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THE DREAM CONTENT OF WOMEN WITH A HISTORY OF SEXUAL ABUSE: AN
EXAMINATION OF SELF-REFLECTIVENESS AND BIZARRENES IN
DREAMS AND THEIR RELATIONSHIP TO PERSONALITY

by
MICHIE A. GATES

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of

Doctor of Philosophy

Department of Psychology

Carleton University
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**THE DREAM CONTENT OF WOMEN WITH A HISTORY OF SEXUAL ABUSE: AN
EXAMINATION OF SELF-REFLECTIVENESS AND BIZARRENES IN
DREAMS AND THEIR RELATIONSHIP TO PERSONALITY**

submitted by Michi A. Gates, M.A.

in partial fulfillment of the requirements for
the degree of Doctor of Philosophy

Chair, Department of Psychology

Thesis Supervisor

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CARLETON UNIVERSITY
June 1996

ABSTRACT

The dream content of women with a history of sexual abuse was examined to determine whether dreams serve an adaptive function with respect to trauma. Dream self-reflectiveness and dream bizarreness were used as the dream content variables that might be indicative of changes in dreaming associated with waking adaptation. Previous research has shown that survivors of trauma have increased nightmares. The present study sought to find evidence of changes in overall dream content and to relate these changes to efforts to overcome the negative impact of trauma. The direction of observed changes in these dream content variables was also examined to lend support to either the compensatory or continuity theories of dream function. Personality was examined to determine its relation to the dream content variables and its role in mediating between a history of abuse and dream content.

The study examined the dream content of 298 university women divided into the following four groups: 81 women who reported sexual abuse alone, 78 who reported a combination of sexual and physical abuse, 64 who reported physical abuse alone, and 75 who reported no abuse. In the first phase of the study information was obtained about abuse history. The second phase required participants to complete measures of symptomatology, personality, and dream/nightmare characteristics. In the third phase, participants completed a two-week dream diary.

Dream self-reflectiveness was significantly higher for the sexual/physical and sexual abuse groups compared to the non-abuse and physical abuse groups, supporting the compensatory theory of dream function. In addition, dream bizarreness was significantly associated with higher dream recall. Findings with regard to the personality variables of self-concept, repression, and self-consciousness and their relationship to the dream content variables, indicated small and varied relationships among the four groups.

The findings suggest that there are measurable changes in dream content related to a history of sexual abuse. Higher levels of dream self-reflectiveness in women with a history of sexual abuse are discussed in terms of the adaptive function of dreaming. Future work is recommended to determine the role of dream self-reflectiveness with respect to waking adaptation to trauma. The possible role of dream bizarreness acting in concert with dream self-reflectiveness is also considered.

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CHAPTER 1

The Dream Content of Women With a History of Sexual abuse: An Examination of Self-Reflectiveness and Bizarreness in Dreams and Their Relationship to Personality

The dreams of trauma survivors offer a unique opportunity to study the possible adaptive function of dreaming. Whereas many current theories of dream function posit that dreams are meaningful and serve an adaptive function (Breger, Hunter & Lane, 1971; Cartwright & Lamberg, 1992; Cohen & Cox, 1975; Greenberg and Pearlman, 1979; Koulack, 1991), some of the literature has cast doubt on these theories (Crick & Mitchison, 1983; Foulkes, 1985; Hobson & McCarley, 1977). In addition, there is disagreement as to the extent or manner in which dreams are meaningful (Blagrove, 1992; Globus, 1991; States, 1992). Although some researchers concede that dreams can have meaning, they do not believe that this meaning is intentional but instead argue that dreams may only become meaningful when we interpret them from a waking state (Foulkes, 1985; Hobson, 1988). However, recent research suggests that dreams do in themselves have meaning and provide an avenue for greater self-understanding (Hill, Diemer, Hess, Hillyer, & Seeman, 1993; Kuiken, 1995).

An adaptive function for dreaming is reflected in popular literature and lies behind the many methods for dream interpretation as a method to improve psychological health (Bosnak, 1988; Faraday, 1974; Freud, 1900; Gendlin, 1986; Jung, 1974; Mahrer, 1990; Rossi, 1985). Theories which maintain that dreams serve an adaptive function often see dreaming as a way to assimilate waking material and to resolve waking conflicts. Breger (1969) theorizes that dreaming serves to process emotional information and is necessary for the assimilation of new experiences into affective memory schemas which have been successful in the past for the resolution of similar experiences. Greenberg and Pearlman

(1975) take a similar view, stating that dreaming is adaptive, serving an emotional problem solving function that handles events that are of psychological significance to the dreamer. As well, Cartwright and Lamberg (1992) suggest that dreams help us to understand waking experience in the context of events which have occurred in our past and, in this way, provide solutions to current waking problems.

Most studies that have examined an adaptive function for dreaming involve common everyday stressors (Cartwright, 1979; Cartwright, Lloyd, Knight, & Trenholme, 1984; Cohen & Cox, 1975; Stewart & Koulack, 1993; Winget & Kapp, 1972). The examination of the impact of trauma offers an alternative method for exploring how dreams may help us to assimilate waking events. Indeed, the severity of trauma may provide a better opportunity to examine the function of dreaming as there would presumably be a greater necessity for adaptation to allow for the continuation of waking functions at adequate levels.

Research which has included observations concerning the effect on the sleep and dreams of trauma survivors has examined the impact of war (Greenberg, Pearlman & Cample, 1972; Kramer, Schoen, & Kinney, 1984; Lansky, 1991; van der Kolk et al. 1984, Wilmer, 1986), incarceration in concentration camps (Chodoff, 1963; Eitinger, 1961; Hefez, Metz, & Lavie, 1987; Kaminer & Lavie, 1991; Lavie & Kaminer, 1991), natural disaster (Gleser, Green, & Winzet, 1981), and of sexual abuse (Briere & Runtz, 1987; Cuddy, 1990; Ellenson, 1985; Fernandez, 1991; Gelinas, 1983; Lindberg & Distad, 1985). The primary finding with regard to dreaming is that survivors of trauma experience a preponderance of disturbed dreams and nightmares, sometimes for many years after the event has occurred. Such sleep and dream disturbances are also included as prominent symptoms of posttraumatic stress disorder (PTSD) (DSM-IV; American Psychiatric Association, 1994).

What remains to be seen is whether dreaming in trauma survivors serves an adaptive function. Nightmares may intuitively be seen as indicators of a lack of adaptation to trauma. The presence of nightmares in itself, however, does not necessarily indicate that dreaming exacerbates trauma rather than healing the negative impact of these extremely stressful events. Wilmer (1986) even referred to some nightmares as healing nightmares with respect to his research with Vietnam veterans. Wilmer's patients initially had repetitive nightmares which typically reenacted actual traumatic events. But, as the course of therapy progressed, the nightmares, although still occurring, changed and reflected some resolution of the problem, with a concomitant improvement in waking attitudes toward the war experience. Other findings, however, suggest that a decrease in dream recall may serve an adaptive function in efforts to adjust to trauma, since survivors of trauma have also been shown to have low levels of dream recall (Greenberg et al., 1972; Kaminer & Lavie, 1991; Kramer, Schoen, & Kinney, 1984; Lavie & Kaminer, 1991).

Does dreaming serve an adaptive role in the response to trauma or does it possibly exacerbate the negative sequelae of symptoms associated with such an experience? Hartmann (1991) has asked this question with regard to conflicting findings obtained by Cartwright (1991) and Lavie and Kaminer (1991). It is difficult to compare these two lines of research, however, since Cartwright has examined stressors such as divorce which are significantly different from the trauma of being a concentration camp inmate. It may initially be useful to extrapolate from the effects of stressors to the possible effects of trauma, but the two describe very different degrees of distress. The distinctive factor in trauma is that one is faced with the possibility of one's own death (Kluft, 1984; van der Kolk, 1987). As Cartwright (1986) notes, the adaptive process of dreaming may not be apparent when the affect associated with a waking event is too low or too high. In the latter condition, she suggests that the adaptive process may break down. This possibility is

perhaps upheld by the findings of low recall in survivors of trauma. Hartmann posits that whether dreaming is helpful or harmful may depend upon individual differences in personality. He suggests that dreams function by integrating stressful events with past experience in order to make sense of these sources of stress but, if an individual's typical coping style involves the repression of negative material, then dreaming may not offer a helpful strategy for adapting to negative life events.

It is clear that much more remains to be learned about the role of dreaming following traumatic events. In order to learn more about the relationship between trauma and dreaming, the current study will examine the dreams of survivors of sexual abuse. While it is fairly well established that survivors of sexual abuse are characterized by frequent nightmares, a closer examination of the content of their overall dreams is warranted. An examination of the content of both dreams and nightmares in individuals with a history of sexual abuse could contribute to our knowledge of the link between waking and sleeping cognition and how the mind functions in sleep in response to waking trauma. The importance of examining dream content is illustrated by Wilmer's (1986) finding that not all nightmares represent negative adjustment to trauma and Belicki's (1992) finding that not all nightmares are associated with waking distress.

If dreaming serves an adaptive function then the dreams of individuals with a history of sexual abuse may be significantly different from the dreams of those who have not been abused. Previous studies have indicated that there are differences in the nightmare content of sexually abused and non-abused women. Content involving negative sexual activity (Cuddy, 1990; Faria & Belohlavek, 1984; Schultz & Jones, 1983), being chased (Cuddy, 1990; Garfield, 1987; Sebold, 1987) and content involving violence or death (Cuddy, 1990; Ellenson, 1985; Faria & Belohlavek, 1984; Garfield, 1987; Schultz & Jones, 1983) has frequently been observed in the nightmares of individuals who have been sexually

abused. These differences in nightmare frequency and content suggest that there may be other important differences in both the dreams and nightmares of survivors of sexual abuse. If such differences can be found they may serve as indicators of the role of dreaming in dealing with waking events which are difficult and at times impossible to cope with.

Defining Sexual Abuse

In order to understand the impact of sexual abuse on the dreams of those with a history of abuse it is necessary to first understand what sexual abuse is. The definitions of sexual abuse vary from author to author. However, a commonly used definition has been advanced by Browne and Finkelhor (1986). According to this definition, sexual abuse involves sexual contact that is forced or coerced upon a child or sexual contact between a child and a person 5 or more years older whether or not it is coerced. A crucial factor is the power differential between the perpetrator and the victim, subjecting the victim to coercion by a more powerful and dominant person. Thus, Witchel (1991) defines child sexual abuse as "... a sexual act imposed on a child or adolescent by force or manipulation, where there is an imbalance in age, size, power, or knowledge" (p. 64). Sexual contact with a person less than 5 years older is seen by some researchers as a peer relationship and as such to be less likely to involve coercion (e.g., Russell, 1983).

In the U. S. legal definitions of child vary from state to state but most consider a child to be an individual less than 18 years of age. Therefore, child sexual abuse is said to have occurred when an adult has sexual contact with someone younger than 18 (Green, 1993). Finkelhor (1979) has defined a child as a person under 17 years of age whereas Russell (1983) contends that a person under the age of 14 may be regarded as a child when one considers factors such as physical and emotional maturity. With reference to the Canadian Criminal Code (Martin's Annual, 1994), the age of 14 also serves as an important point of

demarcation when crimes of child sexual abuse are considered. This follows from the determination that a person under the age of 14 cannot give consent to any sexual contact as they lack the experience or capacity to make decisions concerning sexual relations (Badgley et al., 1984). Whereas sexual abuse is typically defined as unwanted sexual contact, consent cannot be used as a defense by the perpetrator in cases which involve sexual contact with children under the age of 14. In the Canadian Criminal Code a person between 14 and 17 years of age inclusive, is referred to as either a child or young person depending upon the particular section of sexual offences.

The types of sexual activity involved in acts of sexual abuse include, but may not be limited to, exposure, fondling, masturbation, fellatio, cunnilingus, and intercourse. Sexual abuse is referred to as intrafamilial or, more commonly, as incest when it occurs within the family whether family is defined by blood, marriage, or adoption (Gelinas, 1983). It is referred to as extrafamilial if there is no family relationship between the perpetrator and the abused. When referring to individuals with a history of sexual abuse the term survivor will most often be used, since it is preferred to the use of the more negative term "victim".

Prevalence of Sexual Abuse

The frequency with which sexual abuse occurs is difficult to assess since these numbers depend upon the definitions of abuse and the method of data collection employed in any given study. In addition, different populations are studied, from hospital patients to university students. Unreported sexual abuse should also be taken into account. Finkelhor (1984) estimates that the prevalence of sexual abuse is 3 to 4 times higher than what is actually reported. However, the following figures will include reported sexual abuse only.

Prevalence rates of abuse in a community sample of 300 women in New Zealand resulted in nearly 33% of respondents reporting at least one experience of sexual abuse before the age of 16 (Anderson et al., 1993). Sexual abuse was defined as any unwanted

sexual activity (contact or non-contact) occurring before the age of 16 and perpetrated by an adult or older person, or someone bigger than the subject. Similarly, a community sample of 750 women in Canada had a sexual abuse prevalence rate of 32%. This figure referred to contact forms of abuse and for abuse occurring before the age of 17 (Bagley, 1991). Bagley defined sexual abuse as unwanted touching or interference with any sexual parts of the body. Russell (1983) interviewed a random sample of 930 women from a U.S. city and found that overall 38% of the women had experienced sexual abuse before the age of 18. The occurrence of sexual abuse was evaluated differently depending upon whether it was intrafamilial or extrafamilial. Extrafamilial abuse before the age of 14 included any unwanted sexual experience from petting to rape. From the ages of 14 to 17 years inclusive, sexual abuse was defined as completed or attempted rape. Intrafamilial sexual abuse was defined as any unwanted sexual contact that occurred with a relative before the subject reached 18 years of age. Sexual contact that was both wanted and with a peer (less than 5 years difference in age) was not considered to be sexual abuse. When admissions of non-contact forms of abuse such as exhibitionism were included, the percentage of women reporting an incident of sexual abuse rose to 54%. Using written questionnaires, Badgley et al. (1984) reported similar figures in a sample of 2008 Canadian men and women from across the country, defining sexual abuse as any unwanted sexual experience. When contact-only experiences were included, 34% of females and 22% of males reported being sexually abused. The inclusion of non-contact experiences resulted in a figure of 54% for females and 31% for males. However, a U.S. national phone survey by Finkelhor, Hotelling, Lewis, and Smith (1990) resulted in much lower figures. With the inclusion of non-contact forms of abuse, 27% of the 1481 women and 16% of 1145 men surveyed reported an experience of sexual abuse before the age of 18. A history of sexual abuse was determined by asking participants if any experience had occurred which the subject would

now consider as sexual abuse. Various examples were provided, ranging from exposure to sexual intercourse. It is possible that Finkelhor et al. obtained lower prevalence rates because participants were not as comfortable talking about prior sexual abuse over the phone which is a more personal medium compared to written questionnaires. In a discussion of low prevalence rates obtained in other phone surveys, Russell (1986) suggests that phone surveys do not provide the rapport which can be developed in a face to face interview thereby alleviating the possible distress of more personal contact.

Prevalence rates of samples from clinical populations typically vary a great deal from prevalence estimates in other populations. For example, Muenzenmaier, Meyer, Struening, and Ferber (1993) in a survey of 78 women outpatients with chronic mental illness reported that 45% of their sample had a history of sexual abuse. They defined sexual abuse as any unwanted sexual experience involving contact which occurred before the age of 18 if it was extrafamilial. Intrafamilial sexual experiences in this age category were considered abusive whether or not they were consensual as were consensual experiences under the age of 14. Briere and Runtz (1987) examined a clinical sample of 152 women and found that 44.1% reported an incident of sexual abuse. They defined sexual abuse as any sexual contact from fondling to intercourse that occurred before the subject was 15 years of age with someone 5 or more years older. This is a conservative definition of sexual abuse which was employed to emphasize the power differential between the victim and perpetrator in terms of the youth of the victim. Unfortunately, this eliminated consideration of unwanted sexual activity with peers or unwanted sexual activity which occurred during later adolescence.

University samples typically report the lowest prevalence rates of sexual abuse. For example, using the same criteria as their 1987 study, Briere and Runtz (1988) found that 14.7% of a sample of 278 women from a university population reported an incident of sexual abuse. Cuddy (1990) defined sexual abuse as any unwanted sexual activity and

found that 23.01% of a university sample of 539 women reported a history of sexual abuse with 50% of these reporting that the abuse occurred before the age of 14. Fernandez (1991) using a university sample of 348 women and the same criteria of abuse as Cuddy, found that 17.25% reported an incident of sexual abuse. In a review of prevalence rates of childhood sexual abuse in college students from various surveys, Witchel (1991) reports that between 19 and 34% of college students report a history of sexual abuse. Green (1993) suggests that lower reporting rates of sexual abuse in college samples compared to community samples is the result of a sampling bias that reflects the experiences of a predominantly white, middle-class population. However, two other studies of university populations have found much higher rates of sexual abuse even though they were not looking at sexual abuse in the younger age ranges of childhood. Koss, Gidycz, and Wisniewski (1987) in a national sample of 3,187 university women in the U.S. found that 53.8% reported at least one incident of sexual assault since the age of 14. Using the same survey instrument (Koss & Oros, 1982), a similar prevalence rate of 51.6% was obtained among a sample of 347 New Zealand university women (Gavey, 1991). These higher prevalence rates may be due to the nature of the detailed questions on the Koss and Oros survey, perhaps leading to the affirmation of sexual abuse which otherwise would not be reported. For example, the first question asks each subject if she has ever given in to sex play when she did not want to because of continual arguments and pressure from a man. There are ten detailed questions depicting scenarios in which some unwanted sexual experience occurred due to things such as verbal pressure, pressure of authority or physical force, or the incapacitation of the victim from alcohol. Thus, the detailed nature of the questions and the larger number of questions relative to other surveys may result in higher levels of disclosure according to research comparing the utility of various abuse surveys (Peters, Wyatt, & Finkelhor, 1986).

While there may be differences in obtained prevalence rates due to the use of different methods among studies, it is clear that sexual abuse is not a rare phenomenon. It would seem that an understanding of the impact and various consequences of a history of abuse is important in terms of learning how to contribute to the healing of the many individuals who have suffered these traumatic experiences. In order to do this it is necessary to learn as much as possible about the mechanisms by which adaptation to the trauma of sexual abuse can occur.

The Trauma of Sexual Abuse

Psychological trauma is most likely to happen when the individual feels helpless during a particular experience. A traumatic event typically involves an overwhelming emotional occurrence or series of occurrences that is an unexpected assault from an external source (Terr, 1990). The experience of being a victim of sexual abuse is a traumatic event and is often classified with other traumatic events such as war and concentration camp experiences. Indeed, sexual abuse meets the criteria for trauma as it is defined in the Diagnostic and Statistical Manual IV (DSM-IV; American Psychiatric Association, 1994). Trauma is defined by the DSM-IV as exposure to an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity. Such experiences must be accompanied by intense fear, horror, or feelings of helplessness. Examples of trauma include sexual assault, military combat, natural disasters, and incarceration as a prisoner of war or in a concentration camp. These traumatic experiences are incorporated and often continue to influence attitudes and behavior long after the trauma is over. A survey examining the possible sources of trauma resulting from sexual abuse was obtained from the retrospective reports of 186 women survivors of childhood sexual abuse (Draucker, 1993). The women were asked to identify the most traumatic aspects of the abuse and the results indicated that there were 8 categories of trauma sources: abandonment,

powerlessness, violence, betrayal, guilt and shame, loss of self, loss of childhood, and impact on sexual adjustment. These sources are reflected in the symptoms which often continue to harm the health of survivors of sexual abuse for the remainder of their lives. Indeed, Ross (1992) proposes that the primary source of psychopathology is trauma, and that the search for genetic sources of mental illness cannot be successful unless the impact of child sexual abuse is taken into account. In a similar vein, Cutler and Nolen-Hoeksema (1991) have suggested that the increased rate of depression in women compared to men is partially due to the higher incidence of childhood sexual abuse in the history of women. This conclusion was based on their review of child sexual abuse research which indicated that many more females than males are sexually abused and that females are more likely to experience depression following sexual abuse. Cuddy (1990) also proposed that the increased incidence of nightmares in women, as opposed to the men in her sample, was due to the higher rate of sexual abuse of the women given that nightmare frequency was a significant factor in the prediction of a history of sexual abuse.

Various models have been proposed to explain the traumatic nature of the effects of sexual abuse. Terr (1991) has made her own classifications of trauma and suggests that sexual abuse is a Type II trauma which she defines as one in which there is long standing multiple trauma as opposed to a Type I trauma which is a discrete traumatic event producing PTSD. A Type II trauma results in profound character changes including repression, dissociation, denial, and identification with the aggressor. Finkelhor and Brown (1986) describe four trauma-causing or traumagenic factors: (1) traumatic sexualization, which results from sexual stimulation resulting in the child's use of sexual behavior to fulfill nonsexual needs, (2) powerlessness as a result of feelings of helplessness during the assault, leading to feelings of fear and anxiety, (3) stigmatization in terms of the damage to the child resulting from blame the child receives for the

molestation, which leads to shame, guilt, and low self-esteem, and (4) betrayal resulting in the loss of trust in a parent or caregiver who abuses the child instead of protecting them, leading to feelings of distrust and anger toward others. Green (1988) includes family dynamics as part of the traumatization of sexual abuse. According to him, sexual abuse which is repeated occurs in concert with a chronic background of pathological family interactions which include role reversal, betrayal, stigmatization, and an invasion of a child's psychological and physical boundaries. These factors result in symptoms of guilt, low self-esteem, depression, and other pathological defenses. Acute sexual assault produces symptoms related to fear and anxiety such as nightmares, psychosomatic symptoms, and dissociative reactions that can sometimes fulfill the criteria for PTSD. However, not all survivors of sexual abuse react to the experience with the same degree of severity. The negative impact of sexual abuse depends upon factors such as: (1) age of the child at time of the abuse, (2) duration and frequency of the abuse, (3) relationship between the child and perpetrator, (4) degree of physical trauma and use of force, and (5) severity of type of abuse, such as degree of contact and use of violence (Beitchman, Zucker, & Hood, 1991, 1992; Green, 1993; Kirby, Chu, & Dill, 1993; Murphy et al., 1988; Rimsza, Berg, & Locke, 1988; Russell, 1986; Waller, 1992; Wolfe, Gentile, & Wolfe, 1989)

The various symptoms associated with a history of sexual abuse are evidence of the serious nature of such abusive experiences. Some of these symptoms can occur immediately while others may not appear until years later (Blake-White & Kline, 1985; Gelinas, 1983; Lindberg & Distad, 1985; Russell, 1986). Many survivors of sexual abuse will experience several negative symptoms together which contribute to overall lowered functioning in their daily lives as adults (Bagley, 1991; Bagley & Ramsay, 1986; Briere, 1988; Briere & Runtz, 1990; Edwards & Donaldson, 1989; Fromuth, 1986; Greenwald & Leitenberg, 1990; Murphy et al., 1988). These consistent documentations of the negative

impact of sexual abuse refute the contention by other researchers that sexual abuse is not a traumatic experience (Bender & Blau, 1937; Constantine, 1982; Henderson, 1983; Lempp, 1978; Rascovsky & Rascovsky, 1950; Weiss, Rogers, Darwin, & Dutton, 1955).

Based upon their examination of 16 young girls, Bender and Blau (1937) concluded that incest was not necessarily harmful. They found that all the victims they interviewed were unusually attractive and made seductive overtures to the psychiatrists. However, researchers now understand that this behavior is a symptom or outcome of having been sexually abused (Blumberg, 1981; Browne & Finkelhor, 1986; Finkelhor & Browne, 1986). Weiss et al. (1955) also reflected beliefs similar to Bender and Blau. They made a distinction between types of children who were sexually abused. Single incidents were considered accidental but children who experienced multiple incidents of sexual abuse were believed to have personality traits which made them susceptible to abuse. Children in this latter group were called participant victims. Weiss et al. stated that these subjects were seductive and that they were responsible for initiating sexual activity. Lempp (1978) examined 93 children and also claimed that he did not find a single incident of harm as the result of sexual abuse. However, he does not elaborate on the criteria that he used to reach this conclusion. The many findings of detrimental short term and long term outcomes of sexual abuse certainly put Lempp's conclusions into serious doubt (for reviews see Browne & Finkelhor, 1986; Green, 1993).

Using clinical samples, Rascovsky and Rascovsky (1950) concluded that father-daughter incest results from a bad relationship between the mother and daughter. They further concluded that the consummation of an incestuous relationship was actually beneficial in such a case, as it diminished the chance of psychosis for the daughter and allowed better adjustment to the external world. This conclusion was apparently based upon their belief that the incestuous relationship provided at least some closeness or

affection as a substitute for what was lacking from the mother. In a similar vein, Henderson (1983) believed that incest was a dysfunctional attempt to solve family problems. Incest was not necessarily harmful and if there was evidence of harm it was more likely to have been present previous to the abuse as a result of the family dysfunction. He proposed that the incest occurred possibly as a result of and as a solution to fears of abandonment or annihilation. Thus, the incest in and of itself was not an important factor in the symptomatology found in adult survivors. Constantine (1982) also asserted that it was not the sexual experience between a child and adult which caused harm, if indeed any harm did result, but the circumstances surrounding the incident. For example, a child's sexual knowledge, support or attitude of the family toward the incident, and whether and to what degree there was consent were factors contributing to the degree of harm resulting from sexual abuse. These last three positions are refuted by Bagley and McDonald's (1984) findings. They compared three groups of women to determine if an environment typified by various stressors including poverty and maternal deprivation would be as likely a cause of psychological harm as sexual abuse. The groups consisted of 20 women who had been sexually abused as children and removed from their homes, 41 non-abused women who had been separated from their mothers in childhood, and 30 student nurses as a control group. The authors hypothesized that an impoverished environment would have more deleterious consequences than any effects of sexual abuse but instead they found that the sexual abuse itself contributed significantly to long term psychological problems such as depression, low self-esteem, and poor sexual adjustment.

The negative effects of sexual abuse consist of symptoms such as depression, low self-esteem, guilt, shame, anger, suicide and suicidality, self-destructive behaviors, dissociation, somatization, sexual dysfunction, and nightmares (for reviews of the literature see Alter-Reid, Gibbs, Lachenmeyer, Sigal, & Massoth, 1986; Bagley, 1991; Berichman et

al., 1991; Browne & Finkelhor, 1986; Cahill, Llewelyn, & Pearson, 1991; Finkelhor, 1986b; Glod, 1993; Green, 1993; Katz & Masur, 1979). Finkelhor (1986b) believes that depression is the most commonly reported symptom in adult survivors of sexual abuse. Depression along with anxiety, low self-esteem, guilt, shame, and anger is mentioned in numerous articles concerning the long-term impact of sexual abuse (e.g., Bagley, 1991; Bagley & McDonald, 1984; Bagley & Ramsey, 1985; Bagley & Ramsey, 1986; Bifulco, Brown, & Adler, 1991; Briere & Runtz, 1985; Bushnell, Wells, & Oakley, 1992; Courtois, 1979; Gelinas, 1983; Herman, 1981; Jehu, Gazan, & Klassen, 1985; Lindberg & Distad, 1985; Murrey et al., 1993; Peters, 1985; Sedney & Brooks, 1984; Weber, 1977). Findings of suicide and suicide attempts in women with a history of sexual abuse are also frequently reported (e.g., Bagley, 1991; Bagley & McDonald, 1984; Blumberg, 1981; Jehu et al., 1985; Silver, Boon, & Stones, 1983; Young, 1993). Various other self-destructive behaviors have also been documented such as drug and alcohol abuse (e.g., Briere, 1984; Briere & Zaidi, 1989; Courtois, 1979; Faria & Belohlavek, 1984; Goodwin, Cheeves, & Connell, 1990; Herman, 1981; Jehu et al., 1985; Lindberg & Distad, 1985; Spencer, 1978; Walker, et al., 1993; Weber, 1977), eating disorders (Goldner, Cockhill, Bakan, & Birmingham, 1991; Bushnell et al., 1992; Gordy, 1983; Will, 1983; Lewis & Sarrel, 1969; Miller, McClusky-Fawcett, & Irving, 1993; Young, 1993), and self-mutilation (Briere & Zaidi, 1989; Carroll, Schaffer, Spensley, & Abramowitz, 1981; Darche, 1990; Shapiro, 1987). Sexual dysfunction can include an increase in sexual anxiety, guilt, and a lack of desire for sex (Bess & Janssen, 1982; Briere, 1984; Brooks, 1982; Courtois, 1979; Finkelhor, 1979; Herman, 1981; Langmade, 1983; Mackey et al., 1991; Walker et al., 1993) as well as promiscuity (Bagley & McDonald, 1984; Blumberg, 1981; Courtois, 1979; de Young, 1982; Faria & Belohlavek, 1984; Fromuth, 1986; Gelinas, 1983; Herman, 1981; Spencer, 1978; Weber, 1977).

Dissociation and somatization are also frequent effects of sexual abuse. Dissociation can be defined as a breakdown in conscious processes such that emotions, cognitions, and physiological processes may seem to split off from one's own consciousness as if they belonged to another person. Typical dissociative symptoms may range from normal daydreaming to periods of amnesia and symptoms of multiple personality. Dissociation is speculated to be the result of an attempt to defend against abuse by removing oneself from the environment as abuse is occurring (Bagley & McDonald, 1984; Blake-White & Kline, 1985; Briere, 1984; Briere & Runtz, 1985; Briere & Runtz, 1987, 1988; Ellenson, 1985; Gelinas, 1983; Miller et al., 1993; Pribor, Yutzy, Dean, & Wetzel, 1993; Shengold, 1979; Young, 1993). Somatization is simply a preoccupation with physiological processes and the potential for their dysfunction. Common symptoms of somatization include headaches (Burgess & Holmstrom, 1978; Glod, 1993; Haber & Sitley, 1987), gastrointestinal disturbances and various non-specific aches and pains (e.g., Blumberg, 1981; Briere & Runtz, 1988; Forward & Buck, 1978; Lewis & Sarrel, 1969; Morrison, 1989; Pribor et al., 1993; Sgroi, Blick, & Porter, 1982; Walker et al., 1993; Young, 1992). Some investigators have found that dissociation, somatization, and nightmares are the most distinctive symptoms indicating a history of sexual abuse and that scores on measures of these variables can reliably identify individuals who have been sexually abused (Bagley, 1991; Briere & Runtz, 1988; Cuddy, 1990).

Finally, the presence of nightmares as an effect of sexual abuse has been reported by numerous researchers (Blake-White & Kline, 1987; Blumberg, 1981; Briere & Runtz, 1987, 1988; Burgess & Holmstrom, 1978; Cuddy, 1990; Ellenson, 1985; Faria, & Belohlavek, 1984; Fernandez, 1991; Garfield, 1987; Gelinas, 1981; Gelinas, 1983; Jehu et al., 1985; Lewis & Sarrel, 1969; Lindberg & Distad, 1985; Russell, 1986; Sedney & Brooks, 1984). The presence of nightmares along with other symptoms has led some

authors to suggest that sexual abuse can result in a diagnosis of PTSD (Blake-White & Kline, 1985; Donaldson & Gardner, 1985; Edwards & Donaldson, 1989; Greenwald & Leitenberg, 1990; Kiser, Heston, Millsap, & Pruitt, 1991; Krakow, Tandberg, Barey, & Scriggins, 1995; Lindberg & Distad, 1985; Rowan & Foy, 1993). PTSD is defined by the DSM-IV (1994) as including the following diagnostic criteria: the person has experienced, witnessed, or been confronted with an event involving death or the threat of death or serious injury, or a threat to the physical integrity of self or others and responds with intense fear, helplessness, or horror; re-experiencing of the trauma through disturbing recollections of the event, or recurrent distressing dreams of the event, actually feeling or acting as if the event were recurring as with flashback episodes and hallucinations, feeling intense psychological distress when exposed to cues resembling the event, and physiological reactions to cues that resemble some aspect of the event; avoidance of stimuli related to the event and numbing of responsiveness as indicated by efforts to avoid thoughts, feelings, activities, and people somehow associated with the event, lack of recall for some aspect of the event, feelings of detachment from others, diminished interest in important activities, and limited range of affect; increased arousal that can be indicated by difficulty falling and staying asleep, difficulty concentrating, and an exaggerated startle response. The findings concerning the disturbed dreams of survivors of sexual abuse are elaborated in the next section since they apply most directly to the subject of the current study.

Nightmares in Women with a History of Sexual Abuse

Little is known about the overall dreaming of women with a history of sexual abuse. The primary finding is the presence of nightmares which are often repetitive (Cuddy, 1990; Ellenson, 1985; Garfield, 1987; Gelinas, 1983; Lindberg & Distad, 1985; Terr, 1990). Using a written questionnaire, Cuddy found that the sexually abused group in her sample

of 539 university women experienced an average of 12.95 nightmares per year compared to 6.81 for the control group of non-abused women. Briere and Runtz (1987) found that 53.7% of the abused women in a clinical sample of 152 women had experienced at least one nightmare in the two months prior to the study compared to 23.3% of the non-abused women.

However, the mere presence of nightmares is not enough to distinguish survivors of sexual abuse from those who have not been abused (Ellenson, 1985). Other individuals may also be characterized by frequent and persistent nightmares (Hartmann, 1984). A further step is required which involves an examination of the particular content of the nightmares. Ellenson organized the nightmare content into one of four forms based upon an examination of the nightmares of 40 women who were survivors of childhood incest: "(1) catastrophes that endanger the client or family members or both, (2) children being harmed or killed, (3) client or family members or both being chased by attackers, or (4) scenes of death or violence or both" (p. 527). Ellenson also noted that while the nightmares of war veterans were often actual reenactments of traumatic events, the nightmares of sexual abuse survivors, while reflecting the abuse, were not an exact reenactment of the event.

Garfield (1987) came to similar conclusions based upon a sample of 13 female teenagers who had been sexually abused. She found that there were similar themes in their nightmares such as being chased or attacked, feeling threatened, being injured, the death of the dreamer or another dream character, and being frustrated. She also reported that 92% of these nightmares were characterized by emotions of helplessness and 85% by feelings of terror. Other researchers have also reported themes of violence and death (Cuddy, 1990; Fernandez, 1991; Kavalier, 1987; Sgroi, Porter & Blick, 1982; Weiss et al., 1955), and being chased (Cuddy, 1990; Sebold, 1987). Themes of negative sexual activity have also

been noted (Cuddy, 1990; Faria & Belohlavek, 1984; Schultz & Jones, 1983).

It is apparent that the dreams of women with a history of sexual abuse are different in terms of nightmare frequency and content, although more empirical studies need to be done since Cuddy (1990) and Fernandez (1991) alone used control groups for comparison. Further detailed examinations of the content of the overall dreams of survivors of sexual abuse would provide more information concerning the impact of the trauma of sexual abuse compared to other types of trauma and whether dreams serve an adaptive function in these circumstances.

CHAPTER 2

An Examination of the Relationship Between Dream Self-Reflectiveness, Personality, and a History of Sexual Abuse

Self-reflectiveness can be defined as the ability to see oneself both as subject and from an outside perspective as object. This is an important variable to consider when examining a possible adaptive function for dreaming since it demonstrates the capacity for dreaming consciousness to have a level of cognition comparable to waking thought, thereby providing the raw material that is necessary for successful adaptive functioning (Mead, 1934; Moffitt et al., 1988; Rossi, 1985).

The potential role of self-reflectiveness in dreaming can be seen in the writings of Rossi (1985). Rossi proposes that self-reflectiveness in dreams is related to psychological development, with self-reflectiveness being the path by which awareness of more creative and productive ways of being are synthesized into one's present way of being. This awareness in one's dreams affects waking consciousness, resulting in a new and more integrated identity. Waking changes in personality consequently influence one's dreams and the process continues in a cyclical nature. Rossi has articulated his position in a continuum of different levels of dream self-reflectiveness, illustrating how the process operates at different degrees of proficiency. Self-reflectiveness in dream reports is most clearly exemplified by lucidity, which can be defined as the dreamer being conscious that he or she is dreaming while still in the dream state. Thus, the dreamer has two levels of awareness. One level is that of the experiencing self involved in the dream drama, and the second level is an awareness and examination of the experiencing self. According to Rossi, multiple levels of awareness in the dream are central to the expansion of awareness, which in turn is necessary for psychological growth.

Moffitt et al. (1988) have stated that self-reflectiveness and lucidity are crucial to an

understanding of the function of dreams. They suggest that self-reflectiveness and lucidity act as a means by which we can revise our understanding of what it means to be awake and to be asleep. They further suggest that self-reflectiveness is an important factor in human development, "Lucidity enables the further development of intentional action within the dream state. In effect, one can develop a new form of competence ... not available during the waking state.... [This leads to] the creation of knowledge based on experience and of experience based on knowledge" (p. 436). It is clear that a resource such as this in dreaming could contribute greatly to adaptation to waking events.

In order to determine if dreaming consciousness was inferior to waking consciousness and whether dreaming was isolated from waking cognition, Purcell, Mullington, Moffitt, Hoffman, and Pigeau (1986) examined dream self-reflectiveness in the dreams of a sample of university students. Contrary to other research suggesting that dreaming cognition is inferior to waking consciousness (e.g., Foulkes, 1978; Rechtschaffen, 1978), they found that dreaming was variable along a self-reflective continuum and that it was normally distributed. They also found that dream self-reflectiveness was higher for frequent than infrequent dream recallers and that it could be increased with waking instruction aimed at increasing attention to awareness of waking and dreaming states. Self-reflectiveness was measured using a scale which was constructed from Rossi's (1985) levels of the self-reflective process and was defined as "an examination of one's thoughts, feelings, and behaviors, implying at least two levels of awareness, one as subject and one as object" (p. 424).

A clearer understanding of how self-reflectiveness operates in dreaming can be gained by looking at the levels in the scale and what they signify. The Dream Self-Reflectiveness Scale (Moffitt, Hoffman, Purcell, Mullington, & Darling, 1988) contains nine categories of dream reports, with category 9 representing lucidity. Category 1, the lowest level, contains

those dream reports in which the dreamer is absent and there are no familiar people or objects present. At this level the dreamer usually does not recognize waking associations to his or her dream. In category 2 the dreamer is again absent, but there are familiar people or objects present. The feelings evinced from these personal associations can be related to current events in the dreamer's waking life. In category 3 the dreamer is present but completely involved in the dream drama with no other perspective. The dreamer can easily recognize the relationship between the dream and his or her waking life. According to Rossi (1985), contemplation of such dreams provides the raw material for self-reflection. Category 4 is the first level at which the outside perspective necessary for self-reflection in the dream occurs. At this level, the dreamer is present but primarily as an observer. In category 5 the dreamer thinks over an idea or has a dialogue with a dream character. Rossi believes that soliloquy and dialogue in dreams are an indication of active change and psychosynthesis. Psychosynthesis is the integration of a new dimension of awareness, identity or behavior and is a process which contributes to self-transformation and psychological growth. In category 6 the dreamer experiences multiple states of being as in transformations of role, emotion, age, morphology, or the presence of two or more selves in the dream. In such a dream the dreamer is experimenting with different states of being. In Rossi's processes of self-reflection, there are seven categories. The seventh category is multiple levels of awareness. At this stage, the dreamer is most able to self-reflect since he or she experiences the dream from different perspectives. Purcell et al. (1986) expanded the scale by separating aspects of category 7 to create two additional categories. Category 7 is multiple levels of awareness which is signaled by simultaneous participation and observation, noticing bizarreness in the dream, and the dream within a dream. Categories 8 and 9 also illustrate multiple levels of awareness. In category 8 the dreamer has significant control over the dream, and in category 9 the dreamer is aware that he or she is dreaming.

Other research findings relate some of the concomitant waking characteristics associated with self-reflectiveness in dreaming, indicating the necessary continuity between waking and dreaming states that would be required for adaptive processes in dreaming to occur. For example, Adelson (1974) found that literary creativity in college women was related to reflectivity in dreams. Level of creativity was based upon literary inventiveness and originality in written assignments for a creative writing course. In comparison to their less creative counterparts, the dreams of creative women were more reflective, more bizarre, and contained transformations of role. Gackenbach (1978) and Snyder and Gackenbach (1988) have examined individual differences associated with lucidity. In terms of personality, lucid dreamers were found to be field independent. That is, they were characterized as having greater self-nonsel segregation whereas field dependent individuals displayed greater connectedness between self and others. Lucid dreaming was also found to be associated with intrapersonal abilities such as internal risk-taking and masculine sex role characteristics which included a preference for solitude, less self-disclosure, and less attentiveness to social cues.

In a measure of waking self-reflectiveness, Jennings, Holmstrom, and Karp (1986) examined the relationship between personality and a measure of waking reflectivity. They concluded that reflective participants showed a greater readiness for distancing from the self with greater critical self-evaluation, often accompanied by anxiety and low self-esteem. This study may be relevant given the results of a study by Mullington, Cuddy, Moffitt, Hoffman, and Pickavance (1988) which suggests that self-reflectiveness is continuous for individuals across dreaming and waking states. Using a different measure of dream self-reflectiveness, Bradley, Hollifield, and Foulkes (1992) found that dream self-reflectiveness was quite similar to waking reflection, supporting the notion of continuity between dreaming and waking states.

The Relationship Between Personality and Dream Self-Reflectiveness

The role of self-reflection in dreams and its relation to individual differences in waking personality was examined by Gates (1990). The relationship between dream self-reflectiveness and personality was examined as an extension of the findings by Purcell et al. (1986). The specific goal was to continue Purcell et al's. examination of the continuity between dreaming and waking and to discover if some personality characteristics gave individuals an inherently higher level of dream self-reflectiveness. It was hoped that by further delineating the waking characteristics associated with dream self-reflectiveness levels some clues to the nature and function of this variable and of dreaming in general would be discovered.

The personality characteristics which were examined consisted of Jungian psychological types of extroversion-introversion, sensing-intuition, thinking-feeling, and judgement-perception as measured by the Myers-Briggs Indicator (MBTI) (Myers, 1962). Self-concept and repression were also measured using the Multidimensional Test of Self-Concept (MTS) (Lathrop, 1988) and the Marshall Repression Scale (MR) (Marshall, 1983), respectively. The Rosenberg Self-Esteem Scale was included as an additional measure of self-concept (Rosenberg, 1965). It was hypothesized that personality characteristics which promoted inner examination, such as introversion, intuition, thinking, and perception, would contribute to higher dream self-reflectiveness scores than the other four opposing Jungian types. Participants low in self-concept were expected to score high on dream self-reflectiveness as dissatisfaction with self was expected to promote greater self-examination. Low repressors were also expected to score high on dream self-reflectiveness since they would be expected to be more open to inner exploration.

Participants consisted of 23 university students enrolled in an undergraduate psychology course involving individual dream analysis. Dreams were obtained from a

dream diary kept as part of the required course work. The first 5 dream reports were selected from each dream diary. Personality scores were obtained from the measures listed above which had been given in the beginning of the course. Dreams were scored by three independent raters using the Dream Self Reflectiveness Scale (Moffitt et al., 1988).

Dream self-reflectiveness was found to be distributed fairly normally among the 9 levels of the scale for the 115 dream reports collected. Levels 3 and 5 were the most common levels of dream self-reflectiveness to be experienced. Results of a correlational analysis and multiple regression indicated that high scores on dream self-reflectiveness were related to low self-concept and a preference for sensing rather than intuition. Relationships between high dream self-reflectiveness scores and high repression and a preference for perceiving as opposed to judging approached significance. However, none of these relationships were consistent across all five dream reports. The hypothesized relationship between dream self-reflectiveness and personality was upheld only to a limited extent and specific hypotheses for the individual personality characteristics were only correct for self-concept and marginally correct for perceiving. If dream self-reflectiveness and personality are intimately connected as Rossi (1985) contends, then it was not apparent in these preliminary findings. Perhaps some clues to the relationship between dream self-reflectiveness and personality can be obtained by examining what personality characteristics are associated with self-reflection in waking cognition.

Spitzer (1977, 1978, 1981) found that waking self-reflection was related to times when self-identity was problematic (e.g., migrant vs. non-migrant students, newly admitted vs. postadmission psychiatric patients) and was associated with aspects of personality such as anxiety and self-monitoring. Jennings (1986) similarly found that waking reflectivity was associated with low self-esteem. It may be that a dissatisfaction with self promotes increased self-reflection in an effort to find some understanding of the

source of unpleasantness and a solution for the discrepancy between what one desires to be and what one is in actuality. The findings for a relationship between dream self-reflectiveness and self-concept suggest that dreaming may serve an adaptive function as seen in the higher levels of self-reflection present in the dreams of individuals whose psychological development could be said to be problematic.

The Relationship Between a History of Sexual Abuse and Dream Self-Reflectiveness

Another study was conducted in order to attempt a replication of the findings by Gates (1990) and to extend them by including participants with a history of sexual abuse as an environmental variable which could be expected to influence self-reflectiveness. If there was indeed a relationship between dream self-reflectiveness and personality characteristics such as self-concept, then the trauma of being sexually abused might also influence levels of self-reflection and provide further knowledge about the role of dreaming with respect to adaptation to waking events. As noted earlier, a history of abuse has been related to an increased incidence of nightmares. Commonalities between nightmare sufferers and lucid dreamers have been found in previous studies (Galvin, 1990; Spadafora & Hunt, 1990; Zadra, Donderi & Pihl, 1992). Hunt (1989) suggests that there is a similarity between nightmares and lucid dreams in that both are a vivid intensification of the dreaming process. He describes both as enhancing affect but with a different outcome since lucid dreams result in a powerful integration of experience while nightmares result in a disintegration of experience. Thus, it is possible that survivors of sexual abuse may not be capable of the integration of experience found in lucid dreams if they are too severely damaged by the impact of the sexual abuse. Other findings indicate that both nightmare and lucid dreamers seem to share a greater focus on the self (Snyder & Gackenbach, 1988; Hartmann, 1984). Galvin found that both lucid and nightmare dreamers had significantly thinner boundaries on Hartmann's Boundary Questionnaire (Hartmann, 1985) than ordinary dreamers.

indicating that they had weaker boundaries between various mental states such as waking and sleeping or thoughts and feelings. However, lucid dreamers differed to the extent that they had a greater psychological sense of self than nightmare sufferers. It should be noted that these findings cannot be directly extrapolated to individuals who experience nightmares as a result of a trauma such as sexual abuse, since traumatic nightmares are often different from ordinary nightmares (Hartmann, 1984; Hunt, 1989; Bearden, 1994). What these findings do suggest is that there are some similarities between the mechanisms which create lucid dreams and those which create nightmares. Wilmer (1986) noted that as his patients recovered from their traumatic war experiences their nightmares would include lucidity and he interpreted this as a positive sign of healing by bringing the traumatic experience into consciousness.

The personality aspects which were measured in this study included repression, self-consciousness, and self-concept. Repression has been commonly associated with dreaming, especially in the context of a possible relationship with dream recall (for review see Cohen, 1974; Goodenough, 1978). However, attempts to find a consistent relationship between repression and dream recall have not been successful. Barrett (1988) did find that high repression was related to shorter dream reports and to lowered recall when an interference task was introduced. The self-examination involved in higher levels of dream self-reflectiveness would seem to be vulnerable to repression effects. In previous research, dream self-reflectiveness has also been related to dream report length and recall levels, with high reflectiveness being associated with longer dream reports and high levels of recall (Purcell et al., 1986). In this study repression was measured using the Marshall Repression Scale (MR) (Marshall, 1983) which defines repression as control of affect, fear of emotional response, and the forgetting of unacceptable thoughts. Since self-reflection requires one to examine one's thoughts, feelings, and behaviors it may be difficult for a

high repressor to experience high levels of self-reflection in their dreams.

A measure of self-consciousness was included since it is probably closely related to self-reflection as it refers to a tendency to direct one's attention inward and to self-examine. Self-consciousness has been related to dream lucidity, a reflective form of self-consciousness. Using a subscale of the Self-Consciousness Scale of Fenigstein, Scheier, and Buss (1975), private self-consciousness was related to high lucid dreaming frequency (Snyder & Gackenbach, 1988). This scale was also used in an examination of personality correlates of waking reflectivity and was not found to be related (Jennings et al., 1986). However, Jennings et al. used a total score consisting of combined scores on the three subscales of private self-consciousness, public self-consciousness, and social anxiety, whereas Snyder and Gackenbach conjecture that, of the three subscales, private self-consciousness is the only one that predicts lucidity. Yet, given that the full spectrum of dream self-reflectiveness is defined as the ability to see oneself through an outside perspective as well as an inward perspective, it would seem that public self-consciousness and social anxiety would also have a relationship to this dream variable as measurements of an individual's awareness of themselves through the perspective of outside others.

Self-concept discrepancy was also measured since high waking reflectivity has been associated with lowered self-satisfaction (Spitzer, 1981). At such times one would expect that the discrepancy between ideal and actual self-concept would increase and that self-reflection would also increase in an effort to improve one's self-image. Jennings et al. (1986) and Gates (1990) both found that a high discrepancy between ideal and actual self-concept contributed to high self-reflectiveness scores.

This initial study was exploratory in nature and sought to examine whether a relationship existed between dream self-reflectiveness and waking characteristics of personality and a history of sexual abuse. It was hypothesized that personality would

contribute to dream self-reflectiveness scores and that individuals with high dream self-reflectiveness scores would be characterized as non-repressed, self-conscious, and as having a low self-concept. With regard to a history of abuse, there was no particular hypothesis since the literature to date could be construed to indicate opposite findings with respect to self-reflectiveness. That is, survivors of sexual abuse could have higher levels of dream self-reflectiveness as an adaptive response to their problematic situation or they could have lower levels as a result of psychological impairments.

Method

Participants and Procedures

Participants were selected from university students in two sections of an undergraduate introductory psychology course. The assignment of students to each section of a course is done by the University Registrar and is essentially random. Subject selection was based upon self-reported consistent medium to high dream recall (3-7 dreams a week). Recall level was determined in order to insure that an adequate number of dreams would be collected from each subject in a two-week period. Of the 85 participants, 73 were chosen for analysis based upon a minimum criterion of eight dreams from the two-week dream diary period. Participants consisted of 29 males and 44 females, with a mean age of 20 and an age range of 18 to 41.

Personality measures and an inventory to assess abuse history were administered in an initial test session. At the end of this session, participants were given a dream diary with instructions to record any recalled dreams upon awakening for a period of two weeks. At the end of the two-week period participants returned their dream diaries to the experimenter and were debriefed. In return for their contribution, participants received the full requirement of research credits needed for their psychology course.

Measures

1) The Marshall Repression Scale (MR) is an objective self-report measure that is one of 12 scales comprising the Marshall Personality Measure (Marshall, 1983). The revised scale used in this study is composed of 35 self-descriptive items which are answered true or false. Each item is scored one point for every true answer, with the exception of items 5, 7, and 21, which are scored one point for each false response. The scale items were constructed from a Freudian psychoanalytic definition of repression involving control of self, fear of emotion, and forgetting of unacceptable thoughts. The test-retest reliability coefficient for was .83 for three weeks. The alpha coefficient found by Marshall was .77.

2) The Self-Consciousness Scale (SCS) (Fenigstein et al., 1975) contains 23 items comprising three subscales of private self-consciousness, public self-consciousness, and social anxiety. Private self-consciousness refers to an awareness of inner thoughts and feelings. Public self-consciousness is an awareness of how one is perceived by others. Social anxiety concerns social situations or interactions in which one feels uncomfortable. Each item is self-rated on a scale from 0 to 4. Test-retest reliability coefficients were: private, .79; public, .84; and social anxiety, .73. Numerous validation studies of this scale have been performed by Buss (1980).

3) The Multidimensional Test of Self-Concept (MTS) (Lathrop, 1988) measures the difference between an individual's ideal and actual self-concept on three subscales: sociability, competence, and dependability. The scale consists of 18 bipolar adjectives on which participants rate themselves as they really are and then as they would like to be. A difference score is obtained for each subscale and squared. A total self-concept score is obtained from the sum of these squared differences. The alpha coefficients of the three scales were: sociability, .84; competence, .73; and dependability, .79. Test-retest

reliability over a three month period for the discrepancy scores ranged from .44 to .58.

4) Abuse history was assessed using the Major Events Inventory (Cuddy, 1990). This inventory includes a checklist of various important life events of both a positive and negative nature. The items relevant for this study were those involving the occurrence of sexual and physical abuse. Sexual abuse was defined as any unwanted sexual activity. A history of physical abuse was of interest as a comparison for the effects of sexual abuse to see if abuse per se would be related to dream self-reflectiveness, or if sexual abuse could be distinguished from other types of abuse.

5) Dream self-reflectiveness (DSR) was scored using a scale developed by Moffitt et al. (1988). The DSR scale contains 9 levels representing a continuum of self-reflectiveness. Dream reports were scored independently by two trained judges. Following the scoring protocol of Purcell et al. (1986) dream scores which were not in agreement were discussed by the two judges in an effort to come to a common score. If agreement could not be reached a third trained judge decided on a final rating. Purcell et al. (1986) reported that a scoring reliability of 90% was reached before discussion and of 94% after discussion.

Results

Of the total of 73 participants, 17 reported a history of sexual abuse, comprising 23.3% of the sample. This figure is comparable to that found by Cuddy (1990). Of these 17 participants, 7 (9.5%) reported a history of sexual-abuse-only while 10 (13.6%) reported a history of both physical and sexual abuse. Physical-abuse-only was reported by 17 (23.3%) participants. The remaining 39 (53.4%) participants reported no past history of physical or sexual abuse.

A total of 584 dreams were rated consisting of 8 dreams for each subject. Interjudge agreement reached 70% after the initial rating round which was similar to that reached by

Gates (1990). After discussion, agreement reached 99.99% with only 10 dreams requiring rating by a third judge. Most disagreements resulted from different interpretations of ambiguously written dream passages, rather than disagreement on the meaning of the various DSR levels. For participants who had more than 8 dreams, the first and last dreams were selected with the others chosen at random. DSR was found to be normally distributed over the 9 levels of the DSR scale. The obtained pattern closely matched that found by both Purcell et al. (1986) and Gates (1990). Levels 3 and 5 appeared to be the normative levels at which DSR occurred, together representing 510 or 86% of the total number of dreams (see Table 1). These findings support the contention that dreaming does contain a continuum of self-reflective activity.

To examine whether there was a relationship between DSR and personality, Pearson correlations were performed. Contrary to previous findings by Gates (1990), no significant correlations were found between DSR and personality. A Multiple regression was also conducted to examine what contribution personality might make to DSR. DSR was entered as the criterion variable while the three personality scores were entered freely as predictor variables. No significant regression equations were found in this analysis. Therefore, the hypothesis that DSR and personality would be related was not upheld.

In order to examine possible differences in DSR between the sexual abuse, physical abuse, sexual/physical abuse, and no abuse groups, a one-way analysis of variance was performed. A significant difference was found between groups for DSR but only on dream 8, the last dream of the collection period. The DSR means for each abuse group on dream 8 are shown in Table 2. A post hoc comparison was performed for dream 8 that indicated a significant difference in DSR at the $p = .05$ level between the non-abuse group and the sexual/physical abuse group, and also between the sexual-abuse-only group and the sexual/physical abuse group. The sexual/physical abuse group had the highest DSR mean

TABLE 1

Distribution of Dream Self-Reflectiveness Levels Over all Dreams

Level	No. of Dreams	Percentage
1	3	0.5
2	16	2.7
3	240	41.0
4	7	1.2
5	262	45.0
6	11	1.9
7	30	5.1
8	6	1.0
9	9	1.5

TABLE 2

Dream Self-Reflectiveness for Abuse Groups on Dream 8

Abuse Category	N	Mean	SD	Range
None	39	3.85	1.27	3 - 7
Physical	17	4.47	1.74	2 - 9
Sexual	7	3.71	0.95	3 - 5
Sexual/Physical	10	5.10	1.20	3 - 8

while the sexual-abuse-only group had the lowest, closely followed by the non-abuse group (see Table 2). The difference between abuse groups in DSR suggests that abuse history may have an impact on dream content but the finding should be taken with caution since it was only found with reference to one dream in the dream series.

Discussion

The purpose of this study was to determine if there was a relationship between self-reflectiveness in dream reports and various waking characteristics of personality and a history of abuse. The hypothesis that there would be a relationship between dreaming and personality was not supported. In terms of this relationship, the results of a prior study (Gates, 1990) were not replicated. Unlike the findings in the previous study, self-concept was not related to DSR. Methodological differences may account for the failure to replicate the initial results. Recall level was not assessed in the first study and consequently the minimum of five dreams collected from each subject covered extremely variable time spans for each subject. Some dreams were collected from a span of as much as three months, possibly presenting a very different picture of the relationship between personality and DSR. The difference in setting may also have contributed a great deal to the disparate findings. The participation of the first group in a course involving dream analysis could understandably have had a large impact upon DSR scores as well, especially given the findings of Purcell (1986) that waking instruction on attention to dreaming and self-reflectiveness resulted in changes in DSR levels.

It is difficult to assess the importance of the findings concerning a history of sexual abuse and DSR. One difficulty is that the number of participants with a history of sexual abuse was quite small. Replication with a larger sample is necessary before any conclusions can be drawn. Given the small and unequal sample sizes, this study had only a 26% chance of rejecting the null hypothesis of no differences in DSR means between the

groups if the null hypothesis was actually false. The finding that DSR was highest for the sexual/physical abuse group and lowest for the sexual-abuse-only group for dream 8 has the potential to suggest that DSR does play some role in the response to traumatic experience. Findings by Fernandez (1990) indicated that a sexual-abuse-only group and a sexual/physical abuse group differed on dream recall, with dream recall being significantly higher for the sexual abuse group. A relationship between DSR, dream recall, and adaptation to trauma would be intuitively appealing, but this cannot be evaluated in this study since participants were chosen for medium to high levels of dream recall.

However, given that seven out of eight dreams did not differ significantly on DSR between the sexual abuse and comparison groups, the safest conclusion may be that DSR is a robust phenomenon that is not easily altered. If the presence of self-reflectiveness in dreaming is a basic process inherent to sleeping cognition in the same way that it is to waking cognition, then it may not be likely that this process will be hindered or promoted in any durable way by most waking incidents. According to Mead (1934) the self-reflective process is central to the human condition and central to our psychological functioning. If dreaming is truly continuous with waking (Adelson, 1959; Hunt, 1989; Rossi, 1985; Snyder, 1970) then self-reflection in dreaming should be just as central to the nature of cognition in sleep and as such should be quite resilient, and over the long term, quite stable. It is possible that DSR, like waking reflection, is more typically influenced by events as they are occurring rather than being changed in a more permanent way. Future studies of the relationship between a history of sexual abuse and dream content variables may be more fruitful if the impact of severe abuse is compared to less severe abuse either in terms of the abuse itself or its resultant symptomatology. That is, a significant change in dream content, especially in the case of more stable factors, such as dream self-reflectiveness, may only occur when waking trauma is severe enough to negatively impact

basic cognitive processes. Such an interruption in normal dream cognition can be seen in the repetitive nightmares of war veterans diagnosed with PTSD. Some content changes in the dreams of survivors of sexual abuse can also be seen in the increased incidence of violence, fear, sadness, and death in their nightmares (Cuddy, 1990; Fernandez, 1991).

CHAPTER 3

Dream Bizarreness: The Dream Content Characteristics of Women with a History of Sexual Abuse

Bizarreness in dreams can be defined as those dream events which are exemplified by improbabilities (with respect to what is possible in waking), discontinuities, and cognitive confusion (Hunt, Ogilvie, Belicki, Belicki, & Atalick, 1982; Hobson, Hoffman, Helfand, & Kostner, 1987). Bizarreness is one of the most frequently mentioned aspects of dreams and is commonly referred to when attempting to make a distinction between dreaming and waking experience. Because bizarreness is considered to be such an integral aspect of dreaming, it may be one content variable which will be visibly impacted by significant waking events such as trauma. Bizarreness has also been linked to nightmares (Hartmann, 1984; Hunt, 1989) which, as noted earlier, are more frequent in the dreams of survivors of sexual abuse. Indeed, Hunt defines nightmares as dreams that are bizarrely fantastic and terrifying.

Several researchers have attempted to explain the possible significance of bizarreness in dreams. Rossi (1985) relates the presence of bizarreness in dreams to positive psychological growth, much as he does in the case of dream self-reflectiveness. He examines bizarreness in the dream from the perspective of the dreamer rather than that of an external source which can sometimes result in different evaluations of bizarreness. Rossi describes bizarreness as original experience, which he believes is much more accessible in the dream state, because during a dream we are not constrained by the usual waking impediments. To Rossi, bizarreness in dreams is the opportunity to experience new levels of awareness in a spontaneous manner. When self-reflectiveness is at high levels it acts in concert with bizarreness to effect a change in one's behavior and perspective by incorporating new frames of reference. "What is unique, odd, strange or intensely

idiosyncratic in a dream is an essence of individuality. It is an expression of original psychological experience and, as such, it is the raw material out of which new patterns of awareness may develop" (p. 25). Thus, Rossi perceives dream bizarreness as a positive phenomenon which aids one's psychological health and well-being. He states that his view of dream bizarreness is the phenomenological equivalent of McCarley and Hobson's activation-synthesis hypothesis of dreaming (1979) although acknowledging that they do not incorporate his ideas of psychological growth.

According to the activation synthesis hypothesis (Hobson, 1988, 1992; Hobson et al., 1987; Mamelak & Hobson, 1989; McCarley & Hobson, 1979; McCarley & Hoffman, 1981) dreams are only meaningful to the extent that we impart some meaning to them in an awake state. Dreams are not in themselves meaningful and do not function as adaptation to waking events. The hypothesis is centered around the bizarre characteristics of REM dreams and suggests that bizarreness is merely a concomitant of the intense state of arousal found during REM sleep. Essentially this hypothesis states that during dreaming sensory input from the external world is restricted but at the same time the brain is still activated by internal neural activity. Dreams arise as an effort to make sense of this neural input in the absence of external reality. However, because of the loss of external cues and of impairments in memory common in dreaming, this effort at making sense of neuronal input is confused and bizarre. The activation synthesis hypothesis also attempts to account for other dream characteristics, but its focus is on bizarreness as a formal property that is shared by all dreams and therefore not as vulnerable to the variability of individual dreams (Mamelak & Hobson, 1989).

Hunt (1989; Hunt et al., 1982; Hunt & Popham, 1987; Hunt et al., 1993) has also devoted a great deal of research to dream bizarreness. For him, the significance of bizarreness is as a phenomenon which can potentially elucidate other forms and functions

of dreaming beyond the reductionistic theories which suggest that dreams are constructed from a single process, such as Foulkes (1985) linguistic narrative constructions. For Hunt, dreaming can only be explained in terms of many forms and functions. He suggests that dreaming, especially when it is bizarre, illustrates the visual-spatial and metaphoric processes of dreaming. Bizarreness in dreams suggests that the construction of dreams is based more upon imagination than perception. In essence, bizarreness may illustrate other forms of dreaming that go beyond memory and linguistic processes, thereby expanding our ideas about what dreams mean and the functions that they serve. Such forms of dreaming demonstrate an abstract metaphorical capacity that offers the opportunity to work on waking problems. In support of these contentions about the imaginative and constructive characteristics of dreams are studies which have found connections between dream bizarreness and waking measures of creativity and imagination (Adelson, 1974; Schecter, Schmeidler, & Staal, 1965; Sylvia, Clark, & Monroe, 1978; Cohen, 1979).

The significance of bizarreness in dreams can also be seen in examinations of the dreams of survivors of trauma and of individuals with psychopathology. Such research has shown that bizarreness in dreams is linked to changes in waking psychological health. For example, Wilmer (1986) noted that as his patients recovered from their traumatic Vietnam war experiences, their nightmares became more bizarre rather than being repetitive dreams which reenacted an actual terrifying event. These bizarre nightmares also caused less distress in waking than the traumatic nightmares had done. Even when the original nightmare would occasionally reoccur it did not have the same negative impact. Instead, his patients were able to shrug them off, having overcome the negative associations to the dream. Similarly, Blechner (1983) noted consistent changes in the levels of bizarreness during the course of therapy in his patients with borderline personality disorder which is often seen in survivors of sexual abuse (for reviews see Beitchman et al., 1992; Glod,

1993; Harney, 1992; Paris & Zweig-Frank, 1992). At the beginning of treatment these clients had very mundane, ordinary dreams that replayed recent waking events. In contrast, their waking perceptions were quite bizarre and much more dream-like. However, as their waking cognition became more logical in the course of therapy, their dreams took on bizarre characteristics that were formerly more characteristic of waking thoughts. This level of bizarreness in dreams coincided with waking progress in therapy: when waking psychological health deteriorated, bizarre dreams also disappeared, to be replaced by mundane ones. Blechner compares the early dreams of his borderline patients to those of concentration camp survivors who also have dreams that are reenactments of actual events. He suggests that when bizarre waking events occur, such as being in a concentration camp or the childhood experiences of a borderline patient, it is necessary to insulate these experiences in one's dreams in order to maintain a reasonable view of the world. Thus, as their waking lives become more normal, the dream life of these borderline patients regains the novel and bizarre characteristics that they recall in the dreams of their childhood. These changes in the dreams of borderline patients are supportive of the proposed compensatory function of dreams as posited by Jung (1972). Thus, bizarre waking thoughts were compensated for by ordinary dream events and vice versa.

Other findings also suggest that bizarreness in dreams signals positive waking change. Busby and De Koninck (1980) report⁴ on the alteration in levels of dream bizarreness over a 5-week period of practicing either relaxation techniques or transcendental meditation in a group of 13 male participants. Both techniques resulted in decreases in anxiety and an increase in ego strength. Along with these waking changes, the subject's dreams also had an increase in fantasy elements and bizarreness.

Thus, it would seem that bizarreness may signal the presence of psychological healing or growth given these findings. It might be expected then, that survivors of sexual

abuse who have bizarre dreams will also demonstrate fewer or less severe waking symptoms of the trauma compared to survivors who have less bizarre dreams. States (1992) maintains that bizarreness should not be regarded as an intrusion into the dream, but rather that it is simply a reflection of our waking lives that is reframed within the context of the dream world which is not constrained by the same waking limitations. He sees "...bizarreness as the "medium" through which the dream taps the unity of experience at the emotional level" (p. 253). Bizarreness is simply the medium by which our dreams condense experience, lending meaning to events that were not connected in waking and thereby resulting in what he refers to as felt meanings. From this perspective, the presence of bizarreness in dreams indicates that the dream mechanism is functioning as it should.

Women with a history of abuse may be expected to have more bizarre dreams in general. As noted earlier, the nightmares of sexual abuse survivors differ from those of war veterans in that they are not actual reenactments of the event (Ellenson, 1985). Ellenson also noted that a distinctive symptom in women with a history of sexual abuse is a perceptual disturbance involving feelings that a malevolent entity is somewhere in the home or entering the person. There may also be recurring visual hallucinations in the form of dark or shadowy figures seen as furtive visions almost out of sight or in the dark. Cuddy (1990) found that similar experiences were present in the nightmares of women with a history of sexual abuse. She also found that there were significantly more transformations of characters in the nightmares of sexually abused women. The differences in the nature of the traumatic situation in each case seem to result in nightmare content differences between war veterans and survivors of sexual abuse. It can be speculated that the more bizarre reenactments of abuse themes in the dreams of survivors of sexual abuse may have to do with a younger age at time of the abuse, the unexpectedness of the abuse, and the lack of context within which to place the abuse. What remains to be seen is how bizarre the overall

dreaming of survivors of sexual abuse is and whether dream bizarreness is greater for individuals who demonstrate better waking adaptation.

The actual prevalence of bizarreness in dreams is subject to argument, with some researchers maintaining that it is quite common and others that it is infrequent. Mamelak and Hobson (1989) maintain that bizarreness is the most prominent and distinctive aspect of dreaming and yet, several studies using larger subject and dream samples have not found this to be true. Dorus, Dorus, and Rechtschaffen (1971) found that only 9% of laboratory dreams were rated as intrinsically bizarre and impossible in everyday life. Snyder (1970) scored only 5% of lab dreams as highly bizarre and scored 60% as having no bizarreness. According to these findings dreams, for the most part, reproduce waking experience and are continuous with features of waking personality (Hall & Van de Castle, 1966; Van de Castle, 1971). Additional research has supported the contention that few dreams can be considered bizarre (Giora, 1981; Hunt et al., 1982; Rechtschaffen, 1978). Other research suggests that bizarreness is a frequent characteristic of dreams (McCarley & Hoffman, 1981; Strauch, 1988; Zepelin, 1989). For example, using laboratory dreams, Zepelin found that out of a possible range of 1-6 on bizarreness, the average bizarreness rating for 322 dreams was 3 or 5 depending upon whether it was rated by the subject or a judge, respectively. However, another factor influencing the prevalence of bizarreness in dreams is the propensity to have higher recall for bizarre dreams. Cipolli, Bolzani, Cornoldi, De Beni, and Fagioli (1993) found that bizarre dream content was more likely to be recalled than nonbizarre content when they examined morning recall of dream reports made through the previous night during REM awakenings. This tendency to have greater recall for bizarre dream content could contribute to the perception that most dreams are bizarre, particularly if dreams are recorded long after they have occurred.

It seems that the question concerning the amount of bizarreness in dreams has yet to

be answered adequately. Part of the problem lies in the differing definitions of bizarreness used by each researcher and also whether bizarreness is scored based upon the overall structure of the dream or upon discrete parts. Thus, Zepelin (1989) obtained a higher rate of bizarreness when it was defined as being anything out of the ordinary or odd, whereas Snyder defined bizarreness more strictly as those events which were impossible in waking life. In terms of how the scoring itself is accomplished, some research on dream bizarreness has involved a global rating over the entire dream (e.g., Dorus et al., 1971; Snyder, 1970; Zepelin, 1989) while other research has involved a determination of how many and what type of bizarre elements are present in a dream. This latter method is perhaps best exemplified by Hobson et al.'s two-stage scoring system which examines various formal cognitive incongruencies in the dream. This illustrates a progression from calling an entire dream bizarre if it has some bizarre elements to counting the number of bizarre elements within a dream. While researchers such as Snyder and Dorus et al. have concluded that overall dreams are quite mundane by using a basic criterion of the impossibility of an event, the finer grained approach of Hobson and colleagues has led to their conclusion that "...dream bizarreness is a formal property shared by all [dreams]" (Mamelak & Hobson, 1989, p. 202). Finally, there is the consideration that dream bizarreness is continuous with waking individual differences (Hunt, 1989; Starker, 1977), in which case it may be more interesting to examine why some individuals have bizarre dreams while others do not.

The degree to which dreams are considered bizarre is further complicated by whether bizarreness is actually an artifact of dream report length. Various findings indicate that bizarreness is positively correlated with report length, suggesting that relationships between bizarreness and other variables, such as creativity, are simply artifacts of report length, which in turn is assumed to reflect waking verbal intelligence. Wood, Sebba, and Domino

(1989-1990) found that significant correlations between waking creativity and dream bizarreness disappeared when dream report length was controlled. This finding was also replicated by Livingston and Levin (1991). Contrary to Cohen's (1979) finding that bizarreness was higher in REM reports compared to NREM reports, Antrobus (1983) found that there was no difference when report length was controlled for by dividing bizarreness scores by the total number of words in a report. However, contrary to the above findings, in which bizarreness is interpreted as being the product of longer dream reports, Hunt, Ruzycki-Hunt, Pariak, and Belicki (1993) suggest instead that bizarre occurrences in dreams require more words for their description. That is, strange events are more difficult to describe than ordinary ones and therefore require more words. If this latter argument is accurate then the practice of controlling for bizarreness with the total number of words in a dream report would result in the loss of an important dream characteristic. In a series of studies, Hunt et al. (1993) found support for their contention that bizarreness in dreams require more words rather than the other way around and that nonverbal imaginativeness scores are much better at predicting bizarreness in dreams than verbal intelligence scores.

The current study will adopt the conclusions of Hunt et al. (1993) and will not control for word count. Dream bizarreness was measured using a scale developed by Hobson et al. (1987). Although their position concerning the meaningfulness of dreams is antithetical to the one presented in this paper, as Rossi (1985) suggests, this does not nullify the usefulness of their scale to measure a dream content characteristic that is of interest to both positions. While other measures of bizarreness have been used (e.g. Antrobus, 1991; Hunt, 1989; Snyder, 1970) the scale developed by Hobson et al. is quite comprehensive in nature and has recently been shown to accurately distinguish between various intensities of dream bizarreness (Resnick et al., 1994; Rittenhouse, Stickgold, &

Hobson, 1994; Sutton et al., 1994). Participants were also asked to rate their own dreams for bizarreness using a Likert-type scale to allow for a comparison between the two ratings of bizarreness.

Personality as a Factor in Dream Content and the Impact of Sexual Abuse

While the purpose of this research is to examine the possible relationship between dream content variables such as bizarreness and self-reflectiveness and a history of sexual abuse, it is also supposed that stable individual differences in personality will have some impact upon any such relationship. That is, an examination of the impact of environmental events should also take into account the effect of internal and stable variables which influence the reaction to external events (Magnusson & Endler, 1977). Numerous research findings have also suggested that there is a relationship between dreaming and waking individual differences. Thus, not only is it possible that personality will influence dreaming style but also that personality will be a factor in the impact of trauma. Three personality characteristics which may be relevant to dreaming and coping mechanisms to deal with trauma were retained from the initial study: (1) self-concept discrepancy, (2) repression, and (3) self-consciousness.

Self-concept discrepancy theory suggests that there is a tension between the way one perceives oneself to be in actuality and the way one would like to be. The degree of disparity between these two perceptions has been used as a barometer of psychological well-being (Achenbach & Zigler, 1963; Cole, Oettins & Hinkle, 1967; Gough, Lazzani, & Fioravanti, 1978; Winkler & Myers, 1963). Other findings indicate that ideal-actual self-discrepancy is decreased in the course of therapy (Butler, 1968) and that neurotics have higher discrepancy scores than normals (Friedman, 1955). Breyspraak (1974) found that lower discrepancy was associated with an internal locus of control. Guilt was also found to be associated with high discrepancy, supporting the hypothesis that a failure to

decrease the gap between the ideal and actual self-concept results in feelings of guilt (Eastburg, Johnson, Woo, & Lucy, 1988). Higgins, Klein, and Strauman (1985) demonstrated that high discrepancy was positively related to increased feelings of depression. Jennings et al. (1986) found that high self-concept discrepancy was related to anxiety and to higher levels of waking reflectivity. This finding suggested that dissatisfaction with one's self is associated with a greater willingness to self-examine. Gates (1990) also found that a positive relationship existed between high self-reflectiveness in dreaming and high self-concept discrepancy. While research with children suggests that increasing self-concept discrepancy can be a positive attribute in terms of trying to attain higher goals (Katz & Zigler, 1967; Zigler, Balla, & Watson, 1972), it appears that in adulthood self-concept discrepancy is associated with poor psychological well-being that may be accompanied by a greater preoccupation with self-examination.

Scores on the Multidimensional Test of Self-Concept (MTS) (Lathrop, 1988) were previously found to correlate significantly with dream self-reflectiveness scores (Gates, 1990) and were used again in the present investigation to measure self-concept discrepancy. This scale incorporates self-concept as a multidimensional construct rather than a unidimensional one as measured by other similar scales (e.g. Bills, 1984; Higgins et al., 1985; Sherman, 1981). The different dimensions in the MTS were derived from a counselor rating form (Barak & LaCrosse, 1975) and thus reflect clinically relevant aspects of self-concept that should be helpful in the present investigation of survivors of sexual abuse.

Repression has been a common factor in both research on dreams and on coping mechanisms in waking and sleep. Repression was originally proposed by Freud as one of the defense mechanisms in his psychoanalytic theory (1894). Freud (1900) also linked it closely with dream recall, proposing that dream forgetting is much more dependent upon

resistance to unacceptable thoughts and desires than to the differences in waking and sleeping states, an idea that has maintained wide acceptance among clinicians and has provoked much empirical research. He defined repression as a withholding from consciousness of an idea which would give rise to painful affect if it became conscious. According to this definition then, repression may be associated with greater well-being. Indeed, extreme low dream recall in well-adjusted survivors of concentration camps, compared to poorly adjusted survivors and controls, suggest that repression may have occurred in the service of adaptation since the dreams of survivors often depicted scenes from the camps (Lavie & Kaminer, 1991). When well-adjusted survivors did have dreams of their war experience they asserted that they had no affect toward the dream which was in contrast to the experience of the poorly adjusted survivors. In a similar vein, Gerber (1978) found that repressors dealt more effectively with both dream and waking stress compared to sensitizers who are theorized to deal with stress through ruminative worrying. In studies of perceptual defense styles (Chodorkoff, 1954; Eriksen & Browne, 1956) repressors tended to avoid emotionally toned material. Repressors have also been shown to recall successes as opposed to sensitizers who recall failures (Eriksen, 1952). In addition, repression has been associated with lower ideal-actual self discrepancy scores compared to sensitizers who had high discrepant scores (Altrocchi, Parsons, & Dickoff, 1960). In another study, repressors were found to experience anxiety but did not admit it (Weinberg, Schwartz, & Davidson, 1979) which suggests that attempts to avoid thinking about unpleasant subject matter did not eliminate the attendant anxiety. Yet, other studies have found conflicting results in the expected relationship between repression and dream recall (Bone, Nelson, & McAllister, 1970; Cohen, 1974; Cohen & Wolfe, 1973; Wallach, 1963). Some solution to this disparity may be found in the role of distraction upon dream forgetting in which high repression results in lower dream recall when a distraction occurs

upon awakening (Cohen, 1974; Barrett, 1988).

According to many of these studies repression appears to be a successful mechanism for denial of unpleasant material, but whether this denial results in psychological well-being over the long term is really unanswered by these examinations. Research by Pennebaker (1993; Pennebaker, Barger, & Tiebout, 1989; Pennebaker, Colder, & Sharp, 1990; Pennebaker & Susman, 1988) has found that writing about personally relevant unpleasant material, including the experience of traumas such as sexual assault and imprisonment in concentration camps, results in better psychological and physical health compared to control groups who wrote about trivial matters. Participants who wrote about traumatic events reported that they felt happier, healthier, and less anxious. They also stated that after disclosing, their attitudes toward the trauma changed and they no longer felt bothered by the event. One wonders if the repression of stressful or traumatic material may result in long term poor health which may unknowingly be the result of efforts to contain painful affect. These findings suggest the possibility that the low dream recall of Lavie and Kaminer's (1991) well-adjusted participants may not have been due to repression so much as to the fact that they were no longer preoccupied with their traumatic experiences because they had somehow come to terms with them. Themes from these extremely impactful experiences continued to occur in their dreams but may have received little attention or recall in waking since they were no longer as salient to the dreamer. Well-adjusted survivors had less salient dreams and expressed no negative affect toward the dreams they had about their concentration camp experiences, which is somewhat similar to the attitude of Pennebaker's disclosers toward the traumatic events that they had experienced. In contrast, poorly adjusted survivors who had significantly lower recall than control participants reported negative affect in response to their dreams. Apparently low dream recall alone did not guarantee good adjustment. Waking affect toward the dream and the

salience of the dream were also important factors. The less anxious reactions of the well-adjusted survivors to their concentration camp dreams suggest that they may have healed in ways which allowed them to put their prior trauma into less anxiety provoking dream forms. However, these suppositions fail to explain why dream recall would remain so low for the well-adjusted group. Unfortunately, Lavie and Kaminer's research design does not allow for an answer to these questions or to the possible mediating effects of personality, leaving the role of repression in coping with trauma as an unknown. However, in a review of personality characteristics associated with either disease or self-healing, Friedman and VandenBos (1992) maintain that chronic repression is one of the personality characteristics that results in poor physical health and is detrimental to recovery from illness.

Repression was measured in this study by using the Repression subscale of the Marshall Personality Measure (Marshall, 1983). Construction of this measure was based upon the original theories of defense mechanisms derived by Freud (1894). Marshall found that the various subscales of her personality measure fit within a framework of personality typology used to describe categories of defense mechanisms. Marshall also found support for the use of the Marshall Personality Measure in clinical assessments when she examined the clinical validity of the scale by comparing patient's and therapist's ratings.

Self-consciousness is a trait which describes the consistent tendency of individuals to direct thoughts inward or outward. Self-awareness would be the comparable descriptor of the state construct. Self-consciousness is typically referred to in three forms based upon Fenigstein, Scheier, and Buss' (1975) factor analysis of this personality attribute. The first factor is private self-consciousness which refers to a tendency to attend to one's internal thoughts and feelings. The second factor, public self-consciousness, describes one's

awareness of his/her self as a social object. Social anxiety, the third factor, refers to discomfort and anxiety in the presence of others. In general, as a personality characteristic that describes an inward focus, self-consciousness may be an attribute that could promote either an over-critical examination with resultant negative feelings or it could also promote self-healing attendant with the greater awareness of one's own psychological state. For example, when participants high in public self-consciousness were exposed to rejection by a group of peers they tended to blame themselves for the rejection (Fenigstein, 1974). Self-consciousness has also been found to interfere with coping mechanisms in an examination of the relationship between stress and cognitive failure (Matthews & Wells, 1988). However, self-conscious participants may also understand themselves better. Research has shown that high private self-consciousness is associated with more attention to internal bodily states and greater accuracy in the evaluation of such states (Gibbons, Carver, Scheier, & Hormuth, 1979; Scheier, Carver & Gibbons, 1979). Individuals high in private self-consciousness have also been shown to be more likely to reduce discrepancies between their current self and meaningful standards (Carver, 1979; Scheier & Carver, 1980). Other research indicates that participants high in private self-consciousness are more resilient when faced with unexpected undesirable life events (Mullen & Suls, 1982; Suls & Fletcher, 1985). It is well-recognized that stressful life events are associated with illness (e.g., Holmes & Rahe, 1967; Selye, 1976). However, it is also known that some individuals do not get ill in the face of aversive events (Kobasa, 1979). The above findings by Suls and colleagues indicate that private self-consciousness may be an individual difference variable that provides better coping mechanisms in the face of life stress. These authors interpreted their findings as support for the contention that individuals who are more attentive to their psychological and physical reactions to stressful life events, may be more likely to make the attempt to cope with them through various

activities such as seeking social support and using cognitive reappraisal. Self-conscious individuals may also be more likely to benefit from therapy (Fenigstein, Scheier, & Buss, 1975). Thus, self-consciousness, particularly in its private form, may be a useful attribute when dealing with trauma. In so far as it describes an inner focus, it may also promote greater attention to dreaming as a method for self-examination. The two other dimensions of self-consciousness may be important in providing the impetus for looking at oneself through an outside perspective which is a crucial aspect of dream self-reflectiveness.

Self-consciousness was measured in this study using Fenigstein et al.'s (1975) measure of self-consciousness. This scale has been widely used in research, including examinations of waking correlates of dreaming. The scale is particularly useful since it measures different aspects of self-consciousness which may potentially provide more detailed information with respect to relationships with dream content and a history of sexual abuse.

Measuring the Impact of Sexual Abuse

As noted earlier, the impact of sexual abuse includes a wide variety of detrimental psychological and physical symptoms. The current study focused on three particular outcomes: (1) dissociation, (2) somatization, and (3) dream content differences.

Dissociation and somatization have recently been examined in conjunction with nightmare frequency and content in university students in order to find ways to identify individuals with a history of sexual abuse (Cuddy, 1990; Fernandez, 1991). Dissociation and somatization are two symptoms of abuse that may be particularly distinctive in those with a history of sexual abuse relative to other symptoms and yet they have received very little empirical attention (Briere & Runtz, 1988). This study attempted to extend those earlier findings by looking at overall dream content in women with a history of sexual abuse.

Measures of dissociation and somatization were used to assess the severity of the impact of

sexual abuse, and to determine if the impact of sexual abuse was related to differences in dream content when women with a history of sexual abuse were compared to those with a history of other types of abuse and a non-abuse control group.

Dissociation, or the splitting off of consciousness from one's emotions, thoughts, and bodily sensations, is a defense mechanism which may occur in particular as a response to sexual abuse relative to other traumatic experience (Briere, 1988; Briere & Runtz, 1987; Gelinas, 1983; Goodwin, 1985; Herman, Russell, & Trocki, 1986; Putnam, Guroff, Silberman, Barban, & Post, 1986; Rieker & Carmen, 1986; Van der Kolk, 1987). It is posited that dissociation serves as a covert escape mechanism in the face of inescapable traumatic experience. In essence, dissociation serves this purpose by allowing the victim to imagine that she has left her body or to induce anesthesia to a part of the body. According to Terr (1991), dissociation begins as a conscious attempt at self-hypnosis in order to escape an overwhelming traumatic experience. With repetition this defense becomes an automatic and uncontrollable response to the abuse or any object associated with the abuse. In its most extreme form, dissociation can result in dissociative identity disorder.

Somatic symptoms are also common among survivors of sexual abuse. Somatization has been defined as distress resulting from perceptions of bodily dysfunction (Derogatis, Lipman, Rickels, Ulenhuth, & Covi, 1974). Somatization essentially involves a preoccupation with bodily processes and with the potential for illness. Briere and Runtz (1988) speculate that somatization is the outcome of experiencing an invasion of the body and the accompanying feelings of physical vulnerability. In addition, anxiety arising from the sexual assault may lead to heightened arousal with resultant difficulties with sleep, appetite, and gastrointestinal irritability. Briere (1984) reported that 54% of the sexually abused patients in his survey suffered from anxiety attacks, 54% had nightmares, and 72% had difficulty sleeping. In general, anxiety attacks and anxiety related symptoms such as

nightmares, sleep complaints, and other somatic symptoms have been reported to be more frequent in survivors of sexual abuse compared to non-abused groups (Briere & Runtz, 1985, 1988; Sedney & Brooks, 1984; Walker et al., 1992).

Dissociation and somatization were measured using both the Trauma Symptom Checklist (TSC-40) (Briere & Runtz, 1991) and the Trauma Impact Inventory (TII) developed by Cuddy (1990). Both of these measures have been used successfully by these authors to distinguish between non-abused and sexually abused individuals. Cuddy found that the TII was better than the TSC-33 (Briere & Runtz, 1988) at discriminating between groups of sexually abused and non-abused participants. Therefore, both the TII and the TSC-40 were included in this study to determine further the differential effectiveness of each scale. The TSC-40 is a revised form of the TSC-33 in which seven additional questions were included to improve the reliability and predictive validity of the scale.

As the search for identifying symptoms of sexual abuse has progressed, a secondary goal has been articulated in which the outcomes of particular aspects of abuse are sought. This most often entails an examination of the severity of the impact of different forms of abuse. As mentioned earlier, some of the determining factors of the long term impact of abuse include age at time of onset, duration and frequency of the abuse, relation to the perpetrator, and the intrusiveness of the abuse. Groth (1978) concluded from his clinical experience, that the most significant sources of trauma associated with sexual abuse are (1) long duration, (2) being abused by a close relative, (3) penetration and, (4) abuse that is accompanied by aggression. Differences in the impact of different types of abuse may explain at least some of the variation found in the number and degree of symptoms noted in survivors of sexual abuse. For example, Russell (1986) found that there was a significant positive relationship between the severity of abuse and level of self-reported traumatization with genital intercourse resulting in extreme trauma in 63% of participants as opposed to

19% of participants for sexual kissing or other touching. In a review of the research, Browne and Finkelhor (1986) concluded that factors contributing to severity of impact from sexual abuse were: duration and frequency of abuse, multiple abuse as opposed to a single episode, abuse by a father or father figure, and the use of force. For this reason, aspects of the abuse situation that are related to severity were taken into account in this examination of the possible relationship between a history of sexual abuse and dream content. Given the limitations concerning the number of abuse participants which could be recruited, it was not possible in this study to look at all the factors influencing the severity of abuse. While the use of males could have supplemented the total number of participants available there was a good reason not to use them. Not enough is known at this time about the impact of sexual abuse on males to combine males and females together in any analysis of the outcomes of sexual abuse (Greene, 1994). There has been little research on males with a history of sexual abuse, but indications are that males and females react differently to this experience (Finkelhor, 1986a). Thus, the current study only utilized female participants. Severity of abuse was assessed by single versus multiple episodes of abuse only. Multiple incidents of abuse by different perpetrators and the related factor of frequency of abuse by the same perpetrator, appear to be strong predictors of severity of abuse impact (Bagley & Ramsey, 1986; Briere & Runtz, 1985; Peters, 1984). According to Browne and Finkelhor's review of various contributors to severity of impact, frequent and multiple incidents of abuse are two of the best predictors of more severe symptomatology.

Other findings indicate that the combination of both physical and sexual abuse results in more severe dissociative symptoms than either physical or sexual abuse alone (Chu & Dill, 1990). Fernandez (1991) also found that a history of sexual and physical abuse resulted in more depression, somatization, and dissociation than a history of sexual abuse

alone. Thus, in order to try to determine the relative impact of sexual abuse compared to other forms of abuse, comparison groups in this study consisted of a physical and a combined sexual/physical abuse group, as well as a non-abuse control group.

An additional measure, the Therapy and Adaptation Questionnaire, was constructed to assess a participants' perception of her degree of adaptation to a history of abuse. Participants were specifically asked to rate the degree to which they believed they had overcome their history of sexual and/or physical abuse. This measure was used to offer an alternative method of determining what impact a history of abuse had on the current functioning of a participant.

Nightmare frequency and distress may also be used as indicators of the severity of symptomatology resulting from a history of sexual abuse (Cuddy, 1990). Nightmares can be defined as highly unpleasant long dreams which typically result in an awakening (Hartmann, 1984). Nightmares usually occur during REM sleep in the latter part of the night, although traumatic nightmares, which are typically repetitive dreams of an actual traumatic event, have been noted to occur early in the night during stage 2 sleep (van der Kolk, Blitz, Burr, Sherry, & Hartmann, 1984). Nightmares should not be confused with night terrors which typically occur during stage 3 or 4 sleep, but contain little or no recalled content, consisting only of an awakening which is accompanied by extreme fear, screaming, and autonomic arousal.

The average incidence of nightmares in an adult population is estimated to be one to two per year, with approximately 80% of the population experiencing at least one nightmare per year (Hartmann, 1984). However, the number of individuals who experience frequent nightmares (one or more per week) is quite small, about 5% of the general population (Belicki, 1985; Bixler, Kales, Soldatos, Kales, & Healey, 1979; Feldman & Hersen, 1967; Hersen, 1972). Examinations of nightmare frequency among

university undergraduates indicate that 10-25% have at least one nightmare per month and have an average of 5 to 10 a year (Belicki, 1985; Belicki & Belicki, 1986; Haynes & Mooney, 1975). However, many of the aforementioned studies have relied upon retrospective reports. Estimates of nightmare frequency using daily dream logs have been found to result in rates over two times higher than those in retrospective reports indicating that reliance on memory may produce inaccurate estimates (Fichling, Salvio, Wood, & Schwartz, 1989; Wood & Bootzin, 1990). Wood and Bootzin found that university students had an average of 23.6 nightmares per year when data from dream logs was used. This was 2.5 times greater than the average indicated by retrospective reporting by the same students.

Based upon retrospective reports, Cuddy (1990) found that individuals with a history of sexual abuse reported more frequent nightmares and more nightmare distress. She also found that the nightmare characteristics of the sexual/physical abuse group were more similar to those of the sexual abuse-only group than to the physical abuse-only group and concluded that this was an indicator of the more severe impact of sexual abuse compared to physical abuse.

Other findings indicate that there is an association between frequent nightmares and psychopathology (Berquier & Ashton, 1992; Hartmann, 1984; Hartmann, Russ, van der Kolk, Falke, & Oldfield, 1981; Hersen, 1971; Kales, 1980) and with increased anxiety (Feldman & Hersen, 1967; Haynes & Mooney, 1975; Hersen, 1971). Yet other researchers have not found such a relationship with psychopathology (Belicki, 1987; Wood & Bootzin, 1990) or anxiety (Hartmann et al., 1981; Wood & Bootzin, 1990). However, there may be another factor that is more important than frequency of nightmares, and that is the degree of waking distress resulting from a nightmare. Contrary to common assumptions that nightmare frequency is the same as nightmare distress, Belicki (1985)

found that frequency only correlated .33 with self-reported distress. Several participants who had infrequent nightmares still expressed a great deal of interest in obtaining therapy for their nightmares. In a subsequent study Belicki (1992) concluded that nightmare distress rather than frequency is the crucial factor in the relationship with waking psychological adjustment. For this reason, nightmare distress will be assessed in addition to nightmare frequency as a measure of waking psychological adjustment in those with a history of sexual abuse. Nightmare distress will be assessed using a self-report measure developed by Cuddy (1990). This measure discriminated successfully between sexually abused and non-abused participants, with sexually abused participants reporting greater distress from their nightmares.

Measures of Dream Adaptation

In addition to examining the dream content variables of dream self-reflectiveness and bizarreness in terms of response to trauma, there are other dream variables which may be important with respect to adaptation to a history of sexual abuse. Dream recall has been mentioned earlier with respect to survivors of trauma (Lavie & Kaminer, 1991). These findings suggested that lowered dream recall may be adaptive, conflicting with popular theories of adaptive dream function (Cartwright, 1986; Greenberg & Pearlman, 1975; Breger, 1969).

Rotenberg's (1993) theoretical position may bring these disparate findings together. He suggests that the function of REM sleep and dreaming is the maintenance of search activity. Rotenberg defines search activity as an adaptive mechanism which consists of "...activity designed to change the situation or the subject's attitude to it in the absence of a definite forecast of the results of such activity ... but with constant monitoring of the results at all stages of activity" (p. 262). In concrete terms, human search activity involves, "...planning, fantasizing, and rethinking of the situation" (p. 264) as opposed to

stereotyped behavior in which the individual does not consider the outcome of an activity and does not use these outcomes to correct behavior. Search activity involves the use of one's psychological and physical resources to overcome obstacles whereas the cessation of search activity results in a reaction of surrender with consequent depression, neuroses, lowered resistance to disease, and psychosomatic illness. Thus, it is apparent that search activity is quite important not only for the quality of life but quite possibly for survival itself. Rotenberg purports that REM sleep and dreaming is the mechanism which regulates search activity. Using supporting neurophysiological evidence of the relationship between search activity and REM sleep and dreams he concludes that this interaction occurs in a non-linear fashion. If there is a moderate renunciation of search in waking there will be a compensating increase in REM duration. If there is an increase in waking search activity there will be a decrease in REM duration. However, if there is an excessive renunciation of search activity then REM will be inhibited as the renunciation of search is extended from waking to sleep. Thus, it is possible for both a well adapted person and a poorly adapted person to have decreased REM sleep and dreams resulting in lowered dream recall for both persons. This non-linear relationship may explain the lowered recall of the poorly adjusted and well adjusted participants in the study by Lavie and Kaminer (1991).

Other findings by Hefez, Metz, and Lavie (1987) suggest that there may be two different ways of adapting which may or may not be successful. They examined 11 survivors of various traumata at different time periods since they had occurred. They found that there were more nightmares and REM awakenings in recent survivors. The long term effects could be of two different types: a suppression of dream recall and less REM or persistent REM and NREM nightmares incorporating elements from the actual trauma. Which of these two consequences was more adaptive was difficult to tell. Only two patients seemed to show good adaptation and of these two, one fell into each category. It

may be that there are different ways of adapting based perhaps upon existing individual differences: one which focuses on integration through dreaming (nightmares which replay an event in order to assimilate it) and the other focusing on unknown methods perhaps occurring in waking with a concomitant decrease in dream recall. Unfortunately, individual differences were not addressed by either Hefez et al. or Lavie and Kaminer (1991).

Still other findings demonstrate the enigma of dream recall with respect to trauma. Fernandez (1991) found that when a sexual, physical, sexual/physical, and non-abuse group were compared, the sexual abuse participants had the highest dream recall while the sexual/physical abuse participants had the lowest dream recall based upon dream logs. It is possible that severity of abuse and dream recall may be linked in the process of adaptation to trauma. The presence of more serious trauma as suggested by all the findings with regard to the sexual/physical abuse group and its relation to lowered dream recall could be reflecting an interaction between waking levels of search activity and nightly dreaming, as could the relationship between the relatively less traumatic experience of sexual abuse and high dream recall levels. The pattern certainly appears to reflect the non-linear relationship between levels of waking search activity and quantity of REM activity proposed by Rotenberg (1993).

Rate of dream recall during the dream log period was explored in this study to determine its relation to the impact of sexual abuse. In addition, the relationship between bizarreness and dream self-reflectiveness and dream recall was examined to determine how these dream content variables may contribute to any relationship between recall and the impact of sexual abuse. Both of these dream content variables have been associated with increased dream recall (Cipolli et al., 1993; Purcell et al., 1986). These variables may contribute to dream salience and consequently to higher dream recall (Cohen, 1974) thereby contributing to adaptation through incorporation. Such an examination will contribute to

our knowledge of whether recalling a dream is positive for waking psychological adaptation as Rossi (1985) contends.

The impactfulness of a dream is another factor in dream salience. Kuiken (Kuiken & Sikora, 1993; Kuiken & Smith, 1991) defines impactful dreams as those which have a direct and noticeable influence on thoughts and feelings during wakefulness. He suggests that some dreams are impactful because they consist of images with greater potential for metaphor than other dreams. The importance of this is that metaphor is often presumed to be the vehicle by which dreams make connections that solve waking problems and contribute to adaptation. Kuiken and Sikora organized dreams into 4 clusters, the first three of which describe impactful dreaming while cluster 4 contains dreams of mundane experience. It is clear that dream clusters 1-3 contain obvious bizarre elements while clusters 1 and 2 also contain high levels of self-reflectiveness. Cluster 1 contains dreams falling under the title of rapture and mythic capabilities. Cluster 2 refers to dreams of agony and separation. Dreams involving intense fear and harm avoidance are classified under Cluster 3 which describes nightmares which contain bizarreness with an absence of reflectiveness. Wilmer (1986) also noted a lack of self-reflection in the traumatic nightmares of his Vietnam veteran patients. Kuiken's work suggests an exploratory hypothesis for this study: that the dreams of women with a history of abuse will differ from a comparison group when the impactfulness of a dream is considered. This hypothesis was explored with the use of a question in the dream diary that used Kuiken's definition of impactful dreams and asked the subject if a recalled dream had a lingering impact on their mood and thoughts after awakening. This question was used to examine whether the relationship between bizarreness and dream self-reflectiveness in impactful dreams and a history of abuse indicated more than an examination of ordinary dreams would. That is, that impactful dreams are more relevant to an adaptive function and may

therefore also be more likely to demonstrate a relationship between severity of abuse impact and dream content. Specifically, Kuiken and Smith have proposed that impactful dreams may provide compelling metaphors for our waking lives because some aspects of the dream state remain with us after we have awakened. Indeed, they found that metaphors generated after self-reported impactful dreams were more easily constructed and more sensitizing to aspects of the dream topic which were typically ignored compared to metaphors generated from ordinary dreams. Thus, impactful dreams may be more likely than ordinary dreams to serve an adaptive function for women with a history of sexual abuse.

Summary

It is apparent that the impact of various traumas can be seen not only in changes in waking functioning but also in dreaming. Clearly, sexual abuse is a traumatic experience that can result in many deleterious symptoms which impinge on one's level of psychological and physical health. The prevalence of sexual abuse makes this an important area to examine in terms of how individuals with such a history can adapt and improve their well-being.

It has been posited by many individuals interested in dreams that dreaming is a state of mind that promotes adaptation to waking experiences and consequent improvements in psychological development. The idea of studying individuals who have survived traumas has gained the attention of some dream researchers since it offers a unique opportunity to examine the impact of waking events on dreaming under circumstances which lend themselves to a crossing of the boundary between waking and sleeping. Such work may provide clues about a function of dreams. If dreaming does serve an adaptive function it may be particularly apparent in survivors of trauma as they are especially in need of these beneficial effects.

Currently, very little is known about the dreams of survivors of sexual abuse beyond

some established differences in nightmare frequency and certain content characteristics of their nightmares. The goal of the present study was to examine the overall dreaming of women with a history of sexual abuse in order to determine what other differences may result from traumatic waking experience. The purpose of such an examination is to discover what role or function dreams fulfill under these circumstances. Dream bizarreness and self-reflectiveness are two characteristics of dreaming that may serve as indicators of the process by which dreams contribute to adaptation to trauma if indeed, dreaming does serve an adaptive function. Other additions to past research in this area are examinations of whether stable personality characteristics mediate the functional significance of dreaming and whether severity of sexual abuse impact influences dream content.

Hypotheses

Given the contradictory nature of many of the research findings concerning dreaming characteristics in trauma survivors, some of the hypotheses have been stated differentially with respect to the antithetical dream theories of compensation and continuity. For Jung (1969b) dreams were compensatory in that personal experiences not lived out by the conscious in waking could be lived out by the unconscious through dreaming, thus maintaining a complimentary intrapsychic balance. Jung's theory encompasses adaptation in that dreaming restores balance to the ego. However, as opposed to dream theories which posit that adaptation occurs through the incorporation of stressful events into dreaming, the compensatory theory suggests that adaptation occurs by dreaming about other compensating experiences. Koulack (1993), for example, classifies compensatory dreams under the larger heading of avoidance dreams in which the benefits to be gained can be likened to taking a break from thinking about the stressful event. Within this category also fall dreams which reenact the stressful event but without the accompanying disturbing affect. However, Jung (1969a) stated that dreams in which a repetitious life threatening

event is relived can have the function of exhausting the emotional impact of the trauma through repetition. This could also be interpreted as a compensatory function since that which is often repressed during the day is relived through dreams. Rossi (1985), a Jungian depth psychologist, explains the compensatory function of dreaming in terms of the original experience of other ways of being that occur spontaneously in the dream. When this original experience is incorporated into waking it can contribute to psychosynthesis which is the synthesis of a new dimension in awareness, identity, or behavior which in turn provides one with a greater ability to adapt to various life events. Self-reflectiveness and bizarreness in dreams are key to this whole process.

Theories of continuity between dreaming and waking differ from theories of compensation in that dreams are expected to mirror waking life rather than complement it. While compensatory theorists like Jung and Rossi see the importance of dreams in terms of the way they reflect waking life, they believe that dreams are more than that. Dreams contain an inner self that is separated from the waking ego and is the source of the compensating experiences found in dreams (Kugler, 1993). Thus, in dreaming self-reflection is a process of the ego-consciousness reflecting on this alien other self from which the ego originated (Jung, 1964). In contrast continuity posits that what is present in waking and dreaming is equivalent. This position is reflected for example in Adelson's (1959) findings that creative women had more bizarre dreams and Purcell et al's. (1986) findings that increased attention to dream self-reflectiveness in waking resulted in increases in self-reflectiveness in dreaming. Foulkes (1970) states that continuity is more likely than compensation with respect to the relationship between dreaming and waking although some of the evidence which he uses to support his contention can also be used to support compensation. In terms of continuity, characteristics of waking experience will determine and be mirrored in dreaming characteristics. Therefore, if one is self-reflective in waking

he/she should also be reflective in dreaming. According to the continuity hypothesis, one could anticipate that the dreams of traumatized individuals will be low on factors such as dream self-reflectiveness and dream bizarreness as a reflection of the deleterious impact the trauma has had on such cognitive operations.

Theories of continuity suggest that dreaming does not provide any adaptive ability that is not already available in waking. Adaptation to waking traumatic events can be attained through the incorporation of the event into one's dreams and its integration with similar events of the past in which a successful resolution was reached. As Koulack (1993) states, this notion is antithetical to Jung's notion of compensation in which an opposing experience is dreamed of rather than the actual event or ones similar to it. Although both compensatory and continuity theories incorporate an adaptive function for dreaming, they suggest divergent methods by which it is accomplished. The appropriateness of one or the other will have a great impact on our knowledge of how dreaming functions and how we perceive dreams. Do dreams have meaning at all and if so do they merely reflect knowledge we already have in waking thought, although perhaps in a new way, or do they actually provide new insight and new ways of interacting with the world not available to our conscious selves? Continuity suggests that dreams are not capable of truly new creations but are only a reflection of waking experience. Compensation suggests that original experience can be accessed from the unconscious as expressed in our dreams. It may be that neither theory alone can explain the findings and that when one is examining the impact of trauma, a non-linear relationship, such as that suggested by Rotenberg (1993), may better fit the findings. If this is the case then level of adaptation to a trauma may be a significant determinant of the resultant relationship between waking and dreaming.

The present investigation examined the following hypotheses:

- 1) If participants in the sexual abuse group and the sexual/physical abuse group have lower scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale than the physical abuse and non-abuse groups, then the continuity hypothesis is supported.

If participants in the sexual abuse group and the sexual/physical abuse group have higher scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale than the physical abuse and non-abuse groups, then the compensatory hypothesis is supported.

- 2) Severity of abuse will have an impact on symptomatology and on the dream content of the sexual abuse group. Specifically:

- a) Participants in the sexual abuse group who have experienced multiple incidents of sexual abuse will have higher scores on the adaptation measures (Trauma Symptom Checklist-40, Trauma Impact Inventory, Beck Depression Inventory and a rating of nightmare distress) than participants who have experienced a single incident of sexual abuse.

- b) If participants in the sexual abuse group who have more severe symptomatology on the adaptation measures also have lower scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale compared to participants in the sexual abuse group with less severe symptomatology, then the continuity hypothesis is supported.

If participants in the sexual abuse group who have more severe symptomatology on the adaptation measures also have higher scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale compared to participants in the sexual abuse group with less severe symptomatology, then the compensatory hypothesis is supported.

- c) If participants in the sexual abuse group who have a history of multiple episodes of sexual abuse have lower scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale than participants in the sexual abuse group who have had a single

episode of sexual abuse, then the continuity hypothesis is supported.

If participants in the sexual abuse group who have a history of multiple episodes of abuse have higher scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale than participants in the sexual abuse group who have had a single episode of sexual abuse, then the compensatory hypothesis is supported.

- 3) Personality scores on the Multidimensional Test of Self-Concept, the Marshall Repression Scale, and the Self-Consciousness Scale will be related to scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale. Specifically:

If participants who score high on the Multidimensional Test of Self-concept, and the Marshall Repression Scale, and low on the Self-Consciousness Scale also have low scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale, then the continuity hypothesis is supported.

If participants who score high on the Multidimensional Test of Self-Concept, and the Marshall Repression Scale, and low on the Self-Consciousness Scale also have high scores on the Dream Self-Reflectiveness Scale and the Bizarreness Scale, then the compensatory hypothesis is supported.

- 4) There will be a relationship between dream recall, dream content, and a history of sexual abuse. Specifically:

- a) High dream recallers will have higher scores on the Dream Self-Reflectiveness Scale and the Dream Bizarreness Scale than low dream recallers.

- b) If the sexual abuse group and the sexual/physical abuse group have lower dream recall than the physical abuse and non-abuse groups then the continuity hypothesis is supported.

If the sexual abuse group and the sexual/physical abuse group have higher dream recall than the physical abuse and non-abuse groups then the compensatory

hypothesis is supported.

Various exploratory analyses were also carried out. The participants' self-ratings of bizarreness for their own dreams were compared to the bizarreness ratings of the experimenter to examine the degree of similarity between these two measures. The dreamer may perceive bizarreness differently in terms of what is improbable in her particular life experience. Therefore, in the interest of determining what impact this personal perspective might have on ratings of bizarreness, the ratings of the dreamer and of the experimenter were compared.

The question concerning adaptation to a history of abuse, as contained in the Therapy and Adaptation Questionnaire, was used for comparison with responses to the other adaptation measures. A participant's response to this question was used as an index of the accuracy of the measures of symptomatology with regard to the degree to which a participant still suffered from her past experience(s) of abuse.

The contribution of personality to dream content with respect to a history of abuse was also analyzed. Dream recall was examined with respect to dream self-reflectiveness and dream bizarreness when abuse history was considered and whether severity of symptoms resulting from abuse was related to level of dream recall.

The impactfulness of dreams was examined for differences between the sexual abuse, physical abuse, sexual/physical abuse, and non-abuse groups and with respect to the dream content variables to see if impactful dreams were more closely associated with a history of sexual abuse and dream content than less impactful dreams. The affective quality of the dreams was also compared among the groups as well as nightmare frequency. The severity of abuse symptomatology was examined with regard to both dream impactfulness and dream affect. Finally, the general dreaming characteristics of women with a history of sexual abuse was examined with the Dream/Nightmare/Sleep History Questionnaire

(Cuddy, 1990).

CHAPTER 4

Research Design and Method

Participants

This study consisted of three phases. In the first phase, Introductory Psychology students completed a questionnaire concerning a history of sexual and physical abuse. Students who indicated a history of sexual abuse were then contacted by phone for recruitment into the second and third phase of the study. In addition, students were recruited in the same manner for each of the following comparison groups: (1) physical abuse group, (2) sexual/physical abuse group, and (3) non-abuse group. Only female students were recruited as accurate disclosure of a history of sexual abuse has been found to be problematic for males when using this questionnaire (Cuddy, 1990). Students who completed Phase II and III of the study received research credits as part of the requirements for their psychology course.

Measures

Phase I. Students in an Introductory Psychology course completed the Major Events Inventory (MEI) (Cuddy, 1990) which is a list of major life events of both a positive and negative nature. Students are instructed to place a check mark next to those items which they have experienced. This questionnaire was included in the Mass Testing packet of the Psychology Department. The Major Events Inventory was developed by Cuddy (1990) and has also been used by Fernandez (1991), as well as in the initial study for the current research. The items which were of particular interest for the current study were those concerning a history of unwanted sexual activity before or after the age of 14 and whether it was a repeated or single event. Questions concerning physical abuse before or after the age of 16 and whether a repeated or single event were also used. Items in the questionnaire deal with events such as marriage, being kidnapped, winning an award, and pregnancy.

among others. To meet ethics requirements a statement was included at the beginning of this measure informing students that the following material was of a sensitive nature. Contact numbers for counselling and sexual assault crisis centers were also included at the end of the questionnaire.

Phase II. Participants who participated in Phase II of the study received the following items:

1) An Informed Consent form (Appendix A) informed participants about the nature of the study and the types of measures that they would be asked to complete. Participants were advised that their participation was voluntary and that they could leave any questions blank which they did not wish to answer. They were also informed that they could withdraw from the study at any time. Confidentiality was also guaranteed. Participants were asked to sign and date this form if they agreed to participate in the study.

2) A brief Biographical Questionnaire (Appendix B) elicited information concerning age, marital status, and major area of study.

3) The Multidimensional Test of Self-Concept (MTS) (Lathrop, 1988) was administered to measure self-concept discrepancy. As this measure was described in Chapter 2 in the Measures section it will not be described again here.

4) The Marshall Repression Scale (MR) (Marshall, 1983) was used to measure repression (see Chapter 2).

5) The Self-Consciousness Scale (SCS) (Fenigstein, Scheier, & Buss, 1975) was used to assess public and private self-consciousness and social anxiety (see Chapter 2).

6) The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was used to measure current levels of depression. The BDI consists of 21 groups of statements. A participant is asked to indicate which statement best describes the way they have been feeling in the past week. Each statement is given a score of 0 to 3.

The total possible score ranges from 0 to 63. Scores in the 1 to 10 range indicate that a subject is not depressed. Scores of 11 to 16 are equivalent to mild depression, 17 to 20 indicates borderline clinical depression, 21 to 30 is indicative of moderate depression, 31 to 40 indicates severe depression, and scores over 41 are an indication of extreme depression. The authors reported a split-half reliability coefficient of 0.86 using Pearson r .

7) The Trauma Symptom Checklist (TSC-40) (Briere & Runtz, 1989; Elliott & Briere, 1992) consists of 40 symptoms related to the impact of sexual abuse on later adult functioning. The TSC-40 is a revision of the TSC-33 (Briere & Runtz, 1989) and includes the addition of seven items to increase the reliability and predictive validity of the instrument, specifically in the areas of somatic symptoms of sleep disturbance and sexual dysfunction. There are six subscale scores and a total score. The TSC-40 was found to reliably discriminate between abused and non-abused women in a relatively high functioning university population and to have a reliability coefficient of .90 for the total TSC-40 score. The TSC-40 was also significantly correlated with characteristics of abuse such as duration and frequency of abuse. Participants are asked to indicate how frequently they have experienced each item in the past two months. Each symptom is rated on a scale from never to very often.

8) The Trauma Impact Inventory (TII) (Cuddy, 1990) is a composite list of symptoms associated with a history of sexual abuse. Each symptom is rated as to whether or not it occurred in childhood, adolescence, adulthood, and whether it is happening currently. Items can be scored across time periods and cumulatively across symptoms. Cuddy found that the TII discriminated between sexual abuse and non-abuse groups in a university population.

9) The Nightmare Distress Questionnaire examines nightmare distress and other aspects of nightmares (Cuddy, 1990). Cuddy found that questions pertaining to the

percentage of distressful nightmares, the degree to which nightmares were distressful, and interest in therapy for nightmares successfully discriminated between her sexual abuse and non-abuse groups in a university population.

10) A Dream/Nightmare/Sleep History Questionnaire was adapted from a questionnaire used by Fernandez (1991) which in turn was adapted from Cuddy's (1990) Nightmare/Sleep History questionnaire. This questionnaire inquires about frequency and repetitiveness of dreams and nightmares. For the current study a question regarding impactful dreams was also included and was presented in the same format in the dream diary.

11) The Therapy and Adaptation Questionnaire (Appendix C) was constructed for participants with a history of abuse. This questionnaire inquires about therapy and satisfaction with therapy obtained for incident(s) of abuse. The primary question of interest for the current study was a question asking the participant to rate the degree to which she felt she had overcome her past history of abuse. This question was responded to by circling a number from 1 to 7 on a Likert-type scale.

12) At the end of Phase II participants received a list of contact numbers which they could call if they had any questions or experienced any distress, particularly in relation to a history of abuse. A copy of this form is in Appendix D.

Phase III. In the third phase each subject received a dream diary (Appendix E) consisting of an introductory page of instructions and 14 pages for the recording of dreams. Each page of the diary contained five questions regarding the dream which were included for exploratory purposes. Participants were asked to indicate whether they recalled, did not recall, or recalled dreaming but with no recall of content. The second question inquired about the perceived pleasantness of the dream. This factor has been related to level of adaptation to waking stressors (Cartwright, 1991). A third question

inquired whether the subject classified their sleep experience as a dream or nightmare based upon the definition given on the introductory page. A fourth question inquired about the perceived impactfulness of the dream experience using a Likert-type scale. The final question asked participants to rate the bizarreness of their dreams using the same scale as in the previous question. Participants were asked to take this diary home and to record all recalled dreams over the subsequent 14 days.

Procedure

The study consisted of three phases with mass testing occurring in the first phase. Mass testing is administered by the Psychology Department of Carleton University and consists of a packet of screening measures provided by various students and faculty in the department who are conducting research. This test session involves Introductory Psychology students only. Participation in mass testing is entirely voluntary and results in the receipt of one research credit. During Phase I screening of participants for a history of sexual abuse, physical abuse, sexual/physical abuse and no abuse was accomplished with the administration of the MEI. A total of 1,547 women from three different terms of Introductory Psychology courses completed the MEI in this initial phase. Participants were then recruited over the phone for Phase II and III of the study and were told that the study would involve an examination of a history of sexual and/or physical abuse and no abuse with respect to dreams, personality, and measures of abuse symptomatology. Participants were recruited until a minimal number were obtained to meet sample size requirements for adequate statistical power. A total of 323 individuals were obtained in this way with 298 actually completing all three phases of the study.

Phase II of the study consisted of group testing sessions lasting approximately 1 hour. Participants were given the informed consent form and advised that the study concerned an examination of the relationship between personality, symptomatology

associated with the impact of different types of abuse, and dreams. These group sessions occurred at various times to accommodate participant's schedules such that most sessions contained only 5 to 10 participants. During this session participants completed the measures related to personality, sexual abuse symptomatology, and dream/nightmare characteristics. Participants who were recruited from the first Introductory Psychology term completed the MEI a second time during this phase because there was a 6 month lag between the first completion of the MEI and the test session. This adjustment involved 160 participants.

Upon completion of these measures, participants received their dream diary packet. They were also given a sheet of contact numbers in the event that they had any questions or felt any distress as a result of their participation in the study. In addition to the usual faculty numbers, there was also a list of numbers for counseling resources and sexual assault centers. Participants were informed that they would receive their research credits when they had completed both the test session and the dream diary.

To control for possible order effects between the dream diary and the test session some participants completed Phase II first and some completed Phase III first. Participants were randomly assigned to an order based upon their abuse category and incident category within the abuse category. For example, half of the participants in the sexual abuse single incident category were assigned to Phase II first and the other half to Phase III first. This was similarly repeated for all such categories.

Debriefing

Participants received a written and oral debriefing when they returned their dream diaries to the examiner and had completed the test session. In this debriefing participants were given more details concerning the nature of the study. They were informed about the actual nature of each of the measures they completed and what dream characteristics would

be examined. The nature of the study was explained in terms of dream function and the possible relationship between dreaming and waking traumatic experience. Contact numbers of the principal investigator, faculty advisor, Chair of the Ethics Committee, and Chair of the Department were included with the written debriefing. In addition, numbers for counseling services and sexual assault centers were again provided. A copy of the written debriefing is shown in Appendix F. Participants were also invited to leave an address if they wished to receive a summary of the results.

Scoring Dream Diaries

The scoring of dream bizarreness was based upon a scoring system developed by Hobson et al. (1987) which examines improbability, discontinuity, incongruity, and uncertainty in dream reports. Initial training on this scale was provided by the interchange of a separate sample of dreams and ratings with Dr. Hobson's lab. Dream self-reflectiveness was scored using a scale developed by Moffitt et al. (1988) which was adapted from Rossi's (1985) levels of the self-reflective process in dreams. Dreams were sorted and scored blind as to abuse group and individual membership. The examiner scored the entire set of dreams on both rating scales. A second rater was obtained for each dream scale and scored 20% of the dreams to provide a rating of reliability. All raters were trained on an independent sample of dreams to establish adequate reliability before formal ratings were conducted.

CHAPTER 5

RESULTS

Overview

Results from the present study will be presented in three parts. Part 1 contains the results of the screening procedure for participants with a history of sexual and physical abuse which occurred in Phase I. This section will also include the description of those participants who were obtained for Phase II and III of the study. Part 2 contains a description of the general dream and nightmare characteristics of the participants from data collected in Phase II. Part 3 contains the remainder of the results for data collected in both Phase II and Phase III. This portion of the results will follow the order in which the hypotheses were presented in the previous chapter: 1) the relationship between dream content and a history of abuse; 2) the relationship between personality and dream content ratings; 3) the relationship between dream recall, dream content ratings, and a history of abuse; and finally 4) dream impact, affect, and nightmares and how these variables are related to a history of abuse and the dream content ratings.

The analyses consist of both parametric and nonparametric statistical tests depending upon the various levels of measurement used for each of the variables. Where parametric analyses were performed, data were screened for the assumptions required in such tests. Any transformations necessary to compensate for nonnormal distributions and any elimination of outliers for particular variables will be indicated. In the case of transformed variables, the means reported in the tables and in the body of the text will consist of the transformed data. The presence and handling of missing data will also be discussed.

Screening Participants for a History of Abuse

Female participants from three consecutive terms of an Introductory Psychology class were surveyed for a history of sexual and/or physical abuse. This was necessary to meet

minimal sample size requirements for sufficient statistical power in the data analyses proposed for Phases II and III. A total of 1,547 women completed the Major Events Inventory (MEI) during Phase I of the present study. Of these women, 194 (12.54%) indicated a history of sexual abuse only, 199 (12.86%) had a history of physical abuse only, 241 (15.58%) had a history of both sexual and physical abuse, and 913 (59.02%) indicated that they had never been abused.

Of these 1,547 women, 323 were recruited for Phase II and III of the study. Students from the third term of the course were only recruited as needed to complete the minimal sample size requirements for the sexual abuse and physical abuse groups. Twenty-four of the 322 women dropped out before completion due primarily to lack of time and scheduling difficulties. One other participant was dropped from the study and will be discussed subsequently. The number of participants who dropped out was evenly distributed among the experimental groups except for a higher number of non-abuse participants from the first term of the course. Of the total of 24 participants who dropped out of the study, 16 were from the first section with 9 coming from the non-abuse group, 3 from the physical abuse group, and 2 each coming from the sexual and the sexual/physical abuse group. The higher frequency of non-abuse participants dropping out from the first term could be attributed to the late timing of the study. This resulted in many participants from the first term participating on a voluntary basis instead of participating for research credits, which had already been obtained through other studies. Since it was known from the outset that the study involved an examination of sexual and physical abuse, non-abuse participants may not have been as motivated to complete the study.

In the end, 298 women completed all three phases of the study. Of these women, 81 were classified as experiencing a history of sexual abuse only, 78 reported experiencing both sexual and physical abuse, 64 reported physical abuse only, and 75 had experienced

neither form of abuse and served as the non-abuse control group. Unless it is otherwise specified, use of the term sexual abuse group will refer to those participants who experienced sexual abuse only.

The MEI results for the participants recruited from the first term merit further discussion. The MEI was administered during mass testing which occurred early in the term, but for these participants, Phase II did not take place until 6 months later. These participants were given the MEI again at this later date to allow for the possibility that they may have experienced an episode of abuse in the intervening time period. Eighteen (8.9%) participants out of 160 indicated sexual or physical abuse that they had not previously noted which could have occurred in the interim and their group membership was altered as necessary. One physical abuse participant did not indicate any abuse on the second administration of the MEI and was dropped from the study. Four (2.5%) other participants indicated additional abuse at an early age which therefore could not have occurred during the intervening period. These participants were retained, particularly since none of these additions substantially changed their group membership but instead added to other abuse already mentioned.

Age and Marital Status

The groups did not differ significantly on either age or marital status. The mean ages for the sexual abuse, sexual/physical abuse, physical abuse, and non-abuse groups were 21.84, 22.81, 21.91, and 22.29 years respectively. The overall mean was 22.22 years of age with an age range of 17 to 51. Results of a one-way analysis of variance were nonsignificant for age. A chi-square test was performed to examine differences in marital status among the groups. The variable of marital status consisted of the categories of single, married, or divorced. The results of this analysis were also nonsignificant. As expected the majority of participants were single (266 or 89.6%). Of the remaining

participants, 24 (8.1%) were married and 7 (2.4%) were divorced. One participant from the non-abuse group failed to indicate her marital status.

General Dream and Nightmare Characteristics

One of the purposes of this study was to survey the general dream and nightmare patterns of sexual abuse participants for comparison with the three other experimental groups. Twelve variables were examined with respect to the Dream/Nightmare/Sleep History Questionnaire (DNSQ). These variables comprised categorical and ordinal levels of measurement. The ordinal variables consisted of six questions concerning dream and nightmare frequency in the past year, as an adolescent, and as a child. These questions could be responded to by indicating one of five choices: 0 times, 1-2 times per year, 3-12 times per year, 2-5 times per month, or once a week. These variables were transformed in an attempt to better estimate the distances between categories by substituting number of times per year as a constant unit of measurement. Where a range was given the midpoint of the frequency was used. Thus, instead of coding these variables as 1-5 they were given 0, 1.5, 7.5, 42, and 52, respectively. This resulted in nonnormal distributions that were then corrected by logarithmic transformations. Another ordinal variable, monthly dream recall, was also transformed in the same manner along a slightly different frequency scale. This resulted in a normal distribution for this variable without the requirement of any further transformation. The purpose of the above transformations was to enable the use of parametric statistics as these data were not amenable to non-parametric analysis due to the presence of many ties (given the large sample size) and the small range of possible responses for each variable.

A one-way analysis of variance was used to assess potential differences among the four groups for each of the variables. The one categorical variable, the presence or absence of repetitive nightmares, was analyzed using a chi square test. Table 3 shows the results of

TABLE 3

Summary of ANOVA Results for General Dream and Nightmare Variables

Variable	Group	Mean	SD	F
Hours of sleep per night	Sexual abuse	7.29	1.07	n.s.
	S/P abuse	7.13	1.22	
	Physical abuse	7.30	1.07	
	Non-abused	7.46	.92	
Monthly Dream Recall	Sexual abuse	11.28	7.22	n.s.
	S/P abuse	11.99	7.67	
	Physical abuse	10.45	7.79	
	Non-abused	11.55	8.06	
Dream Impact Rating ^{a,b}	Sexual abuse	4.14	1.51	3.71*
	S/P abuse	4.13	1.55	
	Physical abuse	3.64	1.64	
	Non-abused	3.45	1.57	
Nightmares in past year ^b	Sexual abuse	.80	.49	3.69*
	S/P abuse	.86	.51	
	Physical abuse	.67	.46	
	Non-abused	.63	.43	
Nightmares in adolescence ^{a,b}	Sexual abuse	.86	.52	7.02**
	S/P abuse	.95	.56	
	Physical abuse	.71	.45	
	Non-abused	.62	.39	
Nightmares in childhood	Sexual abuse	.82	.52	n.s.
	S/P abuse	.86	.60	
	Physical abuse	.77	.52	
	Non-abused	.72	.42	
Dreams in past year	Sexual abuse	1.58	.30	n.s.
	S/P abuse	1.62	.27	
	Physical abuse	1.53	.41	
	Non-abused	1.55	.33	

(TABLE continues)

TABLE 3 (continued)

Variable	Group	Mean	S.D.	F
Dreams in adolescence	Sexual abuse	1.49	.35	n.s.
	S/P abuse	1.59	.30	
	Physical abuse	1.46	.38	
	Non-abused	1.47	.39	
Dreams in childhood	Sexual abuse	1.37	.46	n.s.
	S/P abuse	1.38	.53	
	Physical abuse	1.33	.50	
	Non-abused	1.45	.39	
Ability to fall asleep after a nightmare ^{b,c}	Sexual abuse	4.04	1.93	4.73**
	S/P abuse	4.31	1.94	
	Physical abuse	3.42	1.74	
	Non-abused	3.36	1.77	
Number of nightmares repeated in the past year	Sexual abuse	.18	.17	n.s.
	S/P abuse	.27	.22	
	Physical abuse	.28	.29	
	Non-abused	.26	.35	

* $p < .05$

** $p < .01$

^aMeans significantly different between sexual abuse and non-abused groups.

^bMeans significantly different between sexual/physical abuse and non-abused groups.

^cMeans significantly different between sexual/physical abuse and physical abuse groups.

the ANOVAs. Missing data occurred for most of the variables but was minor and evenly distributed among the groups. Missing data were replaced by group means for interval data and by the group medians for ordinal data before transformations were made. Some of the missing data were not replaced due to the inapplicability of a particular question to individuals who responded negatively to a previous question in nested pairs of questions. For example, a question that asked participants how many repetitive nightmares they had had in the previous year was the follow up to a previous question about the presence or absence of repetitive nightmares. If the answer to the first question was no, then the second question did not receive a response. For the variable concerning number of repeated nightmares, this resulted in 22, 35, 18, and 12 participants for the sexual, sexual/physical, physical, and non-abuse groups, respectively. This variable also required a logarithmic transformation due to a nonnormal distribution. The results indicated that the four groups differed significantly on the variables of dream impact, number of nightmares in the past year and in adolescence, and in the ability to fall asleep after a nightmare.

The degree to which dreams typically left an impact after awakening was significantly different across the four groups. Post hoc comparisons using Tukey's HSD test indicated that the sexual abuse group and the combined sexual/physical abuse groups both had higher means on dream impactfulness than the non-abuse group. The frequency of nightmares in the past year and during adolescence were also significantly different among the groups. Comparisons indicated that the sexual/physical abuse group had more nightmares in the past year than the non-abuse group. As adolescents, the sexual abuse group and the sexual/physical abuse group both had more nightmares than the non-abuse group, whereas the sexual/physical abuse group also had more nightmares than the physical abuse group. The degree of difficulty involved in falling asleep after a nightmare was also significantly different among the groups. The sexual/physical abuse group reported that they

experienced significantly more difficulty falling asleep than the non-abuse group or the physical abuse group.

The presence or absence of repetitive nightmares in the past year was indicated by a yes or no response. This categorical variable was analyzed with chi-square for k independent samples. One participant in the sexual abuse group did not respond to this question and was not included in the analysis. The groups differed significantly on this variable with $\chi^2(3) = 16.03, p < .01$. Analysis of the location of these differences indicated that the non-abuse group had significantly fewer repetitive nightmares than the other groups did, whereas the sexual-physical abuse group had significantly more repetitive nightmares when compared to the other groups. Table 4 shows the actual and expected frequencies for the repetitive nightmare variable.

Dream Content and Abuse History

Inter-rater Reliability and Distribution of Dream Content Scores

A total of 2,234 dreams were collected from the two-week dream diaries of the 298 participants. Participants had a mean of 7.5 dreams over this period of time, with a range of 0 to 25 dreams. Only four participants had no dreams to report in their diaries and these participants were obviously not included in any of the analyses involving dream diary variables. These no-dream participants were fairly evenly distributed among the groups with 1 participant each in the sexual abuse and physical abuse groups, 2 participants in the non-abuse group, and none in the sexual/physical abuse group.

All of the dreams were rated for both dream self-reflectiveness and dream bizarreness. To obtain a measure of reliability, 20% or 447 of the dreams were rated independently by a second trained rater on each rating scale. Reliability of the bizarreness rating was obtained with three different measurements. One involved determining the agreement between raters about which sentence units in a dream report were considered

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TABLE 4

Chi-square for Repeated Nightmares

Nightmare category	Sexual Abuse	Sexual/Physical Abuse	Physical Abuse	Non-Abused
<hr/>				
No repeated nightmares in past year				
Observed	59.0	43.0	46.0	63.0
Expected	56.8	55.4	45.5	53.3
Percentage	73.8	55.1	71.9	84.0
Repeated nightmares in past year				
Observed	21.0	35.0 ^a	18.0	12.0 ^b
Expected	23.2	22.6	18.5	21.7
Percentage	26.2	44.9	28.1	16.0

^aChi-square significant for sexual/physical abuse group.

^bChi-square significant for non-abused group.

bizarre and which were considered not bizarre, regardless of the category of bizarreness that was assigned. The second measurement involved determining agreement on the assignment of bizarre items to specific bizarreness categories. In the first instance, agreement reached 92% and, in the second, agreement reached 63%. Both reliability figures were quite good with respect to other research using this scale (Williams, Merritt, Rittenhouse, & Hobson, 1992). The third measure was a one-tailed Pearson correlation coefficient used to assess the relationship between the final bizarreness density score computed for each dream (total bizarre sentence units divided by total sentence units) obtained by each rater. This reliability rating was also very good, reaching $r(447) = .80$, $p < .01$. The reliability figures for the dream self-reflectiveness scores were also in an acceptable range, with agreement for dream self-reflectiveness ratings reaching 76% and $r(447) = .70$, $p < .01$, one-tailed.

The overall mean for dream self-reflectiveness for the entire sample was 4.35, with most of the dreams falling into the 3rd (40%) and 5th levels (43.1%). In level 3 the dreamer is completely involved in the dream action, which at this level is often a reflection of waking preoccupations. In level 5 there is dialogue in the dream. According to Rossi (1985), this is a classic form of self-reflection and can demonstrate the dreamer's attempt to try new ways of behaving and thinking. The frequencies for each of the self-reflectiveness levels are illustrated in Table 5 and indicate a fairly normal distribution similar to that obtained in the initial study. The mean bizarreness density rating was .163 with a range of 0 to 1. A large percentage of the dreams (46%) were rated 0 for the complete absence of any bizarre units (see Table 6). The large percentage of nonbizarre dreams deviates substantially from results obtained by Williams et al. (1992) who found only 10% rated nonbizarre in a sample of 60 dreams.

TABLE 5

Distribution of Dream Self-Reflectiveness Levels for all Groups Combined

Level	No. of Dreams	Percentage
1	8	0.4
2	48	2.1
3	894	40.0
4	11	0.5
5	963	43.1
6	118	5.3
7	178	8.0
8	5	0.2
9	9	0.4

TABLE 6

Distribution of Dream Bizarreness Densities for all Groups Combined

Density	No. of Dreams	Percentage
0 - .10	1140	51.0
.11 - .20	363	16.2
.21 - .30	236	10.6
.31 - .40	239	10.7
.41 - .50	151	6.8
.51 - .60	25	1.1
.61 - .70	36	1.6
.71 - .80	17	0.8
.81 - .90	0	0.0
.91 - 1.00	27	1.2

Abuse Group Membership and Dream Content Ratings

It was hypothesized that the sexual abuse and sexual/physical abuse groups would differ significantly on the dream self-reflectiveness and dream bizarreness scores when compared to the physical abuse and non-abuse groups. Two one-way analyses of variance, one for each dream rating scale, were performed, with a priori contrasts reflecting this hypothesis. All of the dreams from each participants' dream diary were utilized, resulting in a different number of dreams for each of the individual participants. This necessitated the use of an average dream self-reflectiveness and dream bizarreness score for all of the analyses. The dream bizarreness scores were given a square root transformation to correct a nonnormal distribution.

The dream self-reflectiveness means for the sexual, sexual/physical, physical, and non-abuse groups were 4.50, 4.42, 4.26, and 4.14, respectively. Results of the one-way ANOVA indicated that these means differed significantly among the groups, $F(3, 290) = 2.88, p < .05$. An a priori contrast was used which compared the two sexual abuse groups to the physical and non-abuse groups. A two-tailed t-test was used to perform the a priori contrast between the means for the two pairs of groups. The sexual and sexual/physical abuse groups had significantly higher average dream self-reflectiveness means than the physical abuse and non-abuse groups, $t(290) = 2.65, p < .01$, thus supporting the hypothesized relationship between a history of abuse and dream self-reflectiveness. Moreover, the direction of the difference in means between the groups indicates support for the compensatory hypothesis. A similar analysis of the average dream bizarreness rating indicated no significant differences among the groups. However, a power analysis indicated that there was only an 18% chance of finding a significant difference for this variable with the obtained effect size. This power value is far below the generally desired value of .80 cited by Cohen (1988).

Participants also rated their own dreams for bizarreness on a 7-point Likert scale. These ratings were compared to the bizarreness ratings of the experimenter to evaluate how well these two measures of bizarreness agreed with one another. The self-ratings of bizarreness were averaged across all dreams for each participant in the same manner as the other dream content scores. A one-tailed Pearson product moment correlation coefficient was used to assess the degree of relationship between participant and experimenter bizarreness ratings. There was a moderate positive linear relationship between the two variables with $r(294) = .30, p < .01$. Although this correlation is not large, it indicates that ratings of bizarreness by an experimenter are not entirely invalidated by a lack of knowledge of what may be bizarre with respect to the personal circumstances of the dreamer.

Adaptation and Severity Subgroups and Dream Content Ratings

Comparison of Adaptation Scores Among the Original Groups

One-way analyses of variance were used to determine if the two sexual abuse groups had significantly higher scores on the adaptation measures compared to the non-abuse and physical abuse groups. Adaptation variables included the TSC-40, TII, BDI, and several ratings of nightmare distress. In addition, it was considered desirable to examine which variables on the Nightmare Distress Questionnaire (NDQ) differentiated the groups because Cuddy (1990) was the only other researcher to examine how sexual, physical, and non-abuse groups differed on these variables. The results of these analyses are shown in Table 7.

The child subscale scores from the TII were modified using a square root transformation to correct a nonnormal distribution. A total of seven outliers were found among the subscales of the TSC-40 and the TII and also on the BDI. These were variously distributed among the experimental groups and were corrected by transformation to the next

TABLE 7

Summary of ANOVA Results for Adaptation Variables

Variable	Group	Mean	SD	F
TSC-Anxiety ^{a, b}	Sexual abuse	2.39	.76	7.74***
	S/P abuse	2.55	.97	
	Physical abuse	2.24	.79	
	Non-abused	2.00	.74	
TSC-Depression ^{b, c, d}	Sexual abuse	7.23	3.82	8.53***
	S/P abuse	9.46	4.53	
	Physical abuse	6.63	3.38	
	Non-abused	6.83	3.63	
TSC-Dissociation ^{a, b, c}	Sexual abuse	5.27	2.98	9.24***
	S/P abuse	5.95	3.33	
	Physical abuse	4.16	2.94	
	Non-abused	3.68	2.47	
TSC-Sexual Abuse Trauma Index ^{a, b, c}	Sexual abuse	4.47	2.72	11.93***
	S/P abuse	5.64	3.77	
	Physical abuse	3.63	2.71	
	Non-abused	3.03	1.84	
TSC-Sleep Disturbance ^{b, c, d}	Sexual abuse	7.75	3.56	5.83***
	S/P abuse	9.35	4.04	
	Physical abuse	7.34	3.18	
	Non-abused	7.19	3.36	
TSC-Sexual Problems ^b	Sexual abuse	3.98	3.24	5.08**
	S/P abuse	4.60	3.57	
	Physical abuse	3.30	3.27	
	Non-abused	2.73	2.33	
TSC-Total ^{a, b, c, d}	Sexual abuse	34.86	15.01	12.64***
	S/P abuse	42.49	19.49	
	Physical abuse	30.44	13.46	
	Non-abused	28.09	12.65	

(TABLE continues)

TABLE 7 (continued)

Variable	Group	Mean	S.D.	F
TII-Child	Sexual abuse	4.65	3.92	3.97**
	S/P abuse	5.71	4.58	
	Physical abuse	3.58	3.44	
	Non-abused	4.16	3.22	
TII-Adolescent ^{a b c}	Sexual abuse	11.14	5.57	10.21***
	S/P abuse	12.85	6.48	
	Physical abuse	8.72	5.14	
	Non-abused	8.52	4.95	
TII-Adult ^{b c}	Sexual abuse	9.67	6.12	9.92***
	S/P abuse	12.03	7.26	
	Physical abuse	7.64	5.69	
	Non-abused	7.27	4.54	
TII-Now ^{b c}	Sexual abuse	7.85	4.71	3.81*
	S/P abuse	9.42	5.85	
	Physical abuse	7.14	4.58	
	Non-abused	6.96	4.63	
TII-Across Age ^{a b c d}	Sexual abuse	17.63	5.19	16.34***
	S/P abuse	20.17	6.50	
	Physical abuse	15.16	5.94	
	Non-abused	13.91	6.15	
TII-Total ^{a b c d}	Sexual abuse	33.01	13.85	12.48***
	S/P abuse	39.82	18.94	
	Physical abuse	27.02	14.67	
	Non-abused	26.28	13.37	

(TABLE continues)

TABLE 7 (continued)

Variable	Group	MEAN	S.D	F
BDI ^a	Sexual abuse	12.63	6.85	6.93***
	S/P abuse	15.56	8.87	
	Physical abuse	11.73	7.47	
	Non-abused	10.16	6.74	

* p<.05

** p<.01

*** p<.001

^aMeans significantly different between sexual abuse and non-abused groups.

^bMeans significantly different between sexual/physical abuse and non-abused groups.

^cMeans significantly different between sexual/physical abuse and physical abuse groups.

^dMeans significantly different between sexual/physical abuse and sexual abuse groups.

highest or, in one case, to the next lowest score (Tabachnick & Fidell, 1989). Scores from the BDI and all of the subscales from the TSC-40 and the TII were significantly different across the groups. Post hoc comparisons using Tukey's HSD test indicated that the sexual/physical abuse group was particularly distinctive in having the highest means on every measure. The sexual abuse group had the next highest means on the adaptation scores and was significantly different from the non-abuse group on several of the subscales of the TSC-40 and the TII and on the nightmare distress variables.

From the NDQ, the scores for variables concerning interest in therapy for nightmares and degree to which an individual had wanted therapy for nightmares were given logarithmic transformations to correct nonnormal distributions. Missing data were randomly distributed and were replaced with the appropriate group mean. Non-applicable missing data were not replaced because of nested questions, as was the case for the DNSQ. In this case one variable, the percentage of nightmares causing distress, was the second part of a nested question. The respective number of participants for the sexual, sexual/physical, physical, and non-abuse groups on this variable were 64, 57, 33, and 46. There were three variables from the NDQ which were significantly different among the groups: the percentage of nightmares causing distress, the degree of distress caused by nightmares overall, and interest in therapy for nightmares. Once again, the sexual abuse and sexual/physical abuse participants had the highest means. The degree to which participants had wanted therapy for nightmares approached significance with $p=.08$. These results are shown in Table 8.

Overall, the results of these analyses confirmed that the sexual abuse groups scored significantly higher on symptomatology measures compared to the non-abuse group and, in some cases, to the physical abuse group. In addition, these results suggest that scores on these measures could be useful in separating subgroups of single versus multiple incidents

TABLE 8

Summary of ANOVA Results for Nightmare Distress Variables

Variable	Group	Mean	SD	F
Percentage of nightmares causing distress ^{a,b}	Sexual abuse	57.20	32.91	4.69**
	S/P abuse	59.40	35.61	
	Physical abuse	48.94	32.61	
	Non-abused	36.96	31.10	
Nightmare distress ^{a,b,c}	Sexual abuse	5.51	2.84	11.83***
	S/P abuse	5.88	2.88	
	Physical abuse	4.28	2.78	
	Non-abused	3.57	2.32	
Therapy wanted for nightmares	Sexual abuse	.17	.28	n.s.
	S/P abuse	.25	.34	
	Physical abuse	.17	.30	
	Non-abused	.13	.26	
Interest in therapy for nightmares ^a	Sexual abuse	.34	.36	3.42*
	S/P abuse	.33	.38	
	Physical abuse	.23	.34	
	Non-abused	.20	.30	

* $p < .05$

** $p < .01$

*** $p < .001$

^aMeans significantly different between sexual abuse and non-abused groups.

^bMeans significantly different between sexual/physical abuse and non-abused groups.

^cMeans significantly different between sexual/physical abuse and physical abuse groups.

of abuse within the sexual abuse groups, as had been hypothesized.

Similarity of Sexual and Sexual/Physical Abuse Groups on Adaptation Measures

In order to determine whether the analyses examining the severity subgroups of sexual abuse should also include sexual abuse participants who had experienced physical abuse, two-tailed t-tests were used to compare the two groups on the variables measuring degree of adaptation to sexual abuse. As noted in the post hoc comparisons described in the previous section, it was expected that these two groups would differ significantly on the TSC-40 and TII total score, the BDI, and degree of nightmare distress score.

The sexual abuse group had significantly lower scores than the sexual/physical abuse group on the TSC-40 ($t(144.62) = -2.76$), the TII ($t(140.78) = -2.58$) and the BDI ($t(144.91) = -2.33$). There was no significant difference between these two groups on the measure of nightmare distress. These results are shown in Table 9. Because the sexual abuse group and sexual/physical abuse group differed to a significant degree on the majority of adaptation variables, the sexual abuse group was examined separately to test the hypotheses concerning subgroups of sexual abuse adaptation and severity.

Relation of Adaptation Scores to Severity of Abuse

A primary hypothesis was that sexual abuse participants who reported experiencing more than one incident of abuse would have higher scores on the adaptation variables measuring symptomatology associated with a history of sexual abuse compared to sexual abuse participants who had reported experiencing a single incident of abuse. A secondary hypothesis was that a combined dependent variable consisting of a score from each of the adaptation measures would separate subgroups of severity in the sexual abuse participants, with severity measured as single incidents versus repeated incidents of abuse. The severity subgrouping variable within the sexual abuse group was operationalized by comparing 40 single incident participants and 41 who had experienced more than one incident. A

TABLE 9

T-tests for Sexual Abuse and Sexual/Physical Abuse Groups on the Adaptation Variables

Variable	Group	Mean	SD	t
TSC-Total	Sexual abuse	34.86	15.01	2.76**
	S/P abuse	42.49	19.49	
TII-Total	Sexual abuse	33.01	13.85	2.58*
	S/P abuse	39.82	18.94	
BDI	Sexual abuse	12.63	6.85	2.33*
	S/P abuse	15.56	8.87	
Nightmare distress	Sexual abuse	5.51	2.84	n.s.
	S/P abuse	5.88	2.88	

* $p < .05$

** $p < .01$

MANOVA was performed with single versus repeated incidents of abuse as the independent variable and scores from the four measures of adaptation as the dependent variables. To avoid problems of multicollinearity (Tabachnick & Fidell, 1989), one score each was chosen from the TSC-40 and the TII because correlations between the subscales were high enough for this problem to occur. To be most representative, the total scores from both the TII and TSC-40 were chosen. The degree of distress caused by nightmares overall was chosen from the NDQ as the best nightmare distress variable. The percentage of nightmares causing distress was the second part of a nested question and suffered from a large number of non-applicable missing data. The interest in therapy for nightmares variable could also have been chosen but the degree of distress caused by nightmares appeared to differentiate the groups more effectively. The results of this analysis were not significant for either the multivariate F or the univariate Fs representing the individual dependent variables. Confidence intervals for the dependent variables all contained zero, providing additional support for the decision not to reject the null hypothesis of no difference between the severity subgroups for the adaptation variables. Power for the overall MANOVA was only .19. Power values calculated for the univariate findings were .05 for the TSC and nightmare distress, .07 for the BDI, and .21 for the TII. All of the power values were quite low for this analysis, indicating that there was only a slight chance of rejecting the null hypothesis if it was false.

Because the sexual/physical abuse group had the highest scores on the symptomatology measures, a MANOVA was also performed for the severity subgroups of sexual abuse in this group. However, given that the physical abuse experiences apparently contributed to this group having the highest means, this separation has to be viewed with some caution. Moreover, the severity categories of physical abuse found within the severity categories of sexual abuse were split unevenly. There were 33 participants in the

single incident sexual abuse category, with 16 experiencing one incident of physical abuse and 17 experiencing more than one incident of physical abuse. Unfortunately, the group was not as evenly split when the repeated sexual incident group was examined as only 2 of the 45 participants in this category had one incident of physical abuse, whereas 43 had more than one incident of physical abuse. Thus, there is the potential for the difference between the subcategories of sexual abuse to be exaggerated because the repeated sexual abuse group was almost entirely made up of repeated physical abuse participants.

The results of the MANOVA were not significant for the multivariate F . However, it did approach significance, with a probability value of .06, and the means for all of the measures were in the expected direction (see Table 10). Power for the overall MANOVA was .66. The TSC total score and the BDI both made a significant unique contribution, whereas the TII total score approached significance with $p=.08$ and a power value of .42. The TSC result yielded an $F(1,76) = 9.27$, $p<.05$ and the BDI yielded an $F(1,76) = 4.91$, $p<.05$. The nightmare distress rating did not provide any significant variance and was shown to be the least useful symptomatology variable in terms of distinguishing severity of abuse. However, power for the nightmare variable was only .16. An examination of the confidence intervals for each dependent variable supported the pattern of significant and nonsignificant findings. Analysis of the sexual/physical abuse group supported the hypothesis in part, in that scores on two of the adaptation measures were significantly higher for the repeated sexual abuse group compared to the single incident sexual abuse group. However, the symptomatology measures together did not provide significant variance to differentiate between the two severity subgroups of sexual abuse.

Although the measures of symptomatology were able to distinguish between the sexual abuse and non-abuse groups they were not as useful in distinguishing between the finer categories of severity of abuse within a sexual abuse group, even when using a

TABLE 10

Summary Statistics for MANOVA of Sexual Abuse Incidents and Adaptation Variables:
Univariate Results

Variable	Group	Mean	SD	F
TSC-Total	Single	35.03	18.04	9.27***
	Repeated	47.96	18.87	
TII-Total	Single	35.42	17.20	n.s.*
	Repeated	43.04	19.70	
BDI	Single	13.03	7.59	4.91**
	Repeated	17.42	9.35	
Nightmare distress	Single	5.52	2.85	n.s.
	Repeated	6.16	2.90	

* p=.08

** p<.05

*** p<.01

combination of symptomatology scores. However, it is important to remember that this sample consists of women who are presumably less incapacitated given their ability to attend university. Therefore, differences in symptomatology may be more difficult to detect in this group.

Therapy and Adaptation Questionnaire

It was proposed that a variable on the Therapy and Adaptation Questionnaire asking participants to what degree they felt they had overcome their history of abuse would be useful in assessing adaptation compared to other adaptation measures. However, there was a very high rate of missing data for this variable due, in large part, to the lack of response to the questionnaire as a whole. This lack of response easily exceeded 5%, the cutoff commonly used for consideration of variable deletion (Tabachnick & Fidell, 1989). Out of 223 abuse participants, 67 (30%) did not respond to this question. For this reason the variable was not included in any analyses involving adaptation variables for purposes of evaluating a priori hypotheses.

Statistical analyses were conducted to try to assess why missing data was so high for this variable. A dummy variable was produced consisting of the categories of response to the question and no response to the question of adaptation to abuse. This variable was then used in a series of t-tests for the adaptation variables used in the MANOVA mentioned previously. The purpose of this analysis was to assess whether participants with lower scores on the adaptation measures may have felt that they did not need to complete this questionnaire. This analysis was significant for all of the adaptation variables except the BDI. Scores on the TSC-40, TII, and nightmare distress were significantly higher for responders compared to non-responders to the Therapy and Adaptation Questionnaire (see Table 11).

The variable of response or no response was also examined for differences between

TABLE 11

T-tests for Response to Adaptation Question and Adaptation Variables

Variable	Group	Mean	SD	F
TSC-Total	Non-responders	32.69	14.70	-2.07*
	Responders	37.79	17.70	
TII-Total	Non-responders	28.78	12.61	-3.33**
	Responders	35.78	17.88	
BDI	Non-responders	12.84	7.40	n.s.
	Responders	13.64	8.15	
Nightmare distress	Non-responders	4.46	2.62	-2.82**
	Responders	5.64	2.95	

* $p < .05$

** $p < .01$

the three abuse groups. This was done with a chi-square for k independent samples. This analysis was significant, $X^2 (2) = 14.78$, $p < .01$. Analysis of the location of the significant differences indicated that the physical abuse group responded to the adaptation question less frequently than the other groups did (see Table 12). Recall that the physical abuse group also had the lowest means on the adaptation measures compared to the other two abuse groups.

Since high scores on the adaptation measures (indicating more severe symptomatology) were associated with greater likelihood of response, another series of chi-square analysis were performed to see if severity of abuse was associated with response tendency. That is, were participants with histories of severe abuse more likely to respond to the Therapy and Adaptation Questionnaire? Chi-square tests were performed within each abuse group for single and repeated incidents of abuse. In the case of the sexual/physical abuse group, one chi-square test was done for sexual abuse incidents and one for physical abuse incidents. All of the results of these analyses were nonsignificant, indicating that the null hypothesis of no difference in frequency of response between the abuse severity categories could not be rejected. However, power values for the chi-square findings did not exceed .23. Despite the lack of reliable statistical evidence, an examination of the frequencies in each cell indicated that repeated incident participants in each abuse group were more likely than single incident participants to respond to the Therapy and Adaptation Questionnaire.

Level of Adaptation and Dream Content Ratings

It was hypothesized that participants who were relatively well adapted to a history of sexual abuse would differ significantly from participants who were less well adapted to a history of sexual abuse with regard to dream self-reflectiveness and dream bizarreness scores. Participants in the sexual abuse group were divided into high and low adaptation

TABLE 12

Chi-square for Response to Adaptation Question and Abuse Group

Response category	Sexual Abuse	Sexual/Physical Abuse	Physical Abuse
Non-responders			
Observed	20.0	16.0	31.0 ^a
Expected	24.3	23.4	19.2
Percentage	24.7	20.5	48.4
Responders			
Observed	61.0	62.0	33.0
Expected	56.7	54.6	44.8
Percentage	75.3	79.5	51.6

^aChi-square significant for physical abuse group

groups based on their scores on the TSC-40 total, TII total, BDI, and nightmare distress measures, as stated in the hypothesis. Scores above the mean on at least two of these measures resulted in assignment to the low adaptation group. This new variable resulted in 33 participants qualifying for the high adaptation category and 48 falling into the low adaptation category (one participant was removed from the high adaptation group because of a lack of dreams). Separate t-tests indicated no significant differences in the group means for dream self-reflectiveness and bizarreness between the adaptation categories. The same analysis was performed for the sexual/physical abuse group. There were 34 participants in the high adaptation group and 44 in the low adaptation group. Again the results for average dream ratings on self-reflectiveness and bizarreness were nonsignificant. Power analyses revealed that given the obtained effect sizes there was only a small chance of finding significant differences between the groups if such differences did exist. Power values ranged from .07 to .25 for the analyses of the dream content scores between the adaptation subgroups.

A related hypothesis involved the possible relationship between severity of sexual abuse, as measured by single versus repeated incidents, and dream content scores. The single incident abuse group consisted of 39 participants, since one participant did not have any dreams, and the repeated incident group consisted of 41 participants. The single and repeated sexual abuse incident groups did not differ on either dream self-reflectiveness or dream bizarreness. The same hypothesis was tested using the sexual/physical abuse group. Again, there was no support for the hypothesized relationship between abuse severity (as measured according to sexual abuse) and either dream self-reflectiveness or bizarreness. Thus, the hypothesis that dream self-reflectiveness and dream bizarreness scores would differ significantly between single and repeated sexual abuse incident participants was not supported for either the sexual or sexual/physical abuse group. Power analyses revealed

values similar to those found for the examination of dream content variables in the adaptation subgroups. Power values again ranged from .07 to .25, far below the desired value of .80.

Personality and Dream Content Ratings

The third primary hypothesis stated that the personality characteristics of self-concept, repression, and self-consciousness would contribute to dream self-reflectiveness and dream bizarreness scores. The analysis of this hypothesis was accomplished with multiple regression. The entire sample was used for this analysis with the exception of the 4 participants who did not recall any dreams. Total scores were used for the self-concept and self-consciousness variables to avoid problems of multicollinearity which would have resulted from high correlations between the subscales of each of these variables. The self-concept variable was transformed logarithmically to correct a nonnormal distribution. Standard multiple regression was performed for each criterion dream content variable. The results of both of these analyses were nonsignificant, with only 2% (1% adjusted) of the variance in dream self-reflectiveness being accounted for by the three personality variables together, and less than 1% of the variance accounted for in the dream bizarreness variable. However, the self-consciousness variable did provide a significant unique contribution to dream self-reflectiveness when the effects of repression and self-concept were removed, $F(1, 290) = 4.34, p < .05$. High self-consciousness was associated with high self-reflectiveness, but the size of this unique contribution was only 1%. The results of the unique contributions were supported by the confidence intervals, with the interval for self-consciousness the only one that did not contain zero. The hypothesis that personality contributed significantly to the dream variables was supported only to a very slight extent, with the unique contribution of self-consciousness being too small to be considered important. Power analyses indicated that there was only a 52% chance of finding

significance for the dream self-reflectiveness variable and only a 27% chance of finding significance for dream bizarreness.

Further exploratory statistical analyses were conducted to see if the contribution of personality to the dream content scores might differ within the four experimental groups. Two multiple regression analyses were completed per group, one for each of the dream content ratings of self-reflectiveness and bizarreness. The variable of bizarreness was given a square root transformation for all of the within-group multiple regression analyses to meet the assumptions of normality and linearity. The self-concept variable was similarly given a logarithmic transformation for all of the within-group analyses.

For the non-abuse group, personality did not contribute significantly to dream self-reflectiveness, either in combination or in the unique contributions. Power for this analysis was .37. The contribution of personality to dream bizarreness approached significance, $F(3, 69) = 2.72, p < .06$, with a power value of .63. The combination of the predictor variables contributed 10.6% (6.7% adjusted) to dream bizarreness. The unique contributions of repression and self-concept approached significance, $F(1, 69) = 3.19, p = .08$ and $F(1, 69) = 3.09, p = .08$, respectively. High self-concept and low repression were associated with high dream bizarreness scores. Each personality variable contributed 4% of the variance in dream bizarreness when considered alone with the effects of the other variables removed. However, in agreement with the nonsignificant findings, all of the confidence intervals included zero. These results did not permit the rejection of the null hypothesis that the slopes between each individual predictor variable and the criterion variable were not significantly different from zero.

The combined and unique contributions of personality were not significant for dream self-reflectiveness or dream bizarreness in the sexual abuse group or the sexual/physical abuse group. Power values for both dream content variables in the sexual abuse group

were .19. The unique contribution of self-concept did approach significance for dream self-reflectiveness in the sexual/physical abuse group, $F(1, 74) = 3.00$, $p = .09$, with a unique contribution of 3.9%. High self-concept was associated with high self-reflectiveness scores. Again, the confidence interval contained zero supporting the decision not to reject the null hypothesis. Power for the sexual/physical abuse group analyses was .27 for dream bizarreness and .26 for dream self-reflectiveness.

Finally, in the physical abuse group, self-consciousness contributed significant unique variance to dream self-reflectiveness when the effects of the other two predictor variables were removed. The confidence interval for this significant finding did not contain zero, supporting the decision to reject the null hypothesis in this instance. The overall contribution of the personality variables was not significant. The power value for this analysis was .49. As in the multiple regression performed on the entire sample, high self-consciousness was associated with high dream self-reflectiveness scores and contributed 7.8% of the variance in the criterion variable, $F(1, 59) = 5.022$, $p < .05$. Overall and unique contributions to dream bizarreness were not significant for the physical abuse group. The power value for this analysis was .26.

In summary, the findings concerning the contribution of personality to dream content scores was not well supported. The two significant unique contributions of self-consciousness to dream self-reflectiveness were certainly not very large. Given the number of significance tests which were conducted, the finding of two significant results is not more than would be expected by chance. However, the 7.8% unique contribution of self-consciousness to dream self-reflectiveness in the physical abuse group may be worth noting. In addition, because power values were low for the regression analyses, the findings which approached significance may also be important in terms of direction for future research.

Dream Recall, Dream Content Ratings, and a History of Abuse

High dream recall was hypothesized to be related to higher dream self-reflectiveness and bizarreness scores. This hypothesis was examined by dividing participants into high and low dream recall groups based upon the two-week dream diary, and using a one-tailed t-test for the statistical analysis. Since the variable of dream recall was to be examined against dream content ratings, the four participants with no dream recall could not be used in this analysis as they had no dream content rating scores. Participants were divided into the recall categories by dividing them into those above and below the mean in terms of the number of dreams recalled over the two-week period. This division resulted in 164 participants in the low recall group and 130 in the high recall group. As mentioned previously, the mean number of dreams recalled was 7.5, while the range for these 294 participants was 1 to 25.

Two one-tailed t-tests were performed for each dream content rating scale. A square root transformation was applied to the dream bizarreness data to produce a normal distribution. Contrary to the hypothesis, dream recall category and dream self-reflectiveness were not significantly related, but the power value for this analysis was only .10. High dream recallers did have significantly higher dream bizarreness scores than low dream recallers, $t(250.5) = -2.34, p < .01$. High dream recallers had a mean dream bizarreness score of .38 and low recallers had a mean bizarreness score of .35.

It was also hypothesized that a history of sexual abuse would be related to level of dream recall, and that the sexual and sexual/physical abuse groups would have higher or lower dream recall than the other two experimental groups. As both variables were categorical, a chi-square for k independent samples was used to examine this question. The result of this analysis was not significant, although it did approach significance, $X^2(3) = 7.20, p = .07$. Examination of the expected and actual frequencies of participants

falling into the low and high dream recall categories within each group indicated that the sexual/physical group had the greatest discrepancies, resulting in sexual/physical abuse participants having higher dream recall than the other groups. Given the nonsignificant result, the null hypothesis of no differences among the groups on the variable of dream recall could not be rejected. However, the power value for this analysis was .55, so there was not much more than a one in two chance of rejecting the null hypothesis if it was false.

To see if abuse history (sexual, sexual/physical, physical, and non-abuse) and dream recall (high and low) might interact in a relationship with the dream content ratings, a 4 x 2 factorial analysis of variance was completed. Two ANOVAs were conducted, one for each dream content rating variable. Results of the statistical tests for a significant interaction effect were not significant. Neither dream self-reflectiveness nor dream bizarreness reliably interacted with abuse group. Power values were .56 and .18 for dream self-reflectiveness and bizarreness, respectively.

Another exploratory hypothesis involved an examination of adaptation group and a possible relationship with dream recall level. This analysis was performed for both the sexual and the sexual/physical abuse groups. Dream recall categories of high and low were created for these two abuse groups, with the sexual abuse group having a mean of 7.62 recalled dreams and the sexual/physical abuse group a mean of 8.62 recalled dreams. A chi-square analysis for 2 x 2 tables indicated no significant differences for either abuse group. The hypothesis that adaptation level of sexual abuse participants would be related to differences in dream recall levels was not supported. Power values were quite low for these analyses, however. The value for the sexual/physical abuse group was .05 and the value for the sexual abuse group was .40.

In sum, the hypotheses concerning dream recall were almost entirely unsupported. The only statistically significant result was the relationship between high dream recall level

and high dream bizarreness scores. Recall level did not interact with abuse group membership in a relationship with dream content ratings. Adaptation levels to a history of sexual abuse were also unrelated to differences in level of dream recall.

Dream Impact, Affect, and Nightmares

Dream Impact, Abuse History, and Dream Content Ratings

The remaining statistical analyses involved other dream variables obtained from the questions in the dream diaries. These analyses were all exploratory in nature and were conducted to establish the existence of a relationship among the variables. One of the questions in the dream diary asked participants to rate each recalled dream for its level of dream impact on a 7-point Likert scale. These scores were then averaged across dreams for each participant to allow for differences in the number of dreams that each participant recalled. A one-way analysis of variance indicated that average dream impact differed among the four groups, $F(3, 290) = 2.89, p < .05$. Post hoc comparisons using Tukey's HSD test indicated that the sexual/physical abuse participants' group mean of 3.37 on the dream impact variable was significantly higher than the non-abuse participants' group mean of 2.91. The sexual abuse group had the second highest mean of 2.99 and the physical abuse group had a mean of 2.97.

The next question of interest was whether dream impact and abuse group membership might interact in a relationship with the dream content ratings. The variable of dream impact was used to create a categorical variable by assigning participants to either a low or high impact group depending on whether their average impact rating was below or above the mean. This new categorical variable resulted in 158 participants belonging to the low dream impact group and 136 belonging to the high dream impact group. As noted before, 4 participants with no dreams could not be included in any analyses involving dream ratings. Two 4 (abuse group) $\times$ 2 (dream impact) factorial ANOVAs were performed, one

for dream self-reflectiveness and one for dream bizarreness. The dream bizarreness data were normalized using a square root transformation. The interactions in both of these analyses were not significant. Power values were .30 and .36 for dream self-reflectiveness and bizarreness, respectively.

The possible relationship between impact and adaptation level was examined within the sexual and sexual/physical abuse groups. T-tests were conducted for average impact scores and adaptation level within each abuse group. Results for the sexual abuse group were not significant and had a power value of .35. There was a significant finding for the sexual/physical abuse group with the low adaptation group having a significantly higher group mean of 3.68 on the dream impact variable compared to the high adaptation group mean of 2.98, $t(57.5) = -2.60, p < .01$. Two 2 x 2 factorial ANOVAs were performed in the sexual/physical abuse group to see if adaptation group and impact level interacted in a relationship with the dream content ratings of dream self-reflectiveness and bizarreness. The result of this analysis was not significant. Power values for the dream self-reflectiveness and bizarreness analyses were low at .07 and .10, respectively.

Dream Affect, Nightmares, Abuse History, and Adaptation Levels

Dream affect was also examined and consisted of percentages of pleasant, neutral, and unpleasant dreams over the two-week dream diary period as rated by the participants. One-way analysis of variance was used to examine differences among the group means on these variables for the four groups. The percentage of pleasant dreams was given a square root transformation to correct a nonnormal distribution. The percentages of pleasant and neutral dreams recalled by the different groups were not significantly different. The power value for pleasant dreams was .12 and for neutral dreams was .31. The result for the percentage of unpleasant dreams approached significance, $F(3, 290) = 2.60, p < .06$, and a power value of .61. The means were 38.86, 37.15, 30.15, and 29.41 for the

sexual/physical, sexual, physical, and non-abuse groups, respectively.

Participants also noted whether they had had a dream or nightmare. The percentage of dreams and percentage of nightmares were both given a logarithmic transformation to normalize the data. There were also two participants who had missing data for these variables (one each from the sexual/physical and physical abuse groups) who were not included in the analyses. Examination of differences in dream and nightmare percentages among the four experimental groups showed that there were no significant differences. However, power values only reached .15 for these analyses.

Percentages of pleasant, neutral, and unpleasant dreams, and percentage of nightmares were also examined among the adaptation groups in the sexual and sexual/physical abuse groups. A square root transformation was applied to the percentage of pleasant dreams and a logarithmic transformation was applied to the percentage of nightmares in order to normalize the data. Examination of these variables involved one-tailed t-tests for each dream variable to see if the high and low adaptation groups differed. For the sexual abuse group, the only significant finding indicated that the high adaptation group had a higher mean percentage of pleasant dreams (4.63) than the low adaptation group (2.89), $t(78) = 2.52, p < .01$. In the sexual/physical abuse group, the mean percentage of unpleasant dreams was significantly greater for the low adaptation group (43.97) than for the high adaptation group (32.35), $t(76) = -1.93, p < .05$. The percentage of nightmares also differed significantly between the adaptation groups. The low adaptation group had a mean percentage of .85 while the high adaptation group had a mean percentage of .32, $t(75) = -3.35, p < .001$.

The findings that the sexual/physical abuse group had more impactful dreams and that the low adaptation category of this group had more nightmares led to the conjecture that the more impactful dreams in this group were the result of having more nightmares. The

percentage of nightmares was compared among the low and high impact categories of participants over the entire sample using a one-tailed t-test. The nightmare variable was given a logarithmic transformation. The high impact group had a significantly higher mean percentage of nightmares than the low impact group, .84% versus .43%, respectively, $t(290) = -5.24$, $p < .001$. The same analysis was conducted for the sexual/physical abuse group alone and it was also significant, $t(71.03) = -5.21$, $p < .001$, with the high impact group having a mean of .95% on the nightmare variable and the low impact group a mean of .21%.

In sum, the findings concerning dream impact, affect, and nightmares appear to indicate that the sexual/physical abuse group had more impactful dreams as a consequence of a greater number of nightmares in the low adaptation subgroup. The sexual/physical abuse group also had more unpleasant affect associated with their dreams, likely due to the presence of more unpleasant dreams and nightmares in the low adaptation members of this group.

Summary of Results

This final portion of the results section provides a brief review of the findings. This review will note the primary results of the statistical analyses with regard to the proposed hypotheses. Additional findings that are of direct interest to the examination of the hypotheses will also be reviewed. A summary of the hypotheses and the results of the statistical analyses are contained in Table 13.

The first hypothesis stated that the sexual and sexual/physical abuse groups would either have higher or lower dream self-reflectiveness and bizarreness scores compared to the physical and non-abuse groups. This hypothesis was supported for the dream self-reflectiveness scores but not the dream bizarreness scores. The sexual and sexual/physical abuse groups had higher dream self-reflectiveness scores than the other two groups, thus

supporting the compensatory hypothesis of dreaming.

The first hypothesis concerning adaptation and severity of sexual abuse stated that participants in the sexual abuse group who had experienced repeated incidents of abuse would have higher scores on the TSC-40, TII, BDI, and a measure of nightmare distress than participants who had experienced a single incident of abuse. This was tested by using a MANOVA for both the sexual and sexual/physical abuse groups separately. There was no support for this hypothesis in the sexual abuse group. The result of the analysis for the sexual/physical abuse group approached significance with two significant univariate findings for the TSC-40 and the BDI. The TII also approached significance for the univariate result. It was concluded that the symptomatology measures did not differentiate as well between the subgroups of sexual abuse severity as they did between the sexual abuse and non-abuse groups.

The TSC-40, TII, BDI, and degree of nightmare distress were found to differentiate well between the four groups of sexual, sexual/physical, physical, and non-abuse groups, indicating that they are useful measures of symptomatology in women with a history of sexual abuse. The sexual/physical abuse group consistently had the highest scores on these measures. Not only did they have significantly higher scores compared to the non-abuse group, but often compared to the physical abuse group and sometimes to the sexual abuse group as well. The sexual abuse group had the second highest means on these measures and scored significantly higher than the non-abuse group on several of the variables. In a separate analysis using only the sexual and the sexual /physical abuse groups, the sexual/physical abuse group was shown to have significantly higher scores than the sexual abuse group on the TSC-40, TII, and the BDI.

An additional hypothesis concerning adaptation and severity of abuse stated that sexual abuse participants with more severe symptomatology, as shown by their scores on

the adaptation measures, would have higher or lower scores on dream self-reflectiveness and bizarreness than participants who had less severe symptomatology. This hypothesis was examined for the sexual and the sexual/physical abuse groups separately. This hypothesis was not supported for either of the sexual abuse groups on either dream content rating scale.

The final hypothesis concerning adaptation and severity of abuse examined the same question but used the number of incidents of sexual abuse as the subgrouping variable. The sexual abuse and sexual/physical abuse groups were examined separately. The hypothesis did not receive any support from either abuse group in which individuals reporting a single incident of abuse were compared to those reporting repeated incidents of abuse.

The third primary hypothesis concerned personality and the dream content rating scales of dream self-reflectiveness and dream bizarreness. It stated that the personality variables of self-concept, self-consciousness, and repression would contribute to dream self-reflectiveness and bizarreness scores in either a compensatory or continuous manner. Results of a multiple regression for the entire sample indicated very little support for this hypothesis. The only significant finding was that self-consciousness contributed 1% unique variance to dream self-reflectiveness. Exploratory statistical analyses were performed for each experimental group in the same manner. The only significant finding was that self-consciousness contributed 7.8% of the unique variance to dream self-reflectiveness in the physical abuse group. In both cases, high self-consciousness was related to high dream self-reflectiveness supporting the continuity hypothesis. However, given the number of significance tests which were conducted for these analyses, two significant findings are not beyond what would be expected by chance.

The fourth section of the proposed hypotheses concerned dream recall. High dream

recallers were expected to have higher scores on the dream self-reflectiveness and bizarreness rating scales. This hypothesis was supported for dream bizarreness but was not supported for dream self-reflectiveness.

It was also hypothesized that sexual and sexual/physical abuse participants would have higher or lower dream recall levels than the physical and non-abuse participants. This hypothesis was not supported although the result did approach significance. The sexual/physical abuse group appeared to have the highest dream recall levels. Exploratory analysis examined whether abuse category and dream recall level would interact in a relationship with the dream content ratings. This exploratory hypothesis received no support for either dream self-reflectiveness or dream bizarreness.

A further exploratory hypothesis involved the possible relationship between dream recall and degree of adaptation within the sexual and sexual/physical abuse groups. There was also no support for this hypothesized relationship.

The remaining hypotheses were also exploratory in nature and involved dream impact, affect, and nightmares. Results of the examination of dream impact among the experimental groups indicated that the sexual/physical abuse group had significantly higher dream impact ratings than the non-abuse group. Examination of a possible interaction between dream impact levels and history of abuse on the dream content ratings resulted in no significant findings. A significant relationship was found between adaptation level and dream impact in the sexual/physical abuse group. The low adaptation subgroup had more impactful dreams than the high adaptation group. There was no significant interaction between adaptation level and dream impact with respect to dream content scores.

Pleasant, neutral, and unpleasant affect dream ratings were examined with respect to experimental group. The results for unpleasant affect approached significance, with the sexual/physical and sexual abuse groups having the highest means. Within the adaptation

subgroup categories, the sexual abuse group high adaptation participants had significantly more pleasant dreams than the low adaptation participants. In the sexual/physical abuse group, the low adaptation participants had significantly more unpleasant dreams and more nightmares than the high adaptation participants.

Additional statistical analyses were done to examine the possible relationship between impactful dreams and nightmares in the sexual/physical abuse group. When the entire sample was examined, high impact dreamers did have significantly more nightmares. This was also true for the sexual/physical abuse group.

The relationship between nightmares and impact also received support from the general dream and nightmare data which were collected from the Dream/Nightmare/Sleep History Questionnaire. Both the sexual and sexual/physical abuse participants indicated that they had more impactful dreams and differed significantly on this variable from the non-abuse participants. In the past year, the sexual/physical abuse group had significantly more nightmares and more repetitive nightmares compared to the non-abuse group. They also had more difficulty falling asleep after a nightmare compared to the non-abuse and physical abuse groups. Nightmare frequency was also significantly higher for the sexual abuse group compared to the non-abuse group and for the sexual/physical abuse group compared to the non-abuse and physical abuse group in terms of the adolescent years.

Review of the Findings

In terms of the main hypotheses there was very little support overall. The strongest finding was for higher dream self-reflectiveness scores among the sexual and sexual/physical abuse groups compared to the physical and non-abuse groups in support of the compensatory hypothesis. Participants who recalled many dreams also had higher dream bizarreness scores compared to participants who recalled fewer dreams. There was a lack of significant findings with regard to the subgroups of adaptation for the sexual

abuse participants when related to the dream content scores and dream recall. The hypothesized relationship between personality and the dream content variables was also to a large extent unsupported.

The exploratory hypotheses were also largely unsupported. The main finding was that higher levels of dream impact in the sexual/physical abuse group were related to the higher frequency of nightmares in this group. In general, the sexual/physical abuse group was found to experience more nightmares and more nightmare distress and to have the highest means on the adaptation measures. The sexual abuse group was second in severity on these variables followed by the physical abuse group.

TABLE 13

Summary of Hypotheses and Findings

Hypothesis	Finding
Primary:	
The sexual and sexual/physical abuse groups would have higher or lower dream self-reflectiveness and bizarreness scores than the physical and non-abuse groups	Supported only for the dream self-reflectiveness variable: higher self-reflectiveness scores were associated with the sexual and sexual/physical abuse groups, support for compensatory hypothesis
Sexual abuse participants who had experienced repeated incidents of abuse would have higher scores on the TSC-40, TII, BDI, and nightmare distress than those who had experienced a single incident of abuse	Not supported for the sexual abuse-only group but partially supported for the sexual/physical abuse group on the TSC-40 and the BDI

(TABLE continues)

TABLE 13 (continued)

Hypothesis	Finding
The low adaptation subgroup of sexual abuse participants would have higher or lower scores on dream self-reflectiveness and bizarreness than the high adaptation group	Not supported for either the sexual abuse only group or the sexual/physical abuse group
Sexual abuse participants who had experienced repeated incidents of abuse would have higher or lower scores on dream self-reflectiveness and bizarreness than single-incident sexual abuse participants.	Not supported for either sexual abuse only participants or sexual/physical abuse participants
The personality variables of self-concept, self-consciousness, and repression would contribute significantly to dream self-reflectiveness and bizarreness scores	Not supported, except for a 1% unique contribution of high self-consciousness to high dream self-reflectiveness, support for continuity hypothesis

(TABLE continues)

TABLE 13 (continued)

Hypothesis	Finding
High dream recallers would have higher dream self-reflectiveness and bizarreness scores than low dream recallers	Supported only for the dream bizarreness variable
Sexual and sexual/physical abuse participants would have higher or lower dream recall than physical and non-abuse participants	Approached significance with more sexual/physical abuse participants having high dream recall, support for compensatory hypothesis
Exploratory: The contribution of the personality variables of self-concept, self-consciousness, and repression to dream self-reflectiveness and dream bizarreness would vary among the experimental groups	Partially supported; unique contribution of 7.8% provided by high self-consciousness to high dream self-reflectiveness in the physical abuse group, support for continuity hypothesis; there were no other significant contributions of personality to the dream content variables

(TABLE Continues)

TABLE 13 (continued)

Hypothesis	Finding
History of abuse and dream recall level would interact in a relationship with dream self-reflectiveness and bizarreness	Not supported for either dream self-reflectiveness or bizarreness
The adaptation subgroups of the sexual abuse group would differ on level of dream recall	Not supported for either the sexual abuse only or sexual/physical abuse groups
The abuse groups would differ on ratings of dream impact	Supported; sexual/physical abuse group had higher dream impact than the non-abuse group
Dream impact levels and abuse history would interact in a relationship with dream self-reflectiveness and bizarreness	Not supported for either dream self-reflectiveness or bizarreness

(TABLE continues)

TABLE 13 (continued)

Hypothesis	Finding
Dream impact would differ between the adaptation subgroups of the sexual abuse group	Not supported for the sexual abuse group Supported for the sexual/physical abuse group with low adaptation associated with higher dream impact ratings
Dream impact and adaptation level would interact in a relationship with dream self-reflectiveness and bizarreness	Not supported for either the sexual abuse only or the sexual/physical abuse groups
Dream affect and nightmare frequency would differ among the abuse groups	Approached significance for unpleasant affect, with the sexual/physical and sexual abuse groups having the highest percentage of unpleasant affect
Dream affect and nightmare frequency would differ among the adaptation subgroups in the sexual abuse group	Supported; more pleasant affect for high adaptation in the sexual abuse group Supported; more unpleasant affect and more nightmares for low adaptation in the sexual/physical abuse group

(TABLE continues)

TABLE 13 (continued)

Hypothesis	Finding
Additional Analyses:	
Relationship between dream impact and nightmares	Supported: higher impact associated with higher nightmare frequency
General dream and nightmare patterns would differ among the abuse groups	<p>Sexual and sexual/physical abuse groups reported higher dream impact than the non-abuse group</p> <p>Sexual/physical abuse group reported more nightmares and more repetitive nightmares than the non-abuse group</p> <p>Sexual/physical abuse group reported more difficulty falling asleep after a nightmare than the physical and non-abuse groups</p>

CHAPTER 6

Discussion

The findings obtained in the present investigation will be discussed from several perspectives. Self-report rates of abuse in this sample and the symptomatology findings will be compared to the findings of similar studies in an effort to determine the validity of the experimental groups. Given that many of the negative findings were affected by low power values the issue of power and its consequences for the current findings will be discussed. Following this, conclusions will be drawn concerning the nature of the findings and those which may be worth pursuing in future research. In conjunction with the above issues, various methodological concerns will be addressed, specifically the measurement of abuse and dream variables and experimental design considerations.

Validity of Group Membership

The sexual abuse prevalence rate of 28.12% obtained in the present study is somewhat higher than the figures obtained by the surveys of Cuddy (1990) and Fernandez (1991) using the same instrument with samples of university women. Cuddy's prevalence figure for sexual abuse was 23.01% and Fernandez found that 17.25% of her sample reported a history of sexual abuse. Fernandez noted that the testing situation (students sitting close together with little privacy) may influence the number of participants reporting a history of abuse. Yet, Cuddy, Fernandez, and the current investigator tested participants under the same circumstances so it is difficult to say why Cuddy and Fernandez obtained lower rates of sexual abuse. The figure obtained in the current study concurs with the range of 19-34% found in Witchell's (1991) review of university prevalence rates for sexual abuse. Briere and Runtz (1988) found a prevalence rate of 14.7% in a university sample but this lower rate was no doubt due to limiting abuse experiences to those occurring before the age of 15.

Within the sexual abuse group, the difference between the frequency of sexual abuse and sexual/physical abuse was larger than that found by Cuddy and Fernandez. Whereas the current study found that 12.54% of the sample had experienced sexual abuse only and 15.58% had experienced physical abuse also, the comparable figures for Cuddy's findings were 11.32% and 11.69% and for Fernandez they were 9.8% and 7.5%. The prevalence rate of 12.86% for physical abuse only fell between Cuddy's finding of 13.17% and Fernandez's finding of 10.34%.

An examination of the obtained scores for each experimental group on the measures of symptomatology associated with a history of abuse may be more useful in determining the accuracy of group membership. It is especially noteworthy that both Cuddy (1990) and Fernandez (1991) expressed concerns about some of their non-abuse participants withholding a history of abuse based upon scores from symptomatology and nightmare measures. Although the measures of symptomatology were specifically constructed for symptoms noted in sexual abuse survivors, it may be that other clinical problems such as depression would result in some of these symptoms. However, symptomatology and nightmare measures were found to distinguish between sexual and non-abuse participants even when Cuddy used depression matched controls in the non-abuse group.

The current study examined symptoms associated with a history of sexual abuse using four measures shown to distinguish sexual abuse participants from non-abuse participants: TSC-40, TII, BDI, and degree of nightmare distress. Examination of differences among the four groups on these variables showed that there were significant differences among them on all of the measures and in the predicted directions. The sexual/physical abuse group was the most severely impacted followed by the sexual abuse group. Whereas the sexual abuse group was significantly different from the non-abuse group, the sexual/physical abuse group was different not only compared to the non-abuse

group but also to the physical abuse group and for some of the measures from the sexual abuse group as well. The physical abuse group scored between the sexual and non-abuse groups. It is not surprising that a combined history of sexual and physical abuse would result in more severe symptomatology both on an intuitive level and with respect to research findings (Groth, 1978; Browne & Finkelhor, 1986; Chu & Dill, 1990).

Fernandez (1991) also found that her sexual/physical abuse group was more depressed and scored higher on the TSC-33 compared to the sexual abuse only group. The findings of the current study and the studies listed above refute those of Cuddy (1990) who did not find significant differences between her sexual abuse and sexual/physical abuse groups. Although, symptomatology scores were higher for all of the abuse groups compared to the non-abuse group, the combination of sexual and physical abuse appears to result in more negative outcomes.

Given the clear differentiation between the four groups on the relevant measures and that none of the non-abuse participants had extreme high scores on these measures, it appears that group membership was as accurate as could be expected. Further support for this supposition was found in the general findings concerning increased frequency of nightmares and repeated nightmares for the sexual abuse groups, particularly for the sexual/physical abuse group. These findings are similar to those found by Cuddy (1990) for her sexual abuse group using the same questionnaire. In addition, the findings regarding nightmare distress as a distinguishing characteristic of a past history of abuse also matched those of Cuddy.

The group means on the TSC-40 were compared to those obtained for sexual abuse and non-abuse groups in a sample of professional women (Elliot & Briere, 1992) and a clinical sample (Briere & Runtz, 1989). The current sample means fell between these two groups; they are below those reported for clinical samples but higher than those for

professional women. University students are generally considered to function at a higher level than clinical samples, but they may not function at the same level as a sample involved in careers that are potentially more demanding than student life. It is difficult to compare the TII results in the present study to previous findings because Cuddy (1990) equated her sample on depression. However, the pattern of scores is comparable, with the means for her combined sexual and sexual/physical abuse group falling between the means for the current sample's sexual abuse and sexual/physical abuse groups.

Depression scores on the BDI obtained in the present investigation were similar to those found by Cuddy (1990) for her original screening of participants. The exception was the sexual/physical abuse group in the current sample, who had higher BDI scores than her combined sexual and sexual/physical abuse group. In the current sample all of the abuse groups had clinically significant scores in the mild depression range while the non-abuse group scored in the not depressed range. Fernandez (1991) had similar findings for her sexual/physical abuse group but her sexual abuse group mean was lower than that for the current study and her physical abuse group had a higher mean than her sexual abuse group.

The issue of demand characteristics should be addressed when considering the differences between results obtained in the present study and the results obtained by Cuddy (1990) and Fernandez (1991). Due to ethics requirements participants were warned during Phase I and II of the present study about the sensitive nature of the material. They were also provided with abuse-related resources, such as phone numbers of sexual assault crisis centers, for all three phases of the study. When participants were recruited for Phase II and III they were informed that the study involved an examination of dream and personality characteristics among abuse and non-abuse groups and were told that they were being called with reference to one of the questionnaires inquiring about a history of abuse that had been completed during mass testing. In this regard, the current study differs from both

Cuddy (1990) and Fernandez (1991) who apparently did not have the same ethical strictures. They attempted to keep the abuse facet of the study from their participants as much as possible to avoid the effects of demand characteristics when the symptomatology measures were completed. It is possible that in the current study demand characteristics caused participants to complete the symptomatology measures not only according to actual experience but also according to their idea of what the researcher might expect their experience to be. However, the differences found among the three abuse groups could be interpreted to support the supposition that participants were not affected by demand characteristics because one would expect that all of the abuse groups would exaggerate their responses somewhat equally or at the least, that there would not have been a distinction between the sexual and sexual/physical abuse groups.

Another issue which requires some examination involves the finer distinction of what threshold participants used for claiming abuse? Critics might point out that some of the participants who indicated a history of physical abuse or unwanted sexual activity may have been referring to trivial incidents which might not be considered abuse by others. The response or lack of response to the Therapy and Adaptation Questionnaire and its relationship to degree of symptomatology makes this issue even more relevant. On one hand, the lack of response to this questionnaire, which was supposed to be completed by those who had experienced a history of sexual or physical abuse, supports the lack of demand characteristics operating in this sample. If participants had been concerned about pleasing the researcher by responding appropriately to abuse questions then more should have completed this questionnaire. On the other hand, the lack of response could suggest two possibilities: 1) participants did not complete the questionnaire because their reported incident(s) of abuse was trivial or, on a somewhat related issue 2) participants who reported an incident(s) of abuse on the initial questionnaire did not view themselves as a

victim of abuse with respect to the Therapy and Adaptation Questionnaire. In both instances, participants who experienced a milder form of abuse may not have felt it necessary to complete a questionnaire on therapy that was specifically aimed at those who had experienced a history of abuse. The finding that more physical abuse participants did not respond to the questionnaire may have been related to their lower symptomatology as well. If physical abuse resulted in a milder impact, these participants also may not have felt it necessary to respond to a questionnaire concerning therapy.

All of these questions could have been answered if in-depth interviews concerning the nature of each participants' history of abuse had been conducted. Because the current study was primarily concerned with running a larger number of participants to obtain power for the statistical analyses, it was not considered practical to interview participants. However, given the importance of obtaining accurate samples and of knowing the relative severity of abuse experiences, interviews inquiring further into the nature of abuse are recommended. At minimum, if interviews are not possible, detailed questionnaires should be utilized to clearly delineate what was involved in each incident of abuse. The results of the analyses of the symptomatology measures give some hope that there was good differentiation among the groups in terms of their histories of abuse. Cuddy (1990) reported that her participants' reports of abuse were consistent across the MEI and later more in depth questionnaires inquiring about the exact nature of the abuse. She also reported that these latter responses indicated that the abuse participants were not made up of participants who had experienced a minor incident of abuse. However, the second questionnaire was only completed by participants who agreed to participate in the second phase of the study. In the case of her sexual abuse group, only 61 out of 121 women completed phase II. Participants with milder forms of abuse may have weeded themselves out when asked to participate further in the study, demonstrating a similar reaction to that

found with the Therapy and Adaptation Questionnaire.

However, given that the current study was more concerned with examining the effects of trauma impact upon dream variables it can be said that the actual acts involved in an incident of abuse were not as important as the impact of the abuse. In essence, every individual responds differently to abuse and what might not upset one person can be devastating to another. From this perspective, the fact that the groups were well differentiated in terms of symptomatology is more important than concerns about what was actually involved in the reported incidents of abuse.

The Importance of Power in Statistical Analyses and Hypothesis Testing

It is not within the scope of this paper to fully discuss the concept of power in statistical analysis but given its relevance to the current findings it seems appropriate to address it to some extent. Although it is often considered desirable to know the power of one's statistical analyses, its actual application in psychological research appears to be almost nonexistent. To allow for the fact that many readers may not be familiar with the concept of power some space will be given to briefly define the power of a statistical analysis. The impact of power analysis on the interpretation of the present results will also be discussed. The following explication of power analysis will rely heavily upon the work of Cohen (1988).

"The power of a statistical test of a null hypothesis is the probability that it will lead to the rejection of the null hypothesis, i.e., the probability that it will result in the conclusion that the phenomenon exists" (Cohen, 1988, p. 4). The usefulness of an examination of power lies in the fact that even if a phenomenon exists in the population the experimenter will not necessarily find a significant effect in the chosen sample. The calculation of power gives the experimenter an idea of what her chances are for rejecting the null hypothesis given the sample which she has obtained.

Power analyses are useful when planning an experiment and also when evaluating the results of a completed experiment. As Cohen (1988) goes on to say:

An analysis which finds that the power was low should lead one to regard the negative results as ambiguous, since failure to reject the null hypothesis cannot have much substantive meaning when, even though the phenomenon exists (to some given degree), the a priori probability of rejecting the null hypothesis was low. (p. 4)

The level of power attained in a statistical test is dependent upon the chosen significance criterion, the reliability of the sample results, and the effect size. The significance criterion is chosen in advance and determines the critical region of rejection of the null hypothesis. If significance is found but the null hypothesis is actually true, the significance criterion determines the probability of this occurrence. The more stringent the significance criterion is, the lower the power of the statistical test. In choosing the significance criterion with respect to its impact on power, the experimenter must essentially determine whether it is worse to commit a Type I error or a Type II error.

Reliability of sample results is always dependent upon sample size and refers to the degree to which the sample resembles the relevant population. Since the population value is generally unknown the reliability of a sample can only be estimated. However, as sample size gets larger error becomes smaller and the probability of finding a significant results increases. Thus, larger sample sizes result in greater power. The third factor, effect size, is "the degree to which the phenomenon is present in the population or the degree to which the null hypothesis is false" (Cohen, 1988, p. 9-10). The null hypothesis posits that the effect size is zero. The larger the effect size, the stronger is the impact of the phenomenon under question and therefore, effect size serves as an index of how much the findings deviate from the null hypothesis. Power increases as effect size increases and the larger the effect size, the smaller is the sample size needed to detect a significant effect.

When a nonsignificant result is found it is never correct to conclude that the null hypothesis is supported; it can only be concluded that the data do not allow one to reject the null hypothesis. To state in this situation that there are no effects due to the phenomenon being tested is not only incorrect theoretically, but also practically, unless the power of the test is high. According to Cohen (1988), what the researcher really wants to say is that the effect size of the phenomenon is so small as to be trivial, a relationship that is not usually of interest. But under what circumstances can the researcher conclude that a particular effect size is not important? Cohen goes on to say that in order for a researcher to be able to conclude that an effect size is trivial, the researcher must conduct the experiment with a sample size that has been determined through power analysis by setting the expected effect size at a value so small that it can be considered trivial and setting power at a high value. If in using this consequently large sample size nonsignificance is found, the researcher can conclude that the null hypothesis can be accepted in terms of there being no significant nontrivial effect. But as Cohen notes, this is normally impractical for a researcher to actually do since the sample sizes which would have to be obtained would be so large as to be prohibitive. Nevertheless, this supplies the standard for what would be required to conclude that there is no nontrivial effect.

The problem of obtaining a large enough sample size certainly applies in the current study. Attempts were made to plan for sample sizes that would result in high power values by estimating effect size. However, much smaller effects were actually obtained. In most instances, several hundred more subjects per group would have been required to obtain the minimal desired power of .80. Whereas the significance criterion and the desired power level are set by convention, the effect size is another matter and is crucial to power analysis. As Cohen states, power analysis tells the researcher what chance she has of finding a significant effect, but in order to determine this the researcher must know how big the

effect size is that she is looking for. In fact, simply finding significance is not necessarily important if the effect size is quite small. Nunnally (1962) notes that significance alone is not very meaningful given that if a large enough sample can be obtained it is almost guaranteed that a significant result will be found. He proposes that a researcher should set in advance how much of an effect size will be considered important. But what is obvious and which he also acknowledges, is that it is often impossible to know what an important effect size is.

In the current study the nonsignificant findings suffered from small effect sizes and low power. How then should these results be interpreted? Certainly, it is not possible to conclude that the findings prove that the various phenomenon under question do not have the theorized effect or, in other words, that the null hypothesis should be accepted. Are the effect sizes too small to be worth consideration? This is impossible to tell given the general lack of knowledge in the area of dreams and adaptation. How can one, for example, determine at this point what differences in levels of dream bizarreness are significant for processes of adaptation to trauma to occur, processes which may themselves occur in small increments? Until further research can be conducted to ascertain how changes in dream content may be related to adaptation over time, it is not possible to conclude with any satisfaction that the effect sizes in the current set of data should be considered inconsequential. Although large sample sizes for future studies may be hard to obtain, Nunnally (1962) notes that a series of small N studies in which each further refines the hypotheses are useful when their results are examined cumulatively. In the following discussion the findings will be examined in view of the fact that where nonsignificance was found it should not necessarily be concluded that the phenomenon does not exist and suggestions for future examinations will be provided.

Relation of Dream Content to Abuse History and Adaptation

Perhaps the most important hypothesis in the present study involved the relationship between dream content variables and a history of sexual abuse. The primary thesis of the present study was that dreams are meaningful and that they are an important source of adaptation to life's various events that are at least on a par with waking attempts at adaptation. It was assumed that individuals under extreme stress, such as overcoming traumatic events, would evidence this relationship most clearly. Results of the statistical analysis supported this hypothesis with regard to the measure of dream self-reflectiveness. Just as important to consider perhaps, is the direction in which the groups differed on this variable. As hypothesized, the sexual/physical and sexual abuse groups differed from the other two groups and in addition, they differed in the direction of having higher dream self-reflectiveness scores. In fact, the means for dream self-reflectiveness increased among the groups in much the same pattern as severity of symptomatology was shown to vary among the groups. That is, the non-abuse group had the lowest mean of dream self-reflectiveness which increased for the physical abuse and was highest for the sexual abuse groups.

This pattern clearly supports the compensatory hypothesis, with the most severely impacted groups evidencing the highest scores on dream self-reflectiveness, a variable which was posited to be an adaptive dream characteristic. This finding refutes Cartwright's (1986) hypothesis that individuals experiencing high levels of stress may be too severely impacted to experience adaptation in their dreams, although it should be remembered that this is a university sample which is presumably functioning at a relatively high level. As Rossi (1985) himself hypothesized, dreams may provide something other than what is found in waking. Through increased levels of self-reflectiveness in dreams, the survivors of sexual abuse are possibly constructing and experiencing new ways of thinking and

behaving that could help them overcome their traumatic past. This finding can be viewed as compensatory in that those participants who were most debilitated by their negative experience were also the ones who demonstrated the greatest capacity to employ a cognitively and psychologically complex strategy in their dreams. It is a strategy that is hypothesized to produce adaptation through the realization of other methods of dealing with personal blockages that stifle healthy growth and development. For example, if an individual can incorporate an assertive stance where she would normally be passive, this may enable her to realize goals that were previously unattainable. The ability to envision and experience this new way of behaving can occur in one's dreams and instigate changes in waking behavior. According to Rossi, there are three basic levels that can be observed in the evolution of personality growth in dreams: First, there are many different states of being; second, self-reflection occurs which utilizes these different states of being to promote new awareness of how one can behave and think from these new perspectives; third, these new ways of being are used to remove impediments to psychological development and to heal old wounds.

This finding is only a first step in developing the hypothesis that there are advanced cognitive qualities in dreams that can provide adaptation to waking events. Although it is important to first establish a relationship, much remains to be learned about how different levels of self-reflectiveness operate in cases of trauma. For example, do various levels of self-reflectiveness appear over time after a traumatic incident occurs, and does this follow the pattern that Rossi has posited? Another interesting question concerns how efficacious higher levels of dream self-reflectiveness actually are. If a sample of sexual abuse survivors was examined over a long period of time would those with higher levels of self-reflectiveness improve more in terms of symptomatology compared to their counterparts with lower levels of dream self-reflectiveness? Another factor which should

be pursued in future studies is the role of therapy in levels of dream self-reflectiveness. It is possible that dream self-reflectiveness levels in the sexual abuse groups were higher due to past or current participation in therapy for the abuse. The question of whether these higher levels of self-reflectiveness in dreams are adaptive would still need to be answered.

The other dream content variable considered relevant to adaptation was bizarreness. The hypothesis that the sexual and sexual/physical abuse groups would differ from the other two groups on this variable was not supported in the present investigation. Due to the low power value associated with the analysis of this hypothesis, however, it is possible that in the population such a relationship does exist. It is not surprising that the effect size for this variable may be small given that the adaptation process is presumably a long and cumulative one. Thus, even small changes in dream bizarreness could have a salutary impact when its effects are experienced over time.

The percentage of dreams which were rated as completely lacking bizarreness was 46%, differing substantially from the percentage of 10% obtained by Hobson and his colleagues (Williams et al., 1992). Their mean density score was also higher at .223, compared to the present study's mean of .163. This discrepancy could be due to various factors. For one thing, the Williams et al. sample was composed of only 12 participants with a total of 60 dreams. In addition, these participants were instructed to record daytime fantasies concurrent with recording nighttime dreams. It seems logical that increased attention to daytime fantasies would have an impact on dream bizarreness rates just as attention to self-reflection in waking resulted in increased dream self-reflection (Purcell et al., 1986). The current finding would appear to refute Mamelak and Hobson's (1989) contention that bizarreness is a characteristic found in all dreams.

The finding that bizarreness was completely absent in a large percentage of dreams supports previous research asserting this conclusion (Dorus et al., 1971; Giora, 1981;

Hunt et al., 1982; Rechtschaffen, 1978; Snyder, 1970). Although 60% of Snyder's dream sample was scored as containing no bizarreness, 70% of the same dreams contained adaptive and reflective thought. It appears that self-reflection may be a more pervasive element in typical dreaming than bizarreness.

If only about 1 in every 2 dreams contains any bizarre element then what impact might bizarreness have on an adaptive function? Bizarreness, if it does serve some adaptive function in dreaming, may be a quality that occurs with less regularity but when it does occur, it may have a strong and lasting impact. This could be especially true given the finding in this study and also by Cipolli et al. (1993) that bizarre dreams are more likely to be recalled. Although Rossi (1985) posits that self-reflection occurs to a greater or lesser extent in all dreams along a continuum, he views bizarreness in dreams as a spontaneous instance of original psychological experience. The essence of bizarreness is the meeting of the previous world perspective with a new perspective which appears odd because it is unfamiliar. As discussed in the introduction, it is an experience that can begin the self-reflective process of becoming aware of alternative states of being. In this sense, bizarreness in dreams may be seen as a process that occurs relatively infrequently and that instigates or furthers the self-reflective process, playing a crucial role but a less pervasive one.

This posited relationship between bizarreness and self-reflectiveness in dreaming could also be extrapolated from the way in which bizarreness has been noted to instigate a lucid dream (Garfield, 1975). The dreamer realizes that she is dreaming when she becomes aware that the dream event is bizarre or unrealistic and unlikely to occur in real life. Hunt (1989) also relates dream bizarreness to self-reflectiveness and lucidity in a manner that can be applied to the present findings and that is reminiscent of Rossi's (1985) propositions. He explains bizarreness within the framework of the long term development of dreaming

with respect to its demonstration of symbolic intelligence. He hypothesizes that bizarreness in a dream sends a message via spontaneous expression. Lucidity, a higher form of dream self-reflectiveness, is the rare occurrence of a response to a spontaneous expression of bizarreness. This interaction demonstrates a reciprocal relationship between bizarreness and lucidity. As this relationship develops over time, ordinary bizarreness and self-reflectiveness progresses to lucidity and "imagistic forms ... that are progressively more abstract and encompassing in meaning and qualitatively distinct from ordinary dream bizarreness" (p. 201). According to Hunt, this development ultimately leads to dreams directly demonstrating metaphoric meaning that is no longer constrained by the normally dominant verbal representational system. It appears that future examinations of the respective roles of dream bizarreness and self-reflectiveness should consider the possible interaction between these two dream variables.

Future studies of dream bizarreness and dream self-reflectiveness in relation to adaptation may be more fruitful if participants are selected on the basis of baseline levels of dream bizarreness. Thus, a high bizarreness dream group could be obtained and compared to a low bizarreness group on adaptation variables. It would also be interesting to examine whether bizarreness in a dream instigates a subsequent series of dreams higher in dream self-reflectiveness and whether this evolves into a cyclical relationship.

The examination of two different ratings of bizarreness indicated that there was a moderate degree of similarity between a participants' own rating of bizarreness and the rating provided by a judge using Hobson's et al. (1987) bizarreness rating scale. Whereas, an individual rating her own dreams may rate some things as bizarre with respect to her own life experiences, to some extent improbable and impossible events were judged similarly by the experimenter who had no such knowledge of personal circumstances. However, it is difficult to compare the two ratings to any great extent, given the differences

in measurement between the two scales. Thus, one cannot really say that one produced higher or lower bizarreness scores than the other. In future studies it would be interesting to have participant's rate their own dreams using the Hobson et al. scale to see how this affects their perception of impossibilities and improbabilities. For example, if participants were to use this scale they would be instructed to rate those things as bizarre which have less than a 5% chance of occurring. This might result in a lack of bizarreness ratings for dream events which would be atypical but not impossible in waking life.

Another primary hypothesis of the present study involved an examination of the relationship between dream content and adaptation level in order to further delineate possible adaptive functions of dreaming. The hypothesis that low and high adaptation and severity subgroups of sexual abuse would differ on the dream content variables of self-reflectiveness and bizarreness was not supported. However, given the low power values present in these analyses, further research is required to determine whether the null hypothesis can be rejected.

The test of this hypothesis was potentially plagued by several methodological difficulties. Perhaps the primary difficulty lay in the sample itself. Given that a sample of university students is likely to be uniformly more adapted than most samples from other populations, it does not appear to be the ideal group from which to examine a hypothesis that attempts to look at extremities of adaptation level in a sexual abuse group. As mentioned earlier in the discussion, the symptomatology means for the current sexual abuse participants were above those which have been obtained from clinical samples. Although power values for dream self-reflectiveness were adequate when comparing the primary experimental groups, this value understandably dropped when trying to examine subgroups within the sexual abuse groups where differences were less distinct. The smaller number of participants was also a factor in reduced power. In future studies examining adaptation

level it is suggested that samples be obtained that more realistically mirror the diversity of adaptation found in the population. Given the finding that dream self-reflectiveness was significantly higher for the most severely impacted groups it is expected that, given a sample with sufficient representation from varying levels of symptomatology, a relationship would also be found between dream content and adaptation levels in a traumatized sample.

In terms of the ability of the symptomatology measures to distinguish between participants who had experienced single versus repeated incidents of sexual abuse, it would again be advisable to use participants with a higher range of symptomatology scores. Compared to the sexual abuse group, the less adapted sexual/physical abuse group's single and repeated incident participants were more distinguishable on symptomatology. Future studies might also be improved by controlling for time elapsed since the occurrence of the abuse. This could result in clearer distinctions between the two categories of sexual abuse, given that time is often a factor in adaptation.

Personality and Dream Content

Another avenue by which the function of dreaming was explored was accomplished through an examination of the relationship between dream content variables and personality. The personality variables examined were self-concept discrepancy, self-consciousness, and repression. Unfortunately, little support for a relationship between personality and dream content was obtained. The only significant finding was for a small unique contribution of self-consciousness to dream self-reflectiveness. Analysis of the primary groups indicated that this overall finding reflected a significant unique contribution of high self-consciousness to high dream self-reflectiveness in the physical abuse group, supporting the continuity hypothesis. This was also the largest relationship found between a personality variable and dream content.

Because power values for the analyses of the personality/dream content relationship were low, more weight will be given to small effects than would normally be given. Moreover, attention will also be accorded to findings that approached significance. On first sight the findings appear to be a confusing blend of nonsensical potential relationships. The immediate task then is to try to make a coherent picture from the various relationships that approached and reached significance. In the non-abuse group, the relationship between personality and dream bizarreness approached significance with the unique contributions of repression and self-concept also approaching significance. High self-concept and low repression were associated with high dream bizarreness scores, both of which support the continuity hypothesis. In the sexual/physical abuse group, the unique contribution of self-concept to dream self-reflectiveness approached significance with high self-concept being associated with high self-reflectiveness scores, again in support of the continuity hypothesis. (Note that in the hypothesis stated in Chapter 3 high "scores" on self-concept actually refer to low self-concept because the self-concept score is a measure of discrepancy between actual and ideal self-concepts. As the discrepancy between actual and ideal self-concepts increase, which in turn increase the self-concept score, self-concept is considered poor).

These findings generally support the continuity hypothesis. This contrasts with the support for the compensatory hypothesis obtained in the analysis of the relationship between dream self-reflectiveness and history of abuse. Perhaps the relationship between dreams and stable personality characteristics is different from the type of relationship that exists for dreaming and environmental influences, such as incidents of sexual abuse, that are potentially destabilizing. In so far as personality is concerned, an individual's dreams may directly reflect the characteristics of that personality, whereas when attempting to process and adapt to changeable environmental influences compensatory functions are

triggered in an effort to deal with unfamiliar and stressful material.

The hypothesis that personality is continuous with dreaming has been demonstrated in various studies (Bernstein & Roberts, 1995; Domino, 1976; Hall & Van de Castle, 1966; Lang & O'Connor, 1984; Van de Castle, 1971). Yet, other findings by Samson and De Koninck (1986) demonstrate that the relationship between waking personality and dreaming may vary according to certain other personality factors, perhaps demonstrating an adaptive dream function. Samson and De Koninck found that the direction of the relationship between personality and dreaming (continuous or compensatory) varied depending upon whether the individual was high or low in neuroticism. Individuals low in neuroticism demonstrated a compensatory relationship between extraversion scores for dreams and waking. In contrast, the relationship (though nonsignificant) for extraversion was in the direction of continuity for those high in neuroticism. In a somewhat similar manner, the present findings may be an indication of an adaptive function for dreaming in which the relationship between personality and dream content is one that can be complicated by environmental factors such as a history of abuse.

The other factor which becomes apparent when looking at the relationship between the personality variables and dream content is that for the non-abuse group a relationship exists between personality and dream bizarreness, whereas in the sexual/physical and physical abuse group a relationship exists between personality and dream self-reflectiveness. Future research examining the relationship between personality and these dream content variables may further delineate the respective functions of dream bizarreness and self-reflectiveness with respect to adaptation to trauma. The current findings lend some support to the idea stated in the previous section, that dream self-reflectiveness may play a more consistent role in adaptation to trauma compared to dream bizarreness. The findings with respect to personality further suggest that this role operates in conjunction with

existing personality characteristics.

Finally, it is difficult to interpret why the personality factors that are of potential significance vary between the groups or why the sexual abuse group alone did not have any significant or potentially significant relationships with personality. The finding that high self-consciousness is associated with high dream self-reflectiveness accords well with the literature on lucid dreaming (Snyder & Gackenbach, 1988). In addition, it appears that when the full range of dream self-reflectiveness is examined, as opposed to only the lucidity aspect, public self-consciousness and social anxiety also play a role in self-reflectiveness in dreaming. However, it is unclear why this relationship would only appear in the physical abuse group. The answer may lie in the differing levels of symptomatology for the groups. Self-consciousness may become associated with dream self-reflectiveness at relatively more moderate levels of distress but then it may cease to increase self-reflectiveness when distress surpasses this level. Thus, there may be a non-linear relationship between self-consciousness and dream self-reflectiveness. Alternatively, there may be particular features associated with the impact of physical abuse alone which are somehow related to self-consciousness. A possibility which blends the above two suppositions is the consideration that associated with the higher symptomatology scores of both the sexual abuse groups are higher dissociation scores. Since dissociation is the splitting off from consciousness of one's internal psychological state, it is possible that self-consciousness would not be operating functionally for the sexual abuse groups.

The finding that high self-concept is associated with high dream self-reflectiveness departs from the findings by Gates (1990) and the findings involving waking reflectivity (Jennings et al., 1986). However, neither of these previous experiments specifically involved abuse groups. It is conceivable that self-concept would operate differently in a more distressed group. Thus, while Jennings and Gates hypothesized that low self-

concept would promote more self-reflection, adaptation to trauma may actually require higher levels of self-concept to institute self-examination. It is interesting to note that although the sexual and sexual/physical abuse groups were similar in terms of having higher dream self-reflectiveness scores compared to the other two primary groups, they were not similar on the factor of self-concept and dream self-reflection. Again, there may be particular cut-off points in levels of distress that affect the relationship between personality and dream content.

The potential association between high self-concept and low repression with high dream bizarreness suggests that not only is bizarreness in the dreams of trauma survivors associated with a return to health, it is also associated with higher levels of self-concept and low levels of repression (Friedman & VandenBos, 1992) in a non-traumatized group. The lack of findings for any association with dream self-reflectiveness in the non-abuse group, as alluded to earlier in this discussion, may reflect the differing roles of self-reflection and bizarreness among the different backgrounds of trauma.

The purported role of dreams and adaptation proposed by Hartmann (1991) may be applicable to these findings in terms of his suggestion that personality determines the manner by which dreams promote adaptation to negative life events. Thus, while personality provides a stable influence for basic dreaming characteristics, different personality traits may become dominant with respect to an adaptive function of dreaming. It is clear that further research is required to define the relationship between personality and dream content and its possible interaction with levels of adaptation in survivors of trauma. While the overall findings of the present study may seem insignificant in terms of the statistical findings, the presence of small relationships under conditions of low power suggest that future studies may yet find that stronger relationships do exist. Given that examination of personality typically involves small effect sizes, it may be beneficial to

examine this question in long term studies to see if there are patterns in dream self-reflectiveness and bizarreness associated with personality. The idea here is that only with the accumulation of dream content ratings over time will a distinctive relationship become apparent.

Dream Recall

Levels of dream recall over the two-week dream diary period were hypothesized to be related to the dream content variables and also to a history of sexual abuse. High dream recallers were expected to have higher dream self-reflectiveness and bizarreness scores. This hypothesis was supported for dream bizarreness and is consistent with the results of Cipolli et al. (1993). It is likely that dreams that are odd will be more likely to catch our attention upon awakening, and to remain in our thoughts as we ponder over the various strange events of the dream, wondering why our sleeping brains produced such fantastic imagery. If, as Rossi (1985) proposes, the psychological growth that develops through dreaming occurs as recalled dreams and waking events interact with each other then bizarreness is an important factor which brings waking attention to the dream. As noted earlier, this quality of bizarre dreams may promote greater self-reflection in dreaming by drawing our waking attention to a dream and the original experience contained in the bizarreness of the dream.

The expected relationship between dream self-reflectiveness and dream recall levels was not observed. Low power values existed for this analysis so further study is required before the null hypothesis can be accepted for this relationship. The current result does not replicate the findings of Purcell et al. (1986) who found that high recallers had higher dream self-reflectiveness. However, her findings were based upon self-reported recall rates with participants being pre-selected for membership in different levels of dream recall based upon these reports. Recall levels in the two-week dream diary period could be

expected to differ for a couple of reasons. First, demand characteristics may have operated such that participants made more strenuous attempts to recall their dreams. Similarly, thinking about recording their dreams may have influenced participants' recall levels. This latter event may have produced higher or lower than normal rates of recall depending on the individual participant. Several participants commented to the experimenter that their recall appeared to change during the dream diary period, with some describing increased recall but others also stating that recall levels dropped. Second, various other factors impinge upon dream recall such as irregular sleep patterns during exams and varied work schedules. These factors have the potential to introduce more error into a record of dream recall that was restricted to a short two-week period, especially when compared to retrospective reports covering longer periods of time.

The second primary hypothesis concerning dream recall was that the sexual/physical and sexual abuse groups would have higher or lower dream recall levels than the other two groups. The statistical analysis for this hypothesis produced results that approached significance. Because the power value for this analysis was low this finding will be considered more strongly in light of this fact. However, because the low power makes it difficult to determine where the differences among the groups might be only the most obvious difference in frequency of dream recall for the abuse groups will be noted. The most obvious deviation from expected values belonged to the sexual/physical abuse group. Participants in this group had higher dream recall compared to the other groups, thus supporting the compensatory hypothesis of dreaming. High recall in the sexual/physical abuse group departs from the findings of Fernandez (1991) who found that the sexual/physical abuse group in her sample, which also demonstrated the most severe symptomatology, had the lowest recall levels based upon a 10 day dream diary.

Fernandez (1991) posited that low dream recall in her sexual/physical abuse group

was probably the result of suppression of dream recall in an effort to avoid more severe traumatic memories. However, the current group of sexual/physical abuse participants had the highest dream recall. Clearly further research is required to determine which finding is most accurate in a university sample of sexually abused women. One difference in methodology may account for the discrepancy between the results of the present study and those of Fernandez. Fernandez included a page in the dream diary in which the participant was asked to indicate whether her worst nightmare had occurred in the 10 day period and if not to record her worst nightmare on the additional page. This may have created some anxiety in the sexual/physical abuse group given their propensity to have nightmares and could have resulted in lowered dream recall.

These disparate findings also bring to mind those of Hefez et al. (1987) in which the long term effects of trauma were found to result in either increased recall in the form of nightmares or the suppression of dream recall. The findings of Hefez et al. were inconclusive in terms of how adaptive one or the other outcome might be, but the additional finding of higher levels of dream self-reflectiveness in the sexual/physical abuse group may indicate that increased dream recall, even if it involves more nightmares, can promote the process of adaptation (see Wilmer, 1986), as opposed to the conclusions of Lavie and Kaminer (1991) who proposed that lowered dream recall in trauma survivors was more adaptive.

Dream recall was examined further with respect to adaptation level within the sexual abuse groups. A possible interaction between dream recall level and abuse history in relation to dream content was also examined. This was done in an attempt to further delineate the role of dream recall in adaptation to trauma. The results of both of these analyses were nonsignificant and suffered from low power values. The primary question of interest for future study is whether low or high dream recall is related to successful

adaptation and what role dream self-reflectiveness and bizarreness play. Do these dream characteristics promote adaptation and, if so, are higher levels of dream recall more adaptive even if this recall also involves more recall of nightmares? Such a study would be more efficacious if one were to obtain samples of trauma survivors that contained a greater diversity of adaptation levels. Another alternative would involve the study of survivors over an extended period of time in order to examine the course of adaptation and its relation to variations in dream content variables.

Dream Impact, Affect, and Nightmares

Dream impact was examined to see if it might contribute to the adaptive function of dreams. The first step in examining this question was to see how dream impact varied among the different groups as a function of a history of trauma. Would trauma survivors have more impactful dreams as part of an adaptive mechanism that would increase the efficaciousness of the dream content variables? The initial test of this question indicated that the sexual/physical abuse group did have significantly higher levels of dream impact compared to the non-abuse group. This appeared to support the contention that the most severely traumatized group had the highest levels of dream impact as a response to the needs of adaptation. The next question was whether dream impact levels and abuse history would interact with respect to dream self-reflectiveness and bizarreness. The findings of this second analysis were nonsignificant and suffered from low power values.

Examination of dream impact and adaptation levels in the sexual abuse groups also resulted in nonsignificant findings and were characterized by low power values.

However, subsequent examination of dream affect and nightmare percentages among the groups indicated that the higher levels of dream impact in the sexual/physical abuse group appeared to be related to the increased incidence of nightmares in this group, specifically in the low adaptation members of this group. Additional analyses indicated the

existence of a significant relationship between dream impact and nightmares not only for the sexual/physical abuse group but for the entire sample, with nightmares having higher impact than dreams. This relationship is also expected on both an intuitive and logical level. Nightmares are frightening and create high levels of arousal, so it is not surprising that participants would report that their nightmares were more impactful than their dreams.

It is interesting to note that according to Kuiken and Sikora's (1993) classification of impactful dreams in which Cluster 3 describes nightmares, there is a lack of self-reflectiveness. This appears to add another relevant finding to the sexual/physical abuse group results. Although the sexual/physical abuse group had more impactful dreams, apparently in association with more nightmares, they also had higher levels of dream self-reflectiveness. This may be a further indication that nightmares in trauma survivors are not necessarily an indication of the absence of adaptive processes even when the nightmares cause increased distress, as was shown in both of the sexual abuse groups. In fact, if a finding of increased dream recall in sexual/physical abuse survivors was obtained in future studies, it would demonstrate how actively this group attempts to adapt to trauma, at least through dreaming. Such a finding would ultimately support theories of compensation in dream function.

Further research is warranted regarding a possible relationship between dream impact and the dream content variables, given the low power values obtained in the analysis of this question. Power values could be increased in future studies either by increasing sample size or perhaps by obtaining samples with more extreme levels of symptomatology. In addition, future studies of the relationship between trauma and dreaming should utilize the finer-grained categories of impactful dreams proposed by Kuiken and Sikora (1993). This would enable researchers to determine the adaptive potential of different types of impactful dreams with respect to dream self-reflectiveness and dream bizarreness.

Summary and Conclusions

The present study sought to examine the adaptive role of dreams and the theoretical method in which adaptation might be accomplished. Although the present study had few significant findings, there are still interesting patterns in the significant relationships that were found and enough information to suggest that many of the hypotheses are worth additional consideration. From the preliminary findings of this study, the indications are that if dreams do provide an adaptive function to trauma survivors it follows a compensatory pathway.

However, the picture of how dreams promote adaptation to trauma was different from the one that was formed concerning the relationship between dream content and the personality variables. Whereas, the overall pattern of results suggested that the relationship between a history of sexual abuse and dream content demonstrates a compensatory function, personality, a stable characteristic, appeared to be related to the dream content variables in a continuous manner. These findings need not be considered contradictory as they may simply be illustrating the flexibility of dream function. In addition, it appeared that the personality characteristics that contribute to dream content may vary according to the level of adaptation required in reaction to various environmental stressors. Personality characteristics may provide the background in which adaptive dream qualities normally operate in a continuous manner. Particular events, whether mild or extreme, as in the case of trauma, initiate the operation of a compensatory function. The way in which personality contributes to dream adaptation with respect to environmental events may depend upon the degree of difficulty encountered in adapting to those events. This possibility was indicated by the differences in the contribution of the personality variables among the different experimental groups. For example, self-consciousness may contribute to adaptive dream functions during more moderate levels of distress and self-concept may contribute during

higher levels of distress. Dream self-reflectiveness appeared in the relationship with personality only when trauma was involved, whereas dream bizarreness appeared only when there was no trauma. This may indicate that there is a difference in how these dream content variables promote adaptation.

Dream self-reflectiveness and dream bizarreness may affect adaptation in different but complimentary ways. Dream bizarreness appears to be a less pervasive phenomena which could possibly instigate periods of higher dream self-reflection, demonstrating a reciprocal relationship to dream self-reflectiveness similar to that posited by Hunt (1989). This proposition is appealing given the finding that there is increased recall for bizarre dreams. This increased recall could be valuable in instigating a cyclic reaction between dreams and waking reflection following the recall of bizarre dreams (Rossi, 1985). Because dream bizarreness is absent in many dreams, a test of this hypothesis may require pretesting for selection of high dream bizarreness groups and low dream bizarreness groups to insure greater power in statistical analyses involving this variable. There are indications that dream bizarreness may be a stable characteristic as it has been shown to vary with measures of individual differences in creativity (Adelson, 1974; Belicki, 1987; Watson, Butler, & Liebmann, 1982). An important question for future research will involve an examination of how these two variables may contribute to adaptation through different pathways or how they may interact with each other to promote adaptation. This would not only provide information about dream function but also about the cognitive methods which contribute to adaptive mechanisms. Further studies could examine how mechanisms like dream self-reflectiveness and bizarreness can be initiated to help individuals trying to recover from various stressors and traumas.

However, the primary problem that requires resolution is whether the higher dream self-reflectiveness observed in the sexual/physical and sexual abuse groups was, in fact,

adaptive. The sexual/physical abuse group demonstrated the most severe symptomatology including the highest incidence of nightmares but, contrary to prior research (Fernandez, 1991), they also had higher dream recall in addition to high dream self-reflectiveness scores. These findings support either the conclusion that increased self-examination in dreaming contributed to higher levels of symptomatology, or that the increase in dream self-reflectiveness occurred to compensate for the past trauma. Future research should attempt to determine which conclusion is true. This could be accomplished in two ways. First, follow-up a group of trauma survivors at a later date and discover whether symptomatology improved for those who were low in dream self-reflectiveness or for those who were high in this dream content variable. Second, attempt to increase dream self-reflectiveness in a sample of trauma survivors via waking instruction (Purcell et al., 1986) and examine how symptomatology changes with this intervention. In addition, the impactfulness of the nightmares of trauma survivors and its role in adaptation is also an important variable to consider in future research.

Another important improvement for future work would be to examine trauma groups that have a greater diversity of symptomatology in order to increase the chances of finding differences in dream content variables among different levels of adaptation. The current study sought to avoid the necessity of long term study, which would have been impractical, by utilizing different levels of adaptation within the sexual abuse groups and examining differences in dreaming in this manner. While this can be a solution, it either requires much larger samples or a greater diversity in the abuse groups than can be found in a university sample of generally well-adapted individuals. The utility of long term studies cannot be denied, however, especially when one is examining a phenomenon that is by its nature so constrained by time. Adaptation to trauma occurs over long periods and the accompanying changes in dream content variables would offer valuable insights. Small

samples studied in this manner could result in important findings, especially if findings from many such small samples could be combined and compared.

The primary methodological problem noted in this study was control of group membership for abuse. Interviews are recommended for future studies to allow researchers to obtain as much confirmatory information as is possible regarding the nature and severity of reported abuse. In small studies this should not pose a problem. However, if interviews are not practical, more detailed questionnaires should be used. Although neither method provides an absolute guarantee it would seem to be the best way to insure that the groups are valid.

Even small findings can be important in research that is largely exploratory. Perhaps the greatest contribution of such research is to provide direction and impetus for future studies. The present study, which sought to examine potential relationships between dreams, trauma, and personality, can be said to fall into this category. All of these variables are difficult to quantify in terms of minute gradations which may be difficult to discern, although over time they can prove to have a significant impact. Some of the findings in this study are quite intriguing with respect to what is currently known about dreams and adaptation. This is especially so with respect to a hypothesized compensatory function of dreaming. In the future, studies of this phenomena in trauma survivors can be compared to examinations of adaptation to more common everyday stressors. It would be interesting to see if the mechanisms of dream adaptation are similar. It is possible that just as we utilize different mechanisms in waking to adapt to various levels of stress, there is also a large array of tactics available in our dreams to help us adjust to sources of stress and trauma.

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PRECISIONSM RESOLUTION TARGETS

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Appendix A

Informed Consent Form

This form explains what will be required of you as a subject in this study and is a formal record of your consent to participate.

This study will examine the relationship between certain personality characteristics, symptoms of trauma from different types of abuse, and dreaming. Participation in this study will involve the completion of various personality measures and trauma impact inventories in one test session lasting approximately 1 hour. Some of the questions from the trauma impact inventories may cause you to feel uncomfortable as they touch upon sensitive material concerning symptoms which reflect various personal aspects of your life. You will also be asked to keep a record of any recalled dreams over a 2 week period. At the end of this 2 week period you will return your diary to the examiner and be debriefed.

I, the undersigned, agree to participate in this research project about dreams and personality. I will complete the provided questionnaires and dream diary and return all materials to the examiner. I understand that in return for my completed participation I will receive three experimental course credits.

I understand that all materials will be kept strictly confidential and will be used for research purposes only. I also understand that my participation is entirely voluntary, that I may leave any question blank which I do not choose to answer, and that I may withdraw from the study at anytime.

Name: _____

Date: _____

Signature: _____

Signature (Examiner): _____

Appendix B
Biographical Questionnaire

1. Sex: _____
2. Age: _____
3. Marital Status: _____
4. Major Area of Study: _____

Appendix C

If you have experienced sexual and/or physical abuse please complete the following questionnaire. For the purposes of this questionnaire sexual abuse is defined as any unwanted sexual activity.

1. Please indicate which type of abuse you experienced:

Sexual ____ Physical ____ Sexual/physical ____

2. When did the abuse incident(s) occur? _____

3. Have you ever sought therapy for the abuse? Yes ____ No ____

4. When did you seek therapy for the abuse? _____

5. How long were you in therapy? _____

6. How long after the incident(s) of abuse did you seek therapy? _____

7. Please indicate the degree to which you were satisfied with the outcome of your therapy by circling the appropriate number below.

1	2	3	4	5	6	7
not at all			somewhat			extremely
satisfied			satisfied			satisfied

8. Have you ever joined a support group for the abuse? Yes ____ No ____

9. When did you join the support group? _____

10. How long were you in the support group? _____

11. How long after the incident(s) of abuse did you join the support group? _____

12. Please indicate the degree to which you were satisfied with the outcome of your participation in the support group by circling the appropriate number below.

1	2	3	4	5	6	7
not at all			somewhat			extremely
satisfied			satisfied			satisfied

13. Have you sought other methods to overcome the impact of the abuse? For example, reading self-help literature. Yes ____ No ____

14. What method(s) have you used? _____

15. How long were you involved in the above method(s) that you used? _____

16. How long after the incident(s) of abuse did you begin using the above method(s)?

17. Please indicate the degree to which you were satisfied with the outcome of your use of the above method(s) by circling the appropriate number below.

1	2	3	4	5	6	7
not at all			somewhat			extremely
satisfied			satisfied			satisfied

18. Please indicate the degree to which you believe you have overcome you past history of abuse by circling the appropriate number below.

1	2	3	4	5	6	7
not at all			somewhat			completely

CONTACT PHONE NUMBERS FOR DREAM STUDY

1. Carleton University Counselling Services: 788-6600
2. Carleton University Health Services: 788-6674
3. The Sexual Assault Support Center: 234-2266
4. 24 Hour Help Lines: Distress Center 238-3311
Rape Crisis Center 729-8889
Sexual Assault Center 234-2266

Appendix E

This is your dream diary in which you are to record your dream(s) each morning upon awakening. In the morning record the date and all recalled dreams. If you do not have any dreams to record, note the date as usual and that you either do not remember dreaming or that you dreamed but cannot remember your dream(s). This response can be recorded in the first question on your dream diary sheet. If you do recall a dream please respond to the remaining three questions. The second question is a simple rating of the pleasantness of your dream. The third question refers to whether you had a dream or a nightmare. You may decide yourself whether you had a dream or nightmare. However, as a guide, a nightmare is typically a "bad dream" that is so frightening that it causes you to wake up with recall of the dream. Nightmares are different from night terrors in that a night terror causes a person to wake up in an extreme state of panic but there is no recall of a dream. The third question refers to the degree to which a recalled dream influences the way you feel after you have woken up. Some dreams can be considered ordinary ones which we do not give much thought to after we have awakened. In contrast, other dreams are more compelling, so that even after we have awakened we continue to think about them and to feel differently because of the dream's lingering impact. The final question asks you to rate the bizarreness of your dream from not at all bizarre to extremely bizarre.

Please record your dreams in detail as opposed to only a summary of the dream events. Record any recalled dreams on the back of the dream diary sheet. You may add extra pages as needed if enough have not been provided. Begin recording your dreams the morning after you receive this diary and continue to record your dreams for 2 weeks. At the end of 2 weeks you will return your diary to the examiner at the appointed time and place. If you have any questions or concerns about the recording of your dreams feel free to call Michi Gates at 730-7945.

Dream Diary - Day 1

Date: _____

The following 5 questions have been formatted so that you can answer them for up to 3 dreams in case you had recall for more than one dream from the previous night. Please answer the 5 questions for each dream that you recalled upon awakening this morning. If you had more than three dreams then please answer the questions for those dreams as well.

1. Please place a check mark next to the applicable response.

<u>Dream:</u>	<u>1</u>	<u>2</u>	<u>3</u>	
	___	___	___	recalled dream (recorded below)
	___	___	___	recall dreaming but cannot remember it
	___	___	___	no recall of dreaming

2. Would you say your dream was pleasant, neutral, or unpleasant?

<u>Dream:</u>	<u>1</u>	<u>2</u>	<u>3</u>	
	___	___	___	pleasant
	___	___	___	neutral
	___	___	___	unpleasant

3. Please indicate whether this was a dream or nightmare.

<u>Dream:</u>	<u>1</u>	<u>2</u>	<u>3</u>	
	___	___	___	dream
	___	___	___	nightmare

4. Some dreams have a lingering impact on a person's thoughts and feelings after they have awakened, while other dreams seem to have no lingering impact. Please rate the degree to which the dream or nightmare recorded below has left an impact on you after you awakened by circling the appropriate number.

	not at all impactful			moderately impactful				extremely impactful
Dream 1:	-----	-----	-----	-----	-----	-----	-----	-----
Dream 2:	-----	-----	-----	-----	-----	-----	-----	-----
Dream 3:	-----	-----	-----	-----	-----	-----	-----	-----
	1	2	3	4	5	6	7	

not at all
bizarre

moderately
bizarre

extremely
bizarre

Dream 1: -----

Dream 2: -----

Dream 3: -----

1 2 3 4 5 6 7

Appendix F

Debriefing

Thank you very much for your participation in this study. The purpose of this research is to examine how some characteristics of dreaming may differ for individuals with a history of sexual abuse, physical abuse, and no abuse. Research has shown that a history of sexual abuse is related to an increased incidence of nightmares, but further investigations into the content of the overall dreaming of survivors of sexual abuse is needed. In general, a history of trauma has been related to differences in levels of dream recall, nightmare frequency, and dream content.

The aspects of dreaming which will be examined in this study are self-reflectiveness and bizarreness. These are a few of the qualities of dreams that might reflect the differences in the life experiences of abused and non-abused individuals. In addition, various personality and psychological adjustment factors were measured to examine whether they might be related to any differences in dream self-reflectiveness and bizarreness. Personality factors included self-concept, self-consciousness, and repression. Measures of psychological adjustment included depression, somatization, and dissociation. Somatization and dissociation are two factors which have been identified as symptoms which specifically result from sexual abuse. In addition, questions pertaining to nightmares were included to assess differences in nightmare frequency and distress for individuals with a history of abuse.

The goal of this research is to learn more about how dreaming may be related to our waking lives and what possible functions dreams might serve, especially in relation to adaptation to waking traumas. This research may help us to understand more about how the mind works and how individuals adapt to severe traumas.

It should be acknowledged that some individuals may find that certain disturbing issues have been brought forth as a result of participation in this study. The following contacts and phone numbers are provided in the event that you should need information in regard to the study or aid for any distress that does occur. Please feel free to contact me if you would like to discuss the study further or if you should need any other information.

Principle Investigator: Michi A. Gates (730-7945)

Faculty Advisor: Dr. J. Logan (788-2600 ext. 2690)

Chair of the Ethics Committee: Dr. L. Paquet (788-2600 ext. 2692)

Chair of the Department: Dr. W. Jones (788-2600 ext. 2648)

Sources of Aid

1. Carleton University Counselling Services: 788-6600
2. Carleton University Health Services: 788-6674
3. The Sexual Assault Support Center: 234-2266
4. 24 Hour Help Lines: Distress Center 238-3311
Rape Crisis Center 729-8889
Sexual Assault Center 234-2266

END

1 3 10 6 9 7

FIN