate correlations are desired. A problem arises if the correlations approach 1.0, which would suggest that two or more variables are so strongly related that they can not discriminate effectively between the groups.

Finally, the analysis provides a table summarizing the discriminant function equation's ability to classify cases into their correct group. Given that there are two groups of interest in the present study, the rate of correct classification by chance alone is 50%. There exists no specific guidelines on the relative quality of classification as it improves beyond 50%, although the higher the percentage of correct classification, the better the discriminant equation is thought to be. In addition to the overall classification percentage, the classification percentage for each of the groups must be considered individually. Although an equation may correctly classify 85% of the cases in one group, it may misclassify 70% of the
cases in the other group, suggesting an elevated "false-positive" classification rate.

Hypothesis 1: Women with and without a Sexual Dysfunction

Hypothesis 1a: Historical Variables. A stepwise discriminant function analysis was performed using the six historical variables as predictors of membership in the dysfunction or non-dysfunction group. Of the original 359 cases, 63 were dropped from analysis because of missing data. Of the remaining 296 cases, 150 women were diagnosed with a sexual dysfunction while 146 were not.

On step one of the analysis, education entered the analysis and produced a significant equation; Wilks' lambda = 0.97, $F (1, 294) = 10.16, p < .002$. Inspection of the education variable indicated that a greater percentage of women in the dysfunctional group reported a four-year college education (62% versus 47%). On step two of the analysis, sexual abuse entered the equation; Wilks's lambda = 0.95, $F (2, 293) = 7.38, p < .001$, with a greater percentage of women in the dysfunctional group having reported a history of sexual abuse (26% versus 15%).

With both variables in the equation, a significant canonical discriminant function was produced, $X^2 (1) = 14.40, p < .001$, suggesting that the equation significantly discriminates between the groups. The canonical correlation for this equation was .22, which is a small to moderate association between the equation and the variables. The
eigenvalue was 0.05, suggesting that the equation accounts for approximately 5% of the variance between the groups, a rather low percentage. Finally, correlations between the predictor variables ranged from -.49 (representing an anticipated strong correlation between education level and professional employment) to .21, with many correlations near 0, suggesting an acceptable range of correlations.

Together, education and sexual abuse correctly classified 60% of the total sample of women into the correct group, which is moderately improved over the 50% probability of classification by chance alone. The equation correctly classified 75% of women in the dysfunctional group, a comparatively high classification rate for the group of greatest interest in the present study. The equation also classified 56% of non-dysfunctional women as dysfunctional, suggesting an elevated rate of false-positive classifications (See Table 6).
Table 6

Classification Table for Historical Variables for Women with or without a Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non dysfunctional</th>
<th>Dysfunctional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Dysfunctional</td>
<td>175</td>
<td>77 (44%)</td>
<td>98 (56%)</td>
</tr>
<tr>
<td>Dysfunctional</td>
<td>181</td>
<td>46 (25%)</td>
<td>135 (75%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 60%
Hypothesis 1: Sexually Abused Women with and without a Sexual Dysfunction

Hypothesis 1b: Abuse Variables. The six abuse variables then were used as predictors of membership in the dysfunction or non-dysfunction group for abused women. Only one woman was dropped from analysis because of missing data.

On step one of the analysis, penetration entered the analysis; Wilks’s lambda = 0.94, \( F (1, 70) = 4.85, p < .04 \), with a larger percentage of dysfunctional women reporting abuse involving penetration (46% versus 26%). The analysis completed after one step, producing a significant canonical discriminant function, \( X^2 (1) = 4.65, p < .04 \). The canonical correlation for the equation was .25. The eigenvalue was 0.07, with the equation accounting for approximately 7% of the variance between the groups. Correlations between the predictor variables ranged from -.30 to .47 (an anticipated strong correlation between frequency and duration of abuse) suggesting moderate to little correlation between the variables. This result partially supports the hypothesis.

The penetration variable correctly classified 66% of women into their diagnostic group. In addition, the equation correctly classified 94% as dysfunctional. Unfortunately, the equation also misclassified 81% of non-dysfunctional women as dysfunctional (See Table 7).
Table 7

Classification Table for Sexually Abused Women with or without a Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non-Dysfunctional</th>
<th>Dysfunctional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Dysfunctional</td>
<td>27</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(19%)</td>
<td>(81%)</td>
</tr>
<tr>
<td>Dysfunctional</td>
<td>46</td>
<td>3</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6%)</td>
<td>(94%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 66%
Hypothesis 2: Women with HSD compared to Women with Another Sexual Dysfunction

Hypothesis 2a: Historical Variables. The historical variables also were hypothesized to discriminate between sexual dysfunction diagnosis of HSD, orgasm disorders, and sexual pain disorders. Of the 182 women in the sample diagnosed with a sexual dysfunction, 124 were diagnosed with HSD, 34 were diagnosed with an orgasm disorder, and 24 were diagnosed with a sexual pain disorder. However, when the predictor variables were entered into a stepwise discriminant function analysis and cases were excluded due to missing variables, the number of women diagnosed with orgasm and pain disorders fell below 20 for each group, which is the recommended minimum group size for discriminant analysis (Tabachnick & Fidell, 1989). As such, the orgasm and pain disorder groups were collapsed into one group to be compared to the HSD group.

The six historical variables were used as predictors of membership in the HSD or Other dysfunction group. Of the original 182 cases, 32 were dropped from the analysis because of missing data. Of the remaining 150 cases, 105 were diagnosed with HSD while 45 were diagnosed with another sexual dysfunction.

On step one of the analysis, previous therapy entered the analysis; Wilks's lambda = 0.95, $F (1, 148) = 7.98, p < .006$, with a larger percentage of women with HSD reporting
previous therapy (74% versus 48%). At step two, employment entered the analysis; Wilks’s lambda = 0.90, $F (2, 147) = 8.35$, $p < .001$, with a slightly larger percentage of women with another dysfunction reported being employed at the time of treatment (79% versus 72%). A history of sexual abuse was not a significant predictor of specific dysfunctions.

With these two variable in the equation, the analysis produced a significant canonical discriminant function, Wilks’s lambda = .90, $X^2 = 15.81$, $p < .001$, and with a canonical correlation of .32. The eigenvalue was 0.12, suggesting that the equation accounted for approximately 12% of the variance between the groups. Correlations between the predictors ranged from -.47 to .24, again suggesting moderate to small correlation between the variables.

With previous therapy and employment entered into the discriminant function equation, 71% of the women with a dysfunction diagnosis were correctly classified, a relatively good classification rate. The equation correctly classified 85% of women as having HSD and correctly classified 42% of non-dysfunctional women (See Table 8).
Table 8

Classification Table for Women with HSD or Another Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non HSD</th>
<th>HSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non HSD</td>
<td>58</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(42%)</td>
<td>(58%)</td>
</tr>
<tr>
<td>HSD</td>
<td>124</td>
<td>19</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(15%)</td>
<td>(85%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 71%
Hypothesis 2: Abused Women with HSD or another dysfunction

Hypothesis 2b: Abuse Variables. Although a history of abuse did not discriminate between abused women with HSD and those with another dysfunction, the variables of the abusive situation were hypothesized to discriminate between the groups. All 46 abused women with a sexual dysfunction were included in the analysis, with 27 women diagnosed with HSD and 19 diagnosed with another dysfunction.

On step one of the analysis, physical force entered the analysis; Wilks's lambda = .87, $F(1, 44) = 6.84, p < .02$, and a larger percentage of women with HSD reported physical force (37% versus 5%). The analysis completed after this step, producing a significant canonical discriminant function, Wilks's lambda = .87, $X^2 = 6.29, p < .012$, with a canonical correlation of .37 and eigenvalue of 0.16. The correlations between the predictor variables ranged from -.34 to .38 suggesting moderate to small correlations between the variables.

With physical force entered into the discriminant function equation, 61% of the women were correctly classified into their dysfunction group. In looking at the equation's ability to classify women with HSD, the equation correctly classified only 37% of women in the HSD group, while it correctly classified 95% of women with another dysfunction (See Table 9).
Table 9

Classification Table for Sexually Abused Women with HSD or Another Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>HSD</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 61%
Hypothesis 3: Treatment Outcome

Hypothesis Three was designed to investigate if the historical and abuse variables investigated in Hypothesis One and Two also predicted successful treatment outcome. In addition, the hypothesis was designed to assess if variables of treatment were related to treatment outcome. The hypothesis was tested separately for all women, women diagnosed with HSD, women diagnosed with another dysfunction, and women with a history of sexual abuse.

Of the 182 women diagnosed with a sexual dysfunction, 166 completed the treatment program and their progress was evaluated upon completion. Subjects were classified as either "Successful" or "Non successful" treatment cases on the basis of clinical judgment made by the therapist team at the end of treatment. Couples were classified as "Successful" if they experienced symptom reversal as defined by ejaculation during intercourse, which Renshaw (1988) stated is the most objective criteria to use in defining treatment success. In contrast, couples were classified as "Non successful" if they did not engage in intercourse.

On the basis of this criteria, 114 (69%) of the 166 women with a sexual dysfunction were classified as successful treatment outcomes, suggesting that more than two-thirds of couples had engaged in intercourse by the end of treatment. In contrast, 52 women were classified as non successful treatment outcomes. The rates of successful
treatment outcome are consistent across dysfunctions, with 70% of women with HSD, 67% of women with another dysfunction, and 76% of abused women successfully treated. These results are comparable to those found in other treatment outcome studies (e.g. Hawton & Catalan, 1986; Hawton, Catalan, & Fagg, 1991) and speak to the effectiveness of the treatment not only across diagnoses but also for abused women.

Of the 114 successful treatment outcome women, 83 had a three month treatment follow-up. Fifty-eight (70%) of these women reported maintaining their treatment gains at follow-up. Approximately 70% of the women in other dysfunction groups also maintained their treatment gains at follow-up, which again is comparable to previous treatment outcome research (Schover & LoPiccolo, 1982). Although a large percentage of treatment gains were maintained, none of the variables of treatment were found to be significant predictors of maintaining treatment gains.

Variable Comparison

Hypothesis 3a: All Women

Demographic and Behavioral Variables. Table 10 presents the data for successful and non successful treatment women for the demographic and behavior variables. The only significant difference found was that successfully treated women reported significantly more masturbation per month, $t(161) = 1.94, p < .05$ (See Table 10).
Historical Variables. Percentages of successful or non-successful treatment women endorsing each of the six historical variables are found in Table 11 (See Table 11). A greater percentage of unsuccessful outcome women reported professional employment at the time of treatment, $X^2 (1) = 3.90$, $p < .05$, (See Table 11).

Treatment Variables. Successful and non-successful women also were compared on variables of the treatment (See Table 12). These variables included the total amount of sensate focus exercises completed during the therapy, the amount of sensate focus completed in weeks two through seven individually, the husband's and wife's judged motivation for treatment (one to ten), the duration of the marriage, duration of the sexual problem, the percentage of husbands with a dysfunction, and the percentage of women with a secondary dysfunction. Six significant differences were found between the groups. Successfully treated women engaged in more sensate focus homework over the entire course of treatment, $t (160) = 2.95$, $p < .005$; as well as during Week 2, $t (164) = 2.00$, $p < .05$; Week 3, $t (164) = 2.72$, $p < .008$; Week 4, $t (164) = 1.91$, $p < .05$; and Week 7, $t (160) = 3.57$, $p < .001$. In contrast, non-successful women's husbands had significantly higher motivation for treatment, $t (142) = 2.09$, $p < .04$, (See Table 12).
Table 10
Demographic and Behavioral Variables for Successfully or Unsuccessfully Treated Women.

<table>
<thead>
<tr>
<th>Treatment Outcome Group</th>
<th>Non successful (n = 52)</th>
<th>Successful (n = 114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>38.94</td>
<td>38.80</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>98.82%</td>
<td>96.32%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Catholic</td>
<td>51.12%</td>
<td>46.84%</td>
</tr>
<tr>
<td>% Protestant</td>
<td>34.04%</td>
<td>43.04%</td>
</tr>
<tr>
<td>% Jewish</td>
<td>9.70%</td>
<td>8.53%</td>
</tr>
<tr>
<td>% Practicing</td>
<td>52.25%</td>
<td>51.65%</td>
</tr>
<tr>
<td>Duration of Sx/Years</td>
<td>8.08</td>
<td>9.02</td>
</tr>
<tr>
<td>Frequency of Intercourse/Month</td>
<td>2.10</td>
<td>1.84</td>
</tr>
<tr>
<td>Frequency of Masturbation/Month</td>
<td>0.41</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, p < .05.
Table 11
Percentages for Historical Variables for Successfully or Unsuccessfully Treated Women.

<table>
<thead>
<tr>
<th>Treatment Outcome Group</th>
<th>Non successful</th>
<th>Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>% College Graduate</td>
<td>56.86%</td>
<td>64.91%</td>
</tr>
<tr>
<td>% Employed</td>
<td>71.15%</td>
<td>74.56%</td>
</tr>
<tr>
<td>% Professional(^a)</td>
<td>70.73%</td>
<td>52.58%</td>
</tr>
<tr>
<td>% Previous Treatment</td>
<td>67.31%</td>
<td>64.91%</td>
</tr>
<tr>
<td>% Alcohol Problem</td>
<td>5.77%</td>
<td>16.67%</td>
</tr>
<tr>
<td>% Sexually Abused</td>
<td>21.15%</td>
<td>30.70%</td>
</tr>
</tbody>
</table>

Note. \(^a\) indicates significant difference between the groups, \(p < .05\).
Table 12

Means and Percentages for Treatment Variables for Successfully and Unsuccessfully Treated Women.

<table>
<thead>
<tr>
<th>Treatment Outcome Group</th>
<th>Non successful (n = 53)</th>
<th>Successful (n = 114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensate Focus Totala</td>
<td>15.92</td>
<td>19.13</td>
</tr>
<tr>
<td>Week 2a</td>
<td>3.04</td>
<td>3.62</td>
</tr>
<tr>
<td>Week 3a</td>
<td>2.83</td>
<td>3.55</td>
</tr>
<tr>
<td>Week 4a</td>
<td>2.81</td>
<td>3.33</td>
</tr>
<tr>
<td>Week 5</td>
<td>2.56</td>
<td>2.95</td>
</tr>
<tr>
<td>Week 6</td>
<td>2.65</td>
<td>2.85</td>
</tr>
<tr>
<td>Week 7a</td>
<td>1.78</td>
<td>2.71</td>
</tr>
<tr>
<td>Wife Sx Duration</td>
<td>8.08</td>
<td>9.02</td>
</tr>
<tr>
<td>Marriage Duration</td>
<td>11.33</td>
<td>12.55</td>
</tr>
<tr>
<td>Wife Motivation</td>
<td>7.40</td>
<td>7.88</td>
</tr>
<tr>
<td>Husband Motivationa</td>
<td>8.15</td>
<td>7.38</td>
</tr>
<tr>
<td>% Wife with 2nd Dys</td>
<td>23.53%</td>
<td>18.57%</td>
</tr>
<tr>
<td>% Husband with Dys</td>
<td>39.71%</td>
<td>37.14%</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, p < .05.
Hypothesis 3b: Women with HSD

Treatment outcome was then evaluated in women diagnosed with HSD. Eighty (70%) of the 115 women diagnosed with HSD with complete data sets were treated successfully, with 73% maintaining their gains at follow-up. In contrast, 35 women were unsuccessfully treated. The two groups did not significantly differ on the demographic, behavioral, or historical variables.

**Treatment Variables.** Six significant differences were found between the groups for the treatment variables. Successfully treated women engaged in significantly more sensate focus homework over the entire course of treatment, \( t (111) = 3.50, p < .001 \), as well as during Week 2, \( t (113) = 2.78, p < .007 \); Week 3, \( t (113) = 2.71, p < .009 \); Week 5, \( t (113) = 2.17, p < .04 \); Week 6, \( t (113) = 2.20, p < .04 \); and Week 7, \( t (111) = 3.60, p < .001 \).

Hypothesis 3c: Women with another dysfunction

Treatment outcome was then evaluated in women diagnosed with dysfunctions other than HSD. Thirty five (67%) of the 51 women diagnosed with another dysfunction were classified as successful treatment outcomes, with 76% maintaining the gains at follow-up. In contrast, 17 women were unsuccessfully treated. The two groups of women did not significantly differ on the demographic, behavior, or treatment variables.
Hypothesis 3d: Abused Women

Treatment outcome was then evaluated in sexually abused women. Thirty five (76%) of the 46 abused women diagnosed with a dysfunction were treated successfully, suggesting that more than three-fourths of abused women were judged to have improved sexual functioning. In addition, 87% maintained their treatment gains at follow-up. In contrast, 11 women were unsuccessfully treated. The two groups of women did not differ on any of the variables investigated.

Hypotheses Testing

Hypothesis 3a: All Women with a Sexual Dysfunction

Historical Variables. A stepwise discriminant function analysis was performed using the six historical variables as predictors of membership in the treatment outcome groups. Of the original 178 cases, 41 were dropped from analysis because of missing data. Of the remaining 137 cases, 97 were classified as successful treatment outcomes while 40 were classified as unsuccessful treatment outcomes. No variables qualified for the analysis and therefore a discriminant function equation was not produced, suggesting that none of the historical variables was a significant predictor of treatment outcome in these women.

Treatment Variables. A stepwise discriminant function analysis was performed using the thirteen treatment variables as predictors of membership in the outcome groups. Of the 178 treatment completers, 52 had missing data and
were excluded from the analysis. Of the 126 included in the analysis, 42 were in the non-successful group and 84 in the successful group. To ensure normal distribution of each of the predictor variables, the negatively skewed wife’s and husband’s motivation variables had Log 10 transformations, the wife’s duration of symptom variable had a Log transformation, and the marriage duration variables had a Square Root transformation. These transformations were utilized in all subsequent analyses.

On step one of the analysis, Week 7 entered the analysis; Wilks’s lambda = .90, $F(1, 125) = 13.25, p < .001$, with inspection of the means indicating that women classified as successful treatment outcome engaged in more homework in Week 7 than did non-successful outcome women (2.71 versus 1.78).

The analysis completed after this step, producing a significant discriminant function, Wilk’s lambda = 0.904, $X^2 = 12.55, p < .001$, with a canonical correlation of .31. The eigenvalue of the equation was 0.11, suggesting that the equation accounted for approximately 11% of the variance between the groups. The correlations between the variables ranged from -0.19 to 0.70 suggesting moderate to strong relationships between some of the variables, specifically the weekly homework amounts, which was anticipated. Although the correlations between the weekly homework amounts are strong, they are not thought to compromise the
equation’s ability to discriminate between the groups. With the amount of sensate focus completed in week seven entered into the equation, 57% of the women were correctly classified, suggesting a moderate improvement over chance classification. In looking at the equation’s ability to classify women with successful treatment outcome, the equation correctly classified 55% of women in the successful outcome group. The equation was equally as effective in classifying non-successful treatment outcome women, correctly classifying 62% (See Table 13).
Table 13

Classification Table for Successfully or Unsuccessfully Treated Women.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non Successful</th>
<th>Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Successful</td>
<td>50</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(62%)</td>
<td>(38%)</td>
</tr>
<tr>
<td>Successful</td>
<td>112</td>
<td>51</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(45%)</td>
<td>(55%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 57%
Hypothesis 3b: HSD Women

**Historical Variables.** The six historical variables also were used as predictors of membership in the outcome groups for women with HSD. Of the original 124 cases, 26 were excluded because of missing data. Of the remaining 98 cases, 69 were classified as successful treatment outcomes while 29 were classified as unsuccessful. No variables qualified for the analysis and therefore a discriminant function equation was not produced.

**Treatment Variables.** A stepwise discriminant function analysis was performed on the treatment variables for women with HSD. Of the 124 treatment completers diagnosed with HSD, 35 had missing data and were excluded from analysis. Of the 89 included in the analysis, 28 were unsuccessfully treated and 61 successfully treated.

On step one of the analysis, Week 7 entered the analysis; Wilks’s lambda = .87, $F(1, 88) = 13.05, p < .001$, with investigation of the means suggesting that successfully treated women engaged in significantly more homework during week seven than did unsuccessful women (2.78 versus 1.64).

On step two, Week 2 entered the analysis producing a significant equation; Wilks’s lambda = .83, $F(2, 87) = 8.81, p < .001$, with investigation of the means suggesting that successfully treated women engaged in significantly more homework during week two (3.68 versus 2.69).

The analysis completed after two steps, with a
significant discriminant function; Wilk's lambda = 0.832, \( \chi^2 = 16.05, p < .0003 \). The function had a canonical correlation of .41, and an eigenvalue of 0.20, suggesting that the equation accounted for approximately 20% of the variance between the groups. The correlations between the predictor variables ranged between -.20 to .74, suggesting moderate to strong relationships between the variables. Again, the strongest correlations appeared between the amount of homework completed each week.

With both variables, the amount of sensate focus completed in week seven and in week two, entered into the discriminant function equation, 64% of the women were correctly classified, again a small improvement over chance classification. The equation correctly classified 61% of successfully treated women. More impressively, the equation correctly classified approximately 71% of unsuccessfully treated women (See Table 14).
Table 14

Classification Table for HSD Women Successfully or Unsuccessfully Treated.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non successful</th>
<th>Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non successful</td>
<td>34</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(71%)</td>
<td>(29%)</td>
</tr>
<tr>
<td>Successful</td>
<td>79</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(39%)</td>
<td>(61%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 64%
Hypothesis 3c: Non HSD women

**Historical Variables.** The six historical variables were used as predictors of treatment outcome. No variables qualified for the analysis and therefore a discriminant function equation was not produced.

**Treatment Variables.** The treatment variables were used as predictors of treatment outcome with no variables qualifying for the analysis.

Hypothesis 3d: Abused Women

**Historical Variables.** The six historical variables were used as predictors of treatment outcome with no variables qualifying for the analysis.

**Treatment Variables.** The treatment variables were used as predictors of treatment outcome with no variables qualifying for the analysis.

**Alternative Statistical Analyses**

**Group mean substitution for missing data**

Given the number of cases that were excluded from the above discriminant function analyses due to missing data values for predictor variables, the analyses were redone with the mean value for the specific variable for each group replacing any missing data points. This resulted in no cases being excluded from the discriminant function analyses. Inspection of the results indicated no markedly different findings compared to the analyses excluding subjects with missing data. In no case did any variable's
inclusion or exclusion from a discriminant equation change. In two cases, the percentage of subjects correctly classified changed slightly (i.e. less than 3%).

**Logistic regression**

The three hypothesis also were assessed using logistic regression analysis. Logistic regression is similar to discriminant function analysis as it allows for the classification of subjects into specified groups on the basis of a regression equation; yet requires fewer assumptions about the nature of the data (Norusis, 1994). It also lends itself well to both dichotomous and continuous data (Tabachnick & Fidell, 1989). Finally, logistical regression focuses more on the probability of subjects falling into specific groups on the basis of the regression equation.

Logistic regression analysis results were very similar to the discriminant function analysis results presented. The same variables that entered the discriminant equations also entered into the logistic equations. In addition, the percentages of women correctly classified were very similar, within two percentage points, or identical.

**Husbands of non dysfunctional women**

Similar analysis were performed on the husbands of women without a sexual dysfunction (n = 177). Eighty-six of these men (49%) were diagnosed with male erectile disorder, 55 with (31%) with HSD, 27 (15%) with premature ejaculation,
and nine (5%) with male orgasmic disorder. On average, these men reported having the dysfunction for 8.09 years. They reported engaging in intercourse 1.19 times per month and masturbation 2.75 times per month. One hundred and sixty three (92%) were employed at the time of treatment with 54% reporting professional employment. One hundred and sixty five of the men (93%) were Caucasian and the average age of these men was 45.92 years.

In comparing men with a sexual dysfunction to men without a dysfunction, men without a dysfunction were found to be significantly younger, $t (353) = 4.42, p < .001$; and reported engaging in both more intercourse, $t (350) = 2.66, p < .009$, and masturbation, $t (351) = 3.55, p < .001$, per month than men with a dysfunction (See Table 15). In comparing the two groups of men on the historical variables, a greater percentage of men with a dysfunction were unemployed at the time of treatment, $X^2 (1) = 7.71, p < .03$.

Men with erectile disorder ($n = 86$) and men with HSD ($n = 55$) were compared on the demographic, historical, and behavioral variables. The two groups were not found to differ on any of these variables.
Table 15

Demographic and Behavioral Variables for Men with and without a Sexual Dysfunction.

<table>
<thead>
<tr>
<th>Sexual Dysfunction Group</th>
<th>Non dysfunctional ( (n = 178) )</th>
<th>Dysfunctional ( (n = 177) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age(^a)</td>
<td>41.42</td>
<td>45.92</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>97.80%</td>
<td>93.20%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Catholic</td>
<td>52.42%</td>
<td>44.34%</td>
</tr>
<tr>
<td>% Protestant</td>
<td>34.44%</td>
<td>38.94%</td>
</tr>
<tr>
<td>% Jewish</td>
<td>8.67%</td>
<td>10.00%</td>
</tr>
<tr>
<td>% Practicing</td>
<td>54.37%</td>
<td>53.92%</td>
</tr>
<tr>
<td>Duration of Sx/Years</td>
<td></td>
<td>8.09</td>
</tr>
<tr>
<td>Frequency of Intercourse/Month(^a)</td>
<td>1.90</td>
<td>1.19</td>
</tr>
<tr>
<td>Frequency of Masturbation/Month(^a)</td>
<td>4.82</td>
<td>2.75</td>
</tr>
</tbody>
</table>

Note. \(^a\) indicates significant difference between the groups, \( p < .01 \).
Treatment outcome was evaluated in men with a dysfunction utilizing the same treatment variables for the women with a dysfunction discussed above. Of the 177 men with a dysfunction, 118 (67%) were considered successful treatment outcomes while 59 were considered unsuccessful treatment outcomes. Seventy four (63%) of the 118 successfully treated men had a three month follow-up, with 54 men (73%) maintaining their treatment gains.

All Men with a Dysfunction. A stepwise discriminant function analysis was performed using the fourteen treatment variables for all men with a dysfunction. Of the 177 treatment completers with a dysfunction, 39 had missing data and were excluded from the analysis. Of the 138 included in the analysis, 93 were successfully treated and 45 were unsuccessfully treated.

On step one of the analysis, Week 7 entered the analysis; Wilks's lambda = .87, \( F(1, 136) = 20.21, p < .0001 \), with investigation of the means again suggesting that successfully treated men engaged in significantly more homework during week seven than did non-successfully treated men (2.77 versus 1.51).

The analysis completed after this step, with a significant discriminant function; Wilk's lambda = 0.871, \( X^2 = 18.78, p < .0001 \). The function had a canonical correlation of .36, and an eigenvalue of 0.15, suggesting that the equation accounted for approximately 15% of the
variance between the groups. The correlations between the predictor variables ranged between -.21 to .71, suggesting moderate to strong relationships between the variables. Again, the strongest correlations appeared between the amounts of homework completed each week.

With the amount of sensate focus completed in week seven entered into the discriminant function equation, 57% of the men were correctly classified, again a small improvement over chance classification. The equation correctly classified 50% of men in the successful outcome group. More impressively, the equation correctly classified approximately 71% of men in the non-successful group (See Table 16).
Table 16

Classification Table for Successfully or Unsuccessfully Treated Men.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non successful</th>
<th>Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non successful</td>
<td>59</td>
<td>42</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(71%)</td>
<td>(29%)</td>
</tr>
<tr>
<td>Successful</td>
<td>117</td>
<td>59</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(50%)</td>
<td>(50%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 57%
Men with HSD. A stepwise discriminant function analysis was performed using the twelve treatment variables for men diagnosed with HSD. Of the 55 treatment completers with HSD, 13 had missing data and were excluded from the analysis. Of the 42 included in the analysis, 12 were unsuccessfully treated and 30 successfully treated, which leaves too small a sample size in the unsuccessful group for a valid discriminant function analysis.

Men with Erectile Disorder. A stepwise discriminant function analysis was performed using the 13 treatment variables for men diagnosed with erectile disorder. Of the 86 treatment completers with erectile disorder, 19 had missing data and were excluded from the analysis. Of the 67 included in the analysis, 23 were unsuccessfully treated and 42 successfully treated.

On step one of the analysis, Week 7 entered the analysis; Wilks's lambda = .84, $F(1, 65) = 12.61$, $p < .007$, with investigation of the means suggesting that successfully treated men engaged in significantly more homework during Week 7 than unsuccessfully treated men (2.93 versus 1.61).

The analysis completed after this step, with a significant discriminant function; Wilk's lambda = 0.837, $X^2 = 11.44$, $p < .0007$. The function had a canonical correlation of .40, and an eigenvalue of 0.19, suggesting that the equation accounted for approximately 19% of the variance between the groups. The correlations between the
predictor variables ranged between -.22 to .73, suggesting moderate to strong relationships between the variables. Again, the strongest correlations appeared between the amount of homework completed each week.

With the amount of sensate focus completed in week seven entered into the discriminant function equation, 61% of the men were correctly classified, again a small improvement over chance classification. The equation correctly classified 61% of men successfully treated. The equation also correctly classified approximately 62% of men unsuccessfully treated (See Table 17).
Table 17

Classification Table for Men with Erectile Disorder Successfully or Unsuccessfully Treated.

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>N</th>
<th>Non successful</th>
<th>Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non successful</td>
<td>29</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(62%)</td>
<td>(38%)</td>
</tr>
<tr>
<td>Successful</td>
<td>56</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(39%)</td>
<td>(61%)</td>
</tr>
</tbody>
</table>

Note. Total correctly classified = 61%
Sexually abused men

Of the 359 husbands in the present study, 27 (8%) reported a history of child sexual abuse. Eighteen of these men (67%) were diagnosed with a sexual dysfunction: eight men with HSD, eight with male erectile disorder, and two with premature ejaculation. The average age of these men was 40.78 years. Thirteen reported at least a college education and 26 were employed at the time of treatment with 18 reporting professional employment. Sixteen of the men reported a previous therapy experience and nine reported a current or past alcohol problem. On average, they reported engaging in intercourse 1.96 times per month and masturbation 7.26 times per month.

In considering elements of the abusive situation, the average age of abuse was 9.67 years. Twenty of the men reported being abused on only one occasion and no man reported being abused more than four times. Eleven reported abuse by a stranger, ten by a sibling, and six by another relative, with none reporting abuse by the mother or father. Seven reported abuse involving penetration and six reported abuse involving physical force.

Sexually abused and non abused men were compared on the demographic and behavioral variables. Men who were sexually abused reported significantly more masturbation per month, $t\ (406) = 3.30, p < .001$ (See Table 18). The two groups did not significantly differ on any of the historical variables.
Table 18

Demographic and Behavioral Variables for Abused and Non abused Men.

<table>
<thead>
<tr>
<th>Abuse Group</th>
<th>Non abused (n = 332)</th>
<th>Abused (n = 27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>43.62</td>
<td>40.78</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>95.50%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Catholic</td>
<td>52.42%</td>
<td>44.34%</td>
</tr>
<tr>
<td>% Protestant</td>
<td>34.44%</td>
<td>38.94%</td>
</tr>
<tr>
<td>% Jewish</td>
<td>8.67%</td>
<td>10.00%</td>
</tr>
<tr>
<td>% Practicing</td>
<td>54.37%</td>
<td>53.92%</td>
</tr>
<tr>
<td>Frequency of Intercourse/Month</td>
<td>1.49</td>
<td>1.96</td>
</tr>
<tr>
<td>Frequency of Masturbation/Montha</td>
<td>3.62</td>
<td>7.26</td>
</tr>
</tbody>
</table>

Note. a indicates significant difference between the groups, p < .01.
A recent survey of sexologists (Apt, Hurlbert, & Clark, 1994) indicated that research investigating possible causal directions for sexual dysfunctions and treatment outcome research were two of the top three neglected research areas in human sexuality. Both of these areas are addressed by the three primary objectives of the present study. First, although the current study could not explore causal mechanisms for sexual dysfunctions, it did replicate and extend previous research on the variables associated with sexual dysfunction by finding that several historical and abuse variables discriminated between women with and without a dysfunction. More specifically, sexual abuse and higher levels of education level discriminated between the groups and were predictive of dysfunction, while previous therapy discriminated between women with HSD and other dysfunctions.

Second, whereas previous research has found that elements of the abusive situation are predictive of adult traumatization in general, the current study indicated that these elements are predictive of sexual dysfunction in particular. Sexual penetration discriminated between dysfunctional and non-dysfunctional women and predicted
sexual dysfunction, while physical force discriminated between women with HSD and another dysfunction.

Third, the present study also contributes to the sexual dysfunction treatment outcome literature. While previous outcome research suggests that one-half to two-thirds of patients demonstrate improved sexual functioning following treatment (Barlow, 1986), the current study replicates these results with successful outcome rates around 70% across dysfunction groups. The current study extends previous work in finding that the amount of sensate focus homework completed at the end of treatment was a significant predictor of treatment. Whereas more insight oriented therapists (i.e. Maltz & Holman, 1987) have suggested that a behavioral treatment approach will be ineffective with victims of sexual abuse; the present study refutes this claim and extends the behaviorally based treatment to sexual abuse victims by demonstrating a 76% successful treatment rate. Considering the three objectives of the study together, the present study contributes to both the understanding of sexual dysfunction as well as sexual dysfunction treatment.

In considering the relationship between the historical variables investigated in the present study and sexual dysfunction, two findings stand out. Women with and without a sexual dysfunction significantly differed on two variables, with a larger percentage of women with a
dysfunction reporting a history of sexual abuse and a college education. These two variables correctly classified 60% of women into their diagnostic group, with 75% of women correctly classified as dysfunctional, suggesting that the variables are predictive of sexual dysfunction.

The finding that sexual abuse significantly predicted sexual dysfunction both replicates and extends previous research. The finding not only further strengthens the relationship between child sexual abuse and adult sexual dysfunction (e.g. Bagley & Ramsay, 1985), but also suggests that sexual abuse appears to predispose individuals to a greater likelihood of adult sexual problems. In the present sample, 20% of all women in treatment reported a history of sexual abuse, a percentage comparable to previous studies (e.g., Becker, Skinner, Abel, 1983). Of these abused women, 63% were diagnosed with a sexual dysfunction. The relationship between child sexual abuse and adult sexual dysfunction suggests the need for early intervention in response to the abuse to prevent the development of subsequent sexual problems. Unfortunately, information about the initial response to the abuse was not available. Further research should investigate the relationship between the initial response to the abuse and adult adjustment.

In considering abused women with and without a dysfunction, abuse involving sexual penetration also significantly discriminated between the groups, correctly
classifying 66% of abused women and accurately classifying 94% of women with a dysfunction. Previous research has demonstrated a relationship between penetrative abuse and relationship problems in adulthood disturbance, such as marital disruption and decreased satisfaction in heterosexual relationships (Finkelhor, Hotaling, Lewis, & Smith, 1989). The current study demonstrated a more specific relationship between penetrative abuse and adult sexual dysfunction.

Current data suggest that sexual penetration, as compared to non-penetrative sexual fondling, may be more traumatic and result in a greater likelihood of sexual dysfunction in adulthood (McCarthy, 1990). For these women, a dysfunctional sexual response pattern which brings them into treatment may be a classically conditioned response to the initial abusive situation that persists into adulthood (Briere & Runtz, 1988). As such, this would speak to the utility of a behavioral intervention which emphasizes unlearning of dysfunctional sexual response patterns and the learning of more functional response patterns through techniques such as sensate focus. It is encouraging that 76% of these women were treated successfully with such techniques in the present study, suggesting that sexual dysfunction in sexually abused women is responsive to behavioral treatment.

The idea that the abuse variables would discriminate
between women with HSD and women with another dysfunction also was partially supported by the present study. Although a history of sexual abuse did not significantly discriminate among dysfunction groups, a greater percentage of women with HSD reported sexual abuse involving physical force than did women with another diagnosis. However, the discriminant equation was rather poor at discriminating between the groups, correctly classifying only 61%. Again, these results extend previous research linking physical force to an increased degree of adult traumatization (Finkelhor, 1979; Fromuth, 1986) by specifically extending it to sexual dysfunction. Women whose sexual abuse involved physical force may be learning a dysfunctional pattern of sexual response at an early age, perhaps involving an element of learned helplessness. For these women, sexual behavior may evolve into an experienced loss of control, in which these women learn that their desire and/or behavior has no influence on the sexual situation. As such, in adulthood, sexual desire becomes inconsequential, as they have learned that sex is about being controlled.

In considering the results for abusive women together, a pattern begins to emerge. Although previous research has demonstrated a relationship between various elements of the abusive situation and adult disturbance (i.e. Browne & Finkelhor, 1986), it appears that penetrative abuse and abuse involving physical force tend to predict sexual
dysfunction in adulthood. This is not to suggest that abuse by a trusted adult or continuous abuse of long duration cannot lead to adult dysfunction or impaired adult relationships, but there may be something unique about abuse involving penetration and force that teaches the victim dysfunctional patterns of sexual response at an early age. As a result of such abuse, perhaps these women do not learn sexual behavior patterns related to the experience of desire or the facilitation of orgasm. This is consistent with Hurlbert’s (1993) behavioral conceptualization of sexual dysfunctions in which he views dysfunctions as situational and transient and determined by sexual technique or skill deficits rather than the result of individual problems.

The current study also identified relationships between other historical variables and sexual dysfunction. The study provides initial evidence for the relationship between higher levels of education and sexual dysfunction. In considering this relationship, two possible interpretations are likely. In her investigation of sexual dysfunction and employment type, Avery-Clark (1986) found that women with careers (e.g. lawyer or businesswoman) were two times more likely to present with a desire disorder than women employed in "jobs" or who were unemployed. She interpreted these results in terms of the psychological and interpersonal stressors characteristic of married couples when wives pursue careers. In the present study, the correlation
between education level and professional employment was .49, suggesting a strong relationship between higher levels of education and employment in professional careers.

Therefore, it may be that higher levels of education prepare women for professional careers which, in turn, create stress in the marital relationship which might predispose couples toward dysfunctional sexual behavior. This interpretation is consistent with the common complaint of couples in sexual dysfunction therapy is that they simply do not have the time, energy, or desire for sex at the end of the day. As a result, couples are encouraged to "schedule" their sensate focus homework so that sexual interaction does not get put off.

A second interpretation of this finding may be that women with higher levels of education may be more likely to utilize psychological treatment. In the present study, 66% of dysfunctional women reported engaging in previous psychotherapy. Therefore a majority of dysfunctional women, reporting significantly higher levels of education, had utilized psychotherapy of one form or another. Although higher levels of education also suggest greater opportunity to learn about sexuality, and therefore perhaps more readily identify a dysfunction, such an interpretation is inconsistent with the common presentation of couples to sex therapy. Couples typically present with little knowledge about sexual anatomy and functioning, and treatment
approaches, like that investigated in the present study. Consequently, an educational component is included in the treatment package.

The relationship between sexual dysfunction and higher education levels in women in the present study has implications for marital therapists. The halo effect of social perception theory suggests that when presented with positive attributes about a target individual, such as higher levels of education, the person forming the impression (the therapist) makes other positive attributes about the individual’s behavior. Such potential attributes may include the sexual functioning of the couple. As such, therapists may look at a highly educated couple and make more positive attributions about them, including their level of sexual adjustment, and thus may miss opportunities to address issues of sexual functioning. Pairing this idea with the high prevalence of sexual dysfunctions, therapists are encouraged to ask about sexual functioning in all couples, including highly educated ones, even if it is not the presenting problem in treatment.

The hypothesis that historical variables would discriminate women with HSD from women with other dysfunctions was supported by the present investigation. In previous work, Donahey and Carroll (1993) found a high level of psychological distress in women with HSD. Similarly, Schreiner-Engel and Schiavi (1986) found that 71% of women
with HSD had a history of prior psychopathology, primarily affective disorders. The present study contributes to the relationship between HSD and psychological distress by finding that a significantly larger percentage of women with HSD reported previous therapy experience(s) (74%) than women with other dysfunctions. Previous therapy experience, along with current employment, significantly discriminated between women with HSD and women with another dysfunction, correctly classifying 71% of all women and 85% of the women with HSD.

Although there was no significant differences between women with HSD and those with another dysfunction in terms of the type of therapy engaged in, both groups reported, on average, being involved in psychotherapy for more than 50 sessions, that is, one or more years of treatment. Furthermore, women with HSD in the present study reported a symptom duration of almost nine years. This suggests that these women have suffered for a long period of time and have made previous attempts to address their dysphoria. Given the co-morbidity of HSD and affective disorders previously demonstrated, Schreiner-Engel and Schiavi (1986) suggest a potential common etiology, either biological or psychological, for HSD and depression. In light of this potential relationship, therapists are encouraged to thoroughly assess patients with HSD for comorbid depression.

Current employment also significantly discriminated between the dysfunction groups. In women with HSD, the
correlation between previous therapy and employment is -.23, suggesting a moderate inverse relationship between the variables. In pairing this result with the therapy result discussed above, a possible profile of women with HSD begins to emerge. It may be that women suffering with HSD, whether alone or in combination with other pathology or marital discord are more likely to have been engaged in previous therapy, for a rather long period of time, and are less likely to be employed. This might suggest that the HSD, either by itself or in combination with comorbid psychopathology, such as depression, may be related to a greater degree of functional impairment than other sexual dysfunction diagnoses.

The present study also set out to investigate the effectiveness of a behaviorally based treatment for sexual dysfunction. Across the sexual dysfunction groups, the success rate for treatment was similar to that of previous work (i.e. Hawton, Catalan, & Fagg, 1991) with approximately 70% of women being considered successful treatment outcomes. In addition, 70% of successfully treated women were judged to maintain their treatment gains at a three-month follow-up. Moreover, the success rate for treatment for HSD also was 70%, which is greater than the 56% reported for HSD in previous studies (Hawton & Catalan, 1986). As such, the present study provides additional evidence for the effectiveness of behaviorally based treatment of sexual
dysfunction, even for disorders such as HSD which are thought to be less responsive to behavioral treatment than arousal, orgasm, and pain disorders (Kaplan, 1979).

The present study also set out to extend previous research by identifying predictors of successful treatment outcome. As such, women of different dysfunction groups were classified as successful or non successful outcomes, and the historical variables were used to discriminate between the groups. The historical variables did not serve as significant predictors of treatment outcome for any dysfunction group. This suggests that the historical variables investigated in the present study are not related to treatment outcome in this model of treatment. In addition, replicating Hawton and Catalan (1986), sexually abuse history did not reduce the treatment success rate, with 76% of abused women classified as successful treatment outcomes on the basis of increased sexual behavior. This result argues against the claims that intrapsychic issues surrounding the abuse must be addressed prior to behavioral treatment of the dysfunction (e.g. Maltz & Holman, 1987). Therefore, perhaps as Douglas, Matson, and Hunter (1989) suggest, individual treatment for abuse victims focused on the abuse may only be needed if the abuse is a major preoccupation for these women.

Previous research has suggested that multiple dysfunctions, either within a couple or within a partner,
are not associated with treatment outcome (Hawton, Catalan, & Fagg, 1991; Shover & LoPiccolo, 1982). This was replicated in the current research as multiple diagnoses either within a couple or within an individual was not associated with treatment outcome, suggesting that the treatment model is equally effective in the presence of multiple dysfunctions. This lends further support to the effectiveness of the treatment model irrespective of the presenting problem(s). The "philosophy" of the treatment approach might help explain this result. Couples often present to the clinic with the dysfunctional partner identified as the "patient." As early as the first session, couples are instructed to view the dysfunction as something shared between them, not as something one of them has and the other does not. As such, couples are encouraged to see the dysfunctional behavior as something they must address together in order to improve sexual functioning.

Nevertheless, although historical variables were not predictive of treatment outcome, several treatment variables were predictive of successful treatment. Previous research has suggested the importance of early progress, as measured by the amount of sensate focus exercises completed, in treatment success (Hawton, Catalan, & Fagg, 1991). The present study indicates that sensate focus at the end of treatment is critical to treatment success. For example, when women across dysfunctions are considered together, the
amount of sensate focus homework completed in Week 7 of treatment, the final week of treatment, was a significant predictor of treatment outcome, with the equation successful classifying 65% of women in their correct outcome group.

Successfully treated women reported engaging in almost one more sensate focus exercise per week in Week 7, on average 2.71 exercises per week, than non-successful outcome women, with 1.78 exercises per week. In addition, successful treatment outcome women reported engaging in significantly more exercises over the entire treatment, as well as in Weeks 2, 3, and 4. For women with HSD, the amount of sensate focus engaged in Week 7 and Week 2 were significant predictors of successful treatment. Again, these women reported engaging in approximately one more sensate focus session in both week two and week seven than did non-successful women. It may be that increased levels of sensate focus exercises at the end of treatment are related to the maintenance of treatment gains at follow up. In the present study, 70% or more of successfully treated women reported maintaining those gains at follow-up. This result emphasizes the importance of couples learning more functional sexual behaviors early in treatment and of practicing them repeatedly throughout treatment. As a result, therapist should strongly motivate couples to continue sensate focus exercises toward the end of treatment in order to maintain treatment gains.
Additional Results

In considering the dysfunctions of the husbands of the women without dysfunction, 49% of these men were diagnosed with male erectile disorder and 31% with HSD. These percentages are consistent with prevalence rates found in other clinical populations (e.g. Schover & LoPiccolo, 1982). Men with a dysfunction reported engaging in significantly less masturbation and intercourse than non dysfunctional men. In contrast, women with a dysfunction reported engaging in significantly more intercourse per month than non dysfunctional women, perhaps suggesting that the man’s level of sexual interest and functioning serves as the indicator of the amount of sexual intercourse between them.

The results of an exploratory treatment outcome analysis for dysfunctional men was remarkably similar to the results found for dysfunctional women. Across dysfunctions, 66% of men were considered successful treatments, suggesting that the current treatment was equally effective with male as well as female dysfunctions. Again similar to the female results, the amount of sensate focus homework completed in Week 7 was a predictor of successful treatment for all men and for men with erectile disorders. This result provides further evidence for the importance of the sensate focus exercises throughout the entire course of treatment.

In the present study 8% of the men (n = 27) reported a history of child sexual abuse, which is consistent with the
prevalence rates found in a majority of studies (Finkelhor, 1979). Nevertheless, the current sample also may reflect the underreporting of abuse. It may be that several males did not acknowledge a childhood sexual experience as abusive (Hunter, 1990) perhaps regarding the experience as experimentation (Vander Mey, 1988). In addition, the number of abused men may be higher as father-son and mother-son abuse often is not acknowledged (Watkins & Bentovim, 1992) and no men in the present study reported parental abuse.

In considering the elements of the abusive situation, men in the present study were abused at an older age and for shorter durations than women. Both of these findings are consistent with previous research (Finkelhor, 1984; Hunter, 1991). As an indirect measure of adult difficulty, 59% of the men reported a previous therapy experience and 33% reported a current or past problem with alcohol. In terms of sexual dysfunctions, 66% of the men were diagnosed with a dysfunction, eight with HSD and eight with male erectile disorder. Interestingly, abused men reported engaging in two times more masturbation per month than non-abused men, although this may be an inflated rate as two of the abused men reported masturbating more than twenty times per month.

Although not the primary focus of the present study, there were several results that provide more information about sexual dysfunction patients. In considering some of the historical and demographic information of the couples,
on average, they reported experiencing their sexual dysfunction during approximately eight of their thirteen years of marriage. This suggests that not only are couples experiencing sexual functioning problems for a long period of time prior to treatment, they also are experiencing problems relatively early in the marital relationship. It may be that for these couples the "decision" to seek sexual dysfunction therapy may be a long process, in which the couple must come to recognize and identify that they are having a sexual problem (with the first signs of the problem appearing in the first years of the marriage), begin to make a decision to seek treatment, and finally come in for formal treatment. Given the sensitive nature of sexual issues, it is not all that surprising that couples take several years to enter into treatment.

An alternative explanation may be that these individuals recognize that they are experiencing a problem in the marital relationship, yet that it takes several years to actively seek out sexual dysfunction therapy. For example, 64% of dysfunctional women and 49% of dysfunctional men, reported a history of previous psychotherapy, whether it be individual, marital, or sexual. This suggests that these individuals are experiencing some element of dysphoria that they attempt to address through therapy. Perhaps these individuals need a period of years or additional therapeutic experiences until they are able or ready to focus on the
problematic sexual behavior. In contrast, an alternative explanation may be that marital dissatisfaction precedes the development of dysfunction in these individuals (Stuart, Hammond, & Pett, 1987). Unfortunately, marital satisfaction was not examined in the present study.

In contrast, perhaps couples use a significant change in their sexual behavior as the indicator for them to seek out sexual dysfunction therapy. Previous work has suggested that the dysfunctional male maintains the power to control sexual activity in the relationship (Schover & LoPiccolo, 1982). In the present study, when the man has the dysfunction, the amount of intercourse significantly decreases in the couple (from 1.90 to 1.19 times per month, a 63% reduction in frequency). In contrast, when the woman has the dysfunction, the amount of intercourse remains unchanged at 1.88 times per month. In these couples, perhaps as the non-dysfunctional man continues to pursue intercourse and the woman feels obligated to respond even in the face of her dysfunction. In addition, non-dysfunctional women, that is, women whose husband’s have a diagnosed dysfunction, reported engaging in significantly more masturbation per month than dysfunctional women. This indirectly suggests that couples may use the man’s satisfaction with the amount of intercourse in the relationship as the indicator of a sexual problem and the need for therapy.
The implications for this set of findings are important for therapists addressing marital and sexual issues in the context of either individual or marital therapy. It appears that not only do couples with a sexual problem take a long period of time to address the sexual problem directly, but also the present data suggest the possibility that there may be an inequity in who decides when the problem is truly a problem. Although DSM IV diagnostic criteria considers the couple's evaluation of the behavior as dysfunctional, the present results suggest that it is more likely the man who defines when the couple's sexual behavior is dysfunctional. Given the effectiveness of behavioral sexual dysfunction therapy demonstrated both in this and other studies, it behooves therapist working with married individuals to thoroughly assess sexual functioning and address these issues appropriately, either through treatment or referral.

Limitations of the Present Study

Although the results of the present study contribute to our understanding of sexual dysfunction, sexual abuse, and sexual dysfunction therapy, they are nevertheless limited and must be viewed cautiously. Both the nature of the sample and the nature of the data could be improved. As with a vast majority of the samples in sexual dysfunction research (e.g. Heiman, Gladue, Roberts, & LoPiccolo, 1986), the current sample is not representative group of the adult population at large. For the most part, the present sample
is Caucasian (94%), from dual-job or career marriages (75%), and highly educated (55% with college degrees). Therefore, the data may not be generalizable to minorities, unmarried individuals, or those with less education.

Another limitation is the nature of the data collection. The data are archival, whereas it would have been ideal to collect data and utilize additional empirical measures after the formulation of the hypothesis. For example, it would be useful to have known the presenting problem(s) or diagnoses for individuals reporting a history of psychotherapy. Unfortunately, such data was not available, and the reported type of therapy and number of sessions is the only measure of "distress" in the present study. Similarly, it would have been useful to have clinical measures of sexual desire, psychological symptoms, or marital satisfaction both before and during sexual treatment, which would have increased the integrity of the data set. Finally, it would have been useful to have "true" non-dysfunctional couples for comparison, instead of non-dysfunctional partners of dysfunctional individuals. Comparisons to individuals from non-dysfunctional couples could conceivably increase the power of the findings. Unfortunately, the archival nature of the data precluded the inclusion of such measures.

The data also are from historical self-report, and its validity is potentially reduced by distortion, reactivity,
and demand characteristics, which is common in historical research on both sexual behavior and sexual abuse (McConaghy, 1988; Williams, 1994). For the data that is not self-report, it was collected by a secondary source, the previous therapists and supervisors, which may compromise the reliability of the data (McConaghy, 1988). Similarly, no inter-judge or inter-rater reliability information on the data found in the records was available. This issue is most central in the classification of treatment outcome. Nevertheless, the use of couples' reported frequency of intercourse as a measure of successful treatment outcome is similar to that found in other studies (Hawton, Catalan, & Fagg, 1991; Renshaw, 1988; Schover & LoPiccolo, 1982). Further, given the nature of the data collection into the medical records, into pre-designed categorical or continuous variables (See Appendix A), this is not thought to be as great a threat to the data as it would if the data were taken from transcripts or text found in the medical record.

Further, there is the issue of missing data. Several cases in the data set had incomplete data, necessitating exclusion from the discriminant analyses and the small cells for some analysis made it necessary to collapse female orgasm and pain disorders into a single "other" dysfunction category. Fortunately, when group means were substituted for missing data points in alternative analyses, there were no appreciable differences in the results.
Finally, current interpretations must be tempered by the quality of the discriminant function equations. Although variables often significantly discriminated between the groups, the amount of variance accounted for by the equations was relatively small, usually between 10% and 20%. This suggests that additional variables probably are important. Some of these variables may include marital satisfaction or psychological symptoms which should be included in future studies. Unfortunately, the results of the present study could not be enhanced by the inclusion of such variables which may have increased correct classification rates.

**Future Research**

The present study contributes to the understanding of the relationship between sexual abuse and sexual dysfunction as well as the effectiveness of a behaviorally based sexual dysfunction treatment. In addition, the results of the present study suggest several directions for future research. In the area of sexual abuse and sexual dysfunction, one area of research is that of co-morbid psychopathology. For many sexually abused women, their sexual dysfunction may be encompassed by additional undiagnosed pathology. For example, these women may be experiencing impaired sexual functioning as a result of post-traumatic reaction subsuming the sexual dysfunction. However, the current research on co-morbidity in the sexual
abuse population lacks sound assessment and diagnostic methods (Saunders, Villeponteaux, Lipovsky, Kilpatrick, & Veronen, 1992).

In addition to investigating the co-morbidity of sexual abuse with various disorders, the relationship has implications for clinical decision making with these patients. With the possibility of co-morbidity of sexual dysfunction with other Axis I pathology, such as major depression or PTSD, the clinician must decide which disorder to address first, considering degree of impact, severity, patient interest, and therapist skill. Although several authors (e.g. Maltz & Holman, 1987) suggest addressing intrapsychic issues of abuse prior to behavioral intervention for some women, the present study suggests that a behavioral treatment can improve sexual functioning in abused women without doing so. In light of these considerations, guidelines for clinical decision making for sexually abused patients with sexual dysfunction and additional pathology are warranted.

The results of the present study also suggest the importance of early intervention in the treatment of sexual dysfunction. Couples reported having sexual difficulties for approximately eight years, and approximately five years after the onset of the marriage. This speaks to the need for early assessment and intervention which may be most readily accomplished by primary care physicians. Given the
increase in the number of patients seeking sexual dysfunction therapy (LoPiccolo & Friedman, 1988), this already may be occurring. In addition, accurate news media stories of sexual dysfunction and treatment may assist people in seeking treatment earlier. Early assessment and intervention strategies for survivors of child sexual abuse which directly assess sexual functioning are also needed, given the increased predisposition for adult sexual dysfunction that can be associated with childhood abuse.

Although not the focus of the present study, the smaller investigations of male dysfunction and sexually abused males, also suggest future research. Studies similar to the present one, focusing on the variables related to dysfunction and treatment success and that may suggest causal mechanisms for sexual dysfunctions, could increase our knowledge of male sexual dysfunction. In addition, more research is needed on the relationship between sexual abuse and dysfunction in males. Due to the small sample size, the present study yields only descriptive information on the sexual functioning of men who were sexually abused. The research awaits larger sample sizes.

The present study also suggests further research in the area of sexual dysfunction treatment. Although the present study suggests the importance of sensate focus exercises both at the conclusion of treatment, the process mechanisms for successful treatment remains unclear. Other variables
potentially affecting treatment, such as marital satisfaction or communication training, should be assessed in future work. Even within the context of the present study, the importance of the educational material and various therapy exercises should be further assessed to increase our understanding of their contribution to treatment effectiveness.

The present study speaks to the effectiveness of behavioral interventions with the sexual dysfunctions, and with sexual dysfunctions subsequent to sexual abuse, suggesting that these treatments can be effective in the absence of more insight oriented work. However, a more direct test of the effectiveness would be a comparison of insight oriented and behavioral interventions for abuse victims. The prevalence of both sexual abuse and sexual dysfunction speaks to the importance of such future research.
REFERENCES


VITA

David Brian Sarwer was born on January 4, 1968, in Skokie, Illinois, and was raised in Mt. Prospect, Illinois. Mr. Sarwer graduated from Forest View High School in 1986 as Valedictorian and was offered a Deans' Honors Scholarship to attend Tulane University in New Orleans, Louisiana.

Mr. Sarwer graduated from Tulane University in 1990, Summa Cum Laude and Phi Beta Kappa, with a Bachelor of Arts Degree in Psychology. Upon graduation, Mr. Sarwer also received the Senior Scholar Award in Psychology from the Honors Program and the Psychology Department. In addition, Mr. Sarwer was awarded the Aaron Hartman Medal in Psychology by the College of Arts and Sciences.

Mr. Sarwer began his graduate career in August of 1990, when he entered the Clinical Psychology Program at Loyola University Chicago. He received his Master's Degree from Loyola University in 1992, with his thesis examining sexual aggression. During his graduate career he also has conducted research on marital discord, obsessive-compulsive disorder, and the prevention and psychological treatment of HIV/AIDS. This research has produced numerous professional presentations and journal articles.
Mr. Sarwer completed his clinical internship at The Medical College of Pennsylvania/Eastern Pennsylvania Psychiatric Institute in Philadelphia, Pennsylvania during 1994-1995. Mr. Sarwer is currently an Instructor of Psychology in Surgery and Psychiatry at the Center for Human Appearance of the University of Pennsylvania School of Medicine. He currently is engaged in research and clinical work on the psychology of body image as well as in the area of weight and eating disorders.
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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the degree of doctor of philosophy.

August 31, 1995  
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