

Child Sexual Assault as a Risk Factor for  
Mental Disorders Among Women: A Community Survey

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Running head: CHILD SEXUAL ASSAULT AS A RISK FACTOR

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Abstract

A community sample of 391 adult women was screened for a history of sexual assault during childhood and assessed for lifetime and current mental disorders using a structured victimization history interview and the Diagnostic Interview Schedule. One-third of the women had been victims of rape, molestation, or sexual assault not involving physical contact prior to the age of 18 years. Child rape victims were more likely than nonvictims to have ever met DSM-III diagnostic criteria for Major Depressive Episode, Agoraphobia, Obsessive-Compulsive Disorder, Social Phobia, and Sexual Disorders. Molestation victims were over-represented on Major Depressive Episode, Obsessive-Compulsive Disorder, and Sexual Disorders. Noncontact child sexual assault was not a significant risk factor for any disorder. Child rape and molestation victims were more likely than victims of noncontact assault to have had crime-related Post-Traumatic Stress Disorder. Mental disorder lifetime prevalence risk ratios for child rape and molestation victims versus nonvictims ranged from 1.5 for Major Depressive Episode to 6.7 for Obsessive-Compulsive Disorder.

## Child Sexual Assault as a Risk Factor for

## Mental Disorders Among Women: A Community Survey

The issue of child sexual assault as a risk factor for the development of major mental disorders has long been a topic of clinical discussion (Bender & Blau, 1937; Lukianowicz, 1972; Steele & Alexander, 1981; Conte, 1982). Though results of individual studies have varied considerably, there is now a growing body of empirical evidence indicating that sexual assault during childhood is widespread among females, and associated with the development of a variety of serious psychological symptoms. In a review of prevalence studies, Peters, Wyatt, and Finkelhor (1986) found that prevalence rates for child sexual assault among women ranged from 6% to 62%, depending upon the definitions of sexual assault used, age limitations placed upon respondents, the population examined, and victimization screening methods used. The bulk of this research suggests that between one-quarter to one-half of women experience some form of sexual assault prior to age 18.

Studies of college student samples (Finkelhor, 1979; Harter, Alexander, & Neimeyer, 1988; Sedney & Brooks, 1984), clinical samples (Briere & Runtz, 1987; Herman, 1981; Meiselman, 1978; Tsai, Feldman-Summers, & Edgar, 1979) and community samples (Bagley & Ramsay, 1985; Courtois, 1979; Peters, 1984; Russell, 1986; Stein, Golding, Siegel, Burnam, & Sorenson, 1988) have found that women sexually assaulted during childhood were more likely than nonvictimized women to experience a variety of psychological and social symptoms. In a comprehensive review of this literature, Browne and Finkelhor (1986) concluded that the most frequent problems manifested by women sexually assaulted as children are symptoms of

depression, anxiety, fear, sexual dysfunction, poor self-esteem, problems in interpersonal relationships, self-destructive behaviors, substance abuse, and an increased likelihood of revictimization. Specific findings have varied among these studies, and all studies have found that a substantial proportion of female victims of child sexual assault reported no significant psychological problems. However, the preponderance of the evidence suggests that victims of child sexual assault are at a significantly increased risk for developing a variety of psychological symptoms.

There are substantial differences between the studies with respect to the definitions of child sexual assault used, targets of mental health assessment, sampling methods, victimization history screening procedures, and mental health assessment methods. Most studies have employed circumscribed or convenience samples such as college students or mental health patients rather than community samples. Most studies have compared current levels of psychological symptoms and social problems exhibited by adults sexually victimized as children to levels presented by nonvictimized adults. Some have used standardized psychological measures, usually symptom checklists, but most have not. Few studies have assessed respondents' lifetime history of mental health problems in addition to their current functioning. Most importantly, very few studies have assessed the presence or absence of major mental disorders, defined according to strict, diagnostic criteria and assessed using sound methods. These conceptual and methodological problems have limited the theoretical, research, and clinical utility of the findings and are likely to account for many of the differences in results.

A notable exception to many of these methodological problems is the study reported by Stein et al (1988) that was conducted as part of the Los Angeles Epidemiologic Catchment Area Project. This study examined a representative sample of 3,132 adults, 1,645 of which were women, randomly selected from two mental health catchment areas in Los Angeles. Sophisticated sampling techniques were employed in this study and lifetime and current prevalence of mental disorders were assessed using the Diagnostic Interview Schedule. Results indicated that the lifetime prevalence rates for substance use disorders, major depression, and phobia were higher among female victims of child sexual assault than female nonvictims.

The major problem with this study was that the screening procedure used to determine if a respondent had been the victim of a child sexual assault consisted of only one question about past experiences with pressured or forced sex. Koss and Harvey (1987), Peters et al (1986), and Kilpatrick (1983) have described the need for sophisticated, multi-question screening procedures to detect victims of sexual assault in both research and clinical activities. Saunders, Kilpatrick, Resnick, and Tidwell (1989) reported that the number of detected cases of sexual assault in a clinical sample of men and women tripled when this type of screening procedure was used in place of typical mental health assessment methods. It is likely that many victims of child sexual assault were not detected by the elementary, one question procedure used by Stein et al (1988), resulting in a substantial number of respondents being misclassified as nonvictims. This would explain the relatively low prevalence rate of child sexual assault found among female respondents (6.8%) when compared to findings of other community studies.

A second problem with this study was that respondents were classified only as victims or nonvictims of child sexual assault, which was defined as incidents of forced or pressured physical sexual contact prior to the age of 16. Incidents not involving actual physical sexual contact (e.g., voyeurism, exposure) were not detected, and rape assaults were not distinguished from cases of molestation. Consequently, the differential impact of different types of assault could not be examined.

The present study was conducted as part of a larger one assessing the lifetime mental health effects of different types of criminal victimization (Kilpatrick, Veronen, Saunders, Best, Amick-McMullan & Paduhovich, 1987), and was designed to correct several of the methodological problems described above. A previous report has described results for child sexual assault victims and nonvictims on the standardized, paper-and-pencil measures of psychological symptoms used in the larger study (Murphy, Kilpatrick, Amick-McMullan, Veronen, Paduhovich, Best, Villeponteaux, & Saunders, 1988). The current study was designed to determine to what degree female victims of three types of child sexual assault (rape, molestation, and noncontact assault) are at increased risk<sup>1</sup> for developing several major mental disorders assessed according to diagnostic criteria defined in the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM-III) (American Psychiatric Association, 1980). The expectation was that compared to nonvictims, women who had been victims of any form of sexual assault during childhood would have higher lifetime and current prevalence rates for Major Depressive Episode, Agoraphobia, Panic Disorder, Obsessive-Compulsive Disorder, Social Phobia, Simple Phobia, and Sexual Disorders. Victims of child sexual assaults that involved

actual physical contact (molestation and rape) were expected to have greater lifetime and current prevalence rates of crime-related Post-Traumatic Stress Disorder (PTSD) than victims of noncontact sexual assault. In addition, victims of all forms of child sexual assault were expected to be more likely than nonvictims to have had symptoms of psychosis, experienced suicidal ideation, and actually attempted suicide during their lifetimes.

### Method

#### Respondents

Respondents for this study were 391 adult (age 18 years or older) female residents of Charleston County, South Carolina. These respondents were recruited from a representative probability sample of 2004 adult women living in Charleston County that had been selected for a different study using random digit dialing methods. A thorough description of the sampling techniques used in the parent study is presented in Kilpatrick, Best, Veronen, Amick, Villeponteaux, and Ruff (1985). As part of the parent study 1,467 (73.2%) of the women gave permission to be recontacted for further assessment. Due to unavoidable delays, 18 to 30 months after the termination of the parent study, 933 respondents (63.6% of those granting permission) were relocated and asked to participate in the current study. Of those, 399 (42.8% of located parent study respondents) agreed to participate in the current study and completed all assessment procedures. Data from eight of those respondents were excluded from analysis due to serious questions about the respondents' ability to understand and appropriately complete the assessment procedures. This sampling procedure resulted in a final sample of 391 women.

Demographic characteristics of the sample are presented in Table 1. Of the total sample, 22.3% were between the ages of 18 and 29 years; 47.5% were between 30 and 49 years; and 30.2% were age 50 years or older. Most of the women were non-Hispanic whites, 26.6% were black, and other racial groups made up 0.6% of the sample. Most of the women were currently married, and less than 15% had never been married. The sample was relatively well educated, with only 13.8% not being high school graduates. Most of the women were employed or students at the time of the assessment and the median household income was approximately \$25,000.

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Insert Table 1 about here

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This sample was compared on age, race, and household income to the parent study sample, which was representative of the Charleston County adult female population. There was no significant difference between the samples on average age (41.8 years versus 42.0 years). However, the proportions of the samples in three relevant age groups were significantly different ( $\chi^2(2) = 19.7, p < .001$ ). A larger proportion of respondents in the current sample were in the 30 to 49 age group (47.5% versus 36.0%), a smaller proportion was in the 18 to 29 age group (22.3% versus 30.0%), and proportions of older respondents were similar (30.2% versus 34.0%). Therefore, while the average age of the groups did not differ, the current sample contains fewer young individual respondents. Non-Hispanic whites were somewhat over-represented in the current sample (72.9% versus 66.1%;  $\chi^2(1) = 7.0, p < .01$ ), and members

of the current sample were more likely to have moderately higher household incomes than members of the parent study sample ( $\chi^2(2) = 42.3, p < .001$ ). There were substantially fewer respondents with incomes below \$15,000 per year (27.4% versus 38.0%) and greater percentages with incomes between \$15,000 and \$35,000 and above \$35,000. Thus, current sample members were somewhat more likely to be slightly older, to be of non-Hispanic white racial status, and possess higher incomes than the general Charleston County adult female population.

#### Assessment Instruments

The assessment battery consisted of two structured interview schedules: a) the Incident Report Interview (IRI) and b) a modified version of the Diagnostic Interview Schedule (DIS) (Robins, Helzer, Croughan & Ratcliff, 1981). The IRI<sup>2</sup> is a highly structured, behaviorally-specific interview schedule developed by the project research team specifically for the larger project of which this study was a part. It was designed to screen for and detect incidents of serious criminal victimization (sexual assault, aggravated assault, robbery, and burglary) that have occurred in a respondent's lifetime, whether or not such incidents have been reported to authorities, and even if they have not been labeled as crimes by the victim. It also collects comprehensive information about up to three victimization experiences, as well as respondent demographic data. The IRI instructions stress that incidents meeting the behavioral descriptions should be disclosed even if the respondent is unsure whether or not the incident is a crime or whether or not it had been reported to the authorities.

The screening questions for incidents of sexual assault contained in the IRI were designed to overcome the tendency of many women who have had experiences that meet the legal

definitions of rape or other forms of sexual assault to answer "No" when asked "Have you ever been raped or sexually assaulted" (Kilpatrick & Veronen, 1984; Kilpatrick, Best, Saunders, Amick-McMullan, Lipovsky, & Haskett, 1988; Koss, 1985). The sexual assault screening questions ask about the occurrence of specific sexual experiences and behaviors that were unwanted by the victim and involved the use or threat of force. Respondents are asked to include in their reports any incidents involving acquaintances, friends, or family members, as well as strangers.

Incidents of sexual assault are classified as either single or series assaults. Incidents are classified as series assaults if they involved repeated assaults by the same perpetrator in a relatively short, known time period. Single assaults are lone events that do not involve repeated assaults by the same perpetrator. For example, a situation where a father assaulted a daughter five times over an 18 month period would be classified as a series assault and appear in the results as one assault rather than five.

The DIS is a structured interview schedule designed to assess particular signs and symptoms of different types of mental disorders. The modified version used determined whether respondents currently met or had ever met over their lifetime, DSM-III diagnostic criteria for the following mental disorders: a) Major Depressive Episode, b) Agoraphobia, c) Panic Disorder, d) Obsessive-Compulsive Disorder, e) Social Phobia, f) Simple Phobia, and g) Sexual Disorders. In addition to these diagnoses, questions were included to assess lifetime and current problems with suicidal ideation, suicide attempts, and symptoms of psychosis.

At the time of the development of this project, the available form of the DIS did not include adequate procedures for assessing PTSD. Consequently, a set of assessment questions was developed and added to the interview schedule to determine if respondents who had been sexually assaulted as a child met the DSM-III criteria for PTSD, utilizing their victimization incident as the stressor event. The language and form of these questions was taken directly from the diagnostic criteria for PTSD listed in the DSM-III, with appropriate adjustments for readability, respondent understanding, and consistency with the DIS style. Interestingly, the set of questions developed are remarkably similar in content and form to those used to assess PTSD in the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, & Gibbon, 1986).

#### Procedure

Potential respondents were contacted by phone by female research assistants and asked to participate in the current study. If they agreed, an appointment was made to administer the assessment procedures at the project office. First, the IRI was administered to respondents on an individual basis by female research assistants trained in issues of victimization and the use of the instrument. Second, the DIS was administered by doctoral-level clinical psychologists, clinical social workers, or clinical psychology interns trained in its use. During administration of the DIS, these interviewers were unaware of the victimization history of respondents until the last portion of the interview that assessed with PTSD. Since the PTSD diagnostic criteria were specifically linked to the previously evaluated assault incidents, it was impossible for the interviewers to remain blind to victimization status for this portion of the DIS interview.

Nonvictims of crime were not assessed for PTSD since by the definition used in the study, they could not have it.

Based upon the information gathered with the IRI, incidents of sexual assault that occurred prior to the age of 18 years were labeled as child sexual assaults. Each child sexual assault was categorized as a Rape, Molestation, or Noncontact sexual assault according to its behavioral characteristics. Incidents were classified as Rape if there had been sexual penetration of the victim's vagina, anus, or mouth by the perpetrator's penis, or sexual penetration of the victim's vagina by the perpetrator's finger or an object. Incidents were categorized as Molestation if there had been actual physical sexual contact between the perpetrator and the victim, but sexual penetration did not occur. Noncontact sexual assault was defined as some form of sexually victimizing interaction that did not involve sexual penetration or actual physical sexual contact. These incidents included acts such as sexual exposure of the genitals, voyeurism, overt verbal threats of sexual assault, or being forced to watch pornography.

## Results

### Prevalence of child sexual assault

Of the 391 women in the sample, 131 (33.5%) had been victims of at least one form of sexual assault prior to the age of 18. Comparisons of these victims and the 280 nonvictims on demographic characteristics are reported in Table 1. The only significant demographic difference between the victim and nonvictim groups was on age at the time of the interview, with the victim group having a slightly smaller average age ( $t(282.4) = 1.99, p < .05$ ). Nearly one-quarter (24.6%) of the women had experienced a physical contact child sexual assault (i.e., rape or

molestation); 15.6% had been the victims of molestation; and 10% had suffered a child rape. Twelve percent of the sample had been victims of a noncontact assault.

The 131 victims reported a total of 167 child sexual assaults. Two-thirds (67.7%) of these assaults involved some type of physical sexual contact and 27.5% were rapes. Approximately one out of five of the incidents described (19.4%) were series rather than single assaults, and reports of rape were significantly more likely to be about series assaults than were reports of molestation or noncontact child sexual assault. Of the 46 cases of rape described by the respondents, 42.1% were series assaults. Only 14.1% of the molestation incidents and 5.4% of the noncontact assaults were series incidents ( $\chi^2(2) = 18.3, p < .001$ ).

Respondents described 139 of these child sexual assaults as either their first or worst criminal victimization, and more complete descriptive information was gathered about them. Table 2 describes the relationship of the perpetrator to the victim in these 139 incidents. Complete strangers were the perpetrators in less than 15% of the assaults and only 7.2% were committed by fathers or stepfathers. Nearly four out of every five of the assaults were committed by nonrelatives who were known to the victims or by relatives other than fathers. Complete strangers were more likely to commit noncontact abuse; fathers and stepfathers were more likely to commit rape; and other relatives were more likely to commit molestation and rape ( $\chi^2(6) = 12.9, p < .05$ ).

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Insert Table 2 about here

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Some sort of weapon was used in only 2.2% of the assaults. However, 12.2% of the victims thought they might be killed or seriously injured during the assault, and during the 102 assaults involving physical contact (i.e., molestation or rape), 8.8% of the victims suffered some sort of physical injury. The average age of the victims at the time of their first child sexual assault was 11.4 years ( $SD = 4.0$ ), and the average time between their first child sexual assault and the assessment interview was 29.1 years ( $SD = 14.9$ ). According to the victims, only 5.7% of the incidents were reported to the police or other authorities.

#### Mental disorders

For the analysis of the prevalence of mental disorders, respondents were grouped according to the type of child sexual assault they had experienced. Victims of more than one child sexual assault were categorized according to the most serious type of incident they had experienced using a hierarchy of rape, molestation, and noncontact. This procedure resulted in four mutually exclusive groups: Rape, Molestation, Noncontact, and Nonvictims. It should be noted that the Nonvictim group was composed of women who had not been the victims of any type of sexual assault prior to age 18. However, many of the women in this group had been the victims of other forms of crime (e.g., aggravated assault, robbery, burglary), and many had experienced sexual assaults in adulthood.

Table 3 contains results from the DIS describing what percentage of the women in each of the four groups had ever in their lifetimes met DSM-III diagnostic criteria for each of the assessed mental disorders. In addition, the percentage of women who had ever had significant symptoms of psychosis, suicidal ideation, or made suicide attempts is reported. An overall chi

square test was conducted for each of the eight disorders and the three symptoms to test for group differences based upon the a priori hypotheses described above. Except for PTSD, follow-up two-group chi square tests comparing each of the three victim groups to the nonvictim group were conducted for disorders where the overall chi square test was statistically significant. Victim groups that were significantly different from the Nonvictim group according to these follow-up tests were then compared to one another. Since by definition the Nonvictims could not have PTSD related to a child sexual assault, the Rape and Molestation groups were compared to the Noncontact group in that follow-up analysis.

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Insert Table 3 about here

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Results of overall chi square tests indicated that there were significant differences between the four groups on lifetime prevalence rates for all disorders except Panic Disorder and Simple Phobia. There were also significant group differences on suicidal ideation and suicide attempts, but not on symptoms of psychosis. Follow-up analyses indicated that the Rape group had significantly higher lifetime prevalence rates than the Nonvictim group for Major Depressive Episode, Agoraphobia, Obsessive-Compulsive Disorder, Social Phobia, Sexual Disorders, suicidal ideation, and suicide attempt. Molestation victims were at greater risk than Nonvictims for Major Depressive Episode, Obsessive-Compulsive Disorder, Sexual Disorders, suicidal ideation and suicide attempt. Unexpectedly, there were no significant differences in lifetime prevalence rates for any disorder between the Noncontact and Nonvictim groups. Members of

both the Rape and Molestation groups were more likely to have ever suffered from PTSD than victims of Noncontact assault. There were no differences between the Rape and Molestation groups on any diagnosis except PTSD, where rape victims were nearly twice as likely as molestation victims to have met diagnostic criteria.

Risk ratios on the various disorders for members of the Rape group compared to the Nonvictim group ranged from a 50% greater risk for Sexual Disorders to over a six times greater risk for Obsessive-Compulsive Disorder. Child rape victims were five times more likely than nonvictims to have had Agoraphobia, four times more likely to have had Social Phobia, and had a 75% greater risk for Major Depressive Episode. Victims of molestation were four and one half times more likely to have had Obsessive-Compulsive Disorder than nonvictims. They also had a 65% greater risk for Major Depressive Episode and a 40% greater risk for Sexual Disorders. Nearly two-thirds of the child rape victims and one-third of the molestation victims had suffered from PTSD. Victims of child rape and molestation had a 50% greater risk for suicidal ideation and were nearly three times more likely than nonvictims to have actually made a suicide attempt at some time in their lives. Therefore, they were more likely than nonvictims to have considered suicide, and more likely to have attempted it if they had thought about it.

Table 4 reports the percentage of women in each of the four groups who met diagnostic criteria for the mental disorders at the time of the assessment interview. The same analysis strategy described above was used with these data. There were significant group differences on Major Depressive Episode, Agoraphobia, Panic Disorder, Obsessive-Compulsive Disorder, Social Phobia, and Sexual Disorders. There were no significant group differences on Simple Phobia,

PTSD, symptoms of psychosis or suicidal ideation. Follow-up tests indicated that at the time of the interview, victims of child rape were more likely than nonvictims to have Agoraphobia, Panic Disorder, Obsessive-Compulsive Disorder, and Social Phobia. In addition over one sixth of the child rape victims met criteria for PTSD at the time of the interview. Significantly more members of the Molest group than Nonvictims had Major Depressive Episode, Obsessive-Compulsive Disorder, and Sexual Disorders. Unlike the negative lifetime prevalence findings, more members of the Noncontact child sexual assault group than the Nonvictim group had Major Depressive Episode at the time of the interview.

Members of the child Rape group were four times more likely than Nonvictims to have Social Phobia; four and one-half times more likely to have Obsessive-Compulsive Disorder; and five times more likely to have Panic Disorder. The most striking finding in this analysis was that victims of child rape were 16 times more likely to meet diagnostic criteria for Agoraphobia than were nonvictims. Surprisingly, rape victims were not over-represented on Major Depressive Episode. However, members of the Molest and Noncontact groups were three times more likely to have Major Depressive Episode than were nonvictims. Molestation victims were also twice as likely to have a Sexual Disorder. These results should be considered in light of the fact that the average length of time between the first child sexual assault and the interview was nearly 30 years.

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Insert Table 4 about here

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Table 5 describes the percentage of women who met diagnostic criteria for each disorder at the time of the interview who were in each child sexual assault group category. Figures for each diagnosis can be compared to the child sexual assault group membership distribution for the entire sample to determine the degree to which types of victims are over-represented on certain diagnoses. The important clinical question answered by this table is, if someone met diagnostic criteria at the time of the interview, what was the likelihood that she had been the victim of child sexual assault? For example, at the time of the assessment interview, 20 women met diagnostic criteria for Major Depressive Episode. Twenty percent of these 20 women ( $n = 4$ ) were in the Noncontact group, 30% were in the Molest group, 10% were in the Rape group, and 40% were in the Nonvictim group. Of all the women who had Major Depressive Episode at the time of the interview, 60% had been victims of child sexual assault. Therefore, if a respondent meets diagnostic criteria for Major Depressive Episode, there is a 60% chance that she has been the victim of a child sexual assault.

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Insert Table 5 about here

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These percentages can be compared to the prevalence distribution of child sexual assault in the total sample presented in the first line of the table. The overall chi square test indicates if the percentage distributions are significantly different. Since these are the same chi square tests presented in Table 4, the significant differences are the same. For example, of the 9 women meeting criteria for Agoraphobia, 5 (55.5%) were child rape victims. These figures are

in contrast to a prevalence rate for child rape in the total sample of 10%. These figures suggest that if a woman meets diagnostic criteria for Agoraphobia, there is a 50% chance that she has been the victim of child rape.

#### Discussion

According to the lifetime prevalence rates found in this study, child sexual assault is not uncommon, affecting approximately one-third of women. Sexual assault involving physical contact was experienced by one-quarter of the women, and one out of 10 of the women had been victims of child rape. The prevalence rates found in this study were generally consistent with other studies that used similar samples, operational definitions, and victimization screening methods with the exception of the Stein et al (1988) study which found a much lower rate of 6.8%. This exception most likely is due to the one-question screening procedure and large proportion of Hispanic respondents (who have a significantly lower prevalence rate for child sexual assault than Whites) used in that study. These findings support the conclusion that child sexual assault is not at all rare, and that a substantial proportion of women have been victims of very serious forms of child sexual assault.

The mental disorder prevalence results confirmed many of the hypotheses, but did not support others. The overall hypothesis that victims of sexual assault during childhood are at greater risk than are nonvictims for developing major mental disorders was supported in part. Specifically, the hypotheses that victims of rape and/or molestation during childhood are at substantially increased risk for developing Major Depressive Episode, several of the anxiety disorders, and sexual disorders were supported. Furthermore, they are more likely than

nonvictims to have thought about suicide and to have attempted suicide. Hypotheses predicting increased risk of mental disorders for victims of noncontact abuse were not supported. The best overall conclusion from these results is that among women, rape and molestation are significant risk factors for mental disorders, but noncontact sexual assault is not. This finding suggests that actual physical sexual contact is an important contributing factor to more severe mental health effects in cases of child sexual assault.

The magnitude of the increased mental health risk is considerable and striking. Lifetime risk ratios ranged from 1.5 for Major Depressive Episode to 6.7 for Obsessive-Compulsive Disorder. Risk factors for anxiety disorders appear to be especially high. For Agoraphobia, the percentage of child rape victims who met diagnostic criteria at the time of the assessment interview was 16 times greater than the percentage of nonvictims. These results are consistent with the reports of Murphy et al (1988) on the same sample indicating that child sexual assault victims score higher on standardized measures of anxiety and obsessive-compulsive symptoms. For the high population base rate disorders, such as Major Depressive Episode and sexual disorders, the increased risk was limited due to a ceiling effect, but still substantial. While victims were expected to be over-represented for each diagnosis, such high prevalence risk factors were not anticipated.

The proportion of victims with PTSD is also of note since, by definition, this disorder is directly related to a traumatic event. Two-thirds of the rape victims and one-third of the molestation victims had suffered from PTSD at some point in their lives. A surprising finding

was that over one-sixth of the rape victims met diagnostic criteria for PTSD an average of nearly 30 years after the initial assaults.

These findings imply that child sexual assault is not only a problem of personal tragedy, crime, violence, and morality, but it is also a very serious public health problem. It is a significant and preventable mental health risk factor that occurs in one-third of all women. Child sexual assault has serious psychological consequences that, for a significant proportion of victims, persist for many years after the traumatic events.

This study had several limitations that should be considered when interpreting the findings. First, the limits of retrospective, associational, risk factor research must be acknowledged. This design does not permit the attribution of causality to experiences of child sexual assault for mental disorders. While the correlational data are mounting, and child sexual assault clearly is a significant risk factor for several mental disorders, it may or may not have a direct etiological effect. There are a host of intervening and alternative factors that may account for the relationships found in this study. For example, child victims may suffer a higher degree of adult victimization; they may come from seriously dysfunctional families or social situations; or a severe assault may disrupt their development, all of which may place them at a higher risk. Therefore, caution should be used in interpreting these findings.

Second, though the sample for this study was drawn from a representative sample of Charleston County women, its representativeness is in question. The refusal rate and the possibility that women who refused to participate in the study may be considerably different from those who did is a problem. The known demographic differences between the samples were

relatively minor. Still, the sample should be considered conservatively as a divergent community sample rather than a representative one. It is clear that national studies using representative samples are called for to make more definitive statements about these issues.

A third problem is the fact that only selected major mental disorders were assessed. Obviously other disorders have been implicated in studies of child sexual assault, most notably, substance abuse and personality disorders. However, the length of the interview and self-report assessment protocol mandated that only a selected set of diagnoses be considered.

Finally, the issue of retrospective victimization screening is complicated by the adaptive responses used by some victims of child sexual assault. As noted by Briere (1989) and others, some victims deny or repress memories of their assaults in order to cope with the trauma. Some use dissociative mechanisms and may become amnesic about the events. In these situations, even behaviorally-specific, multi-question screening interviews are unlikely to detect victimization. Therefore, it is somewhat inevitable that some victims were not detected and, consequently, misclassified as nonvictims.

This study raises several clinical issues. First, increased efforts should be given to prevention and early intervention programs. The data imply that a certain percentage of cases of severe mental disorders might be prevented if child sexual assault were prevented or if appropriate interventions were made very soon after discovery. Early intervention is likely to inhibit the develop of further mental health problems and reduce their severity should they appear. Beyond these human benefits, there might also be substantial financial savings as a

by-product of effective prevention and early intervention programs. Lifetime mental health treatment costs would be reduced and the productivity of the affected women would increase.

Second, clinicians should make it a practice to screen clients for a history of child sexual assault with acceptable procedures (Saunders, Kilpatrick, Resnick, & Tidwell, 1989). The results indicate that it is important to determine the types of child sexual assaults of which women have been the victims. In particular, the presence of sexual penetration in the assault appears to be related to increased mental health problems.

Finally, clinicians should assess all detected victims for symptoms of PTSD related to child sexual assault. Among victims of child rape this disorder appears to be second only to sexual disorders in prevalence, and it is likely that it is under-diagnosed. It is also likely that in many cases, symptoms of PTSD are confused with those of other disorders because of a lack of knowledge of a clients' victimization histories. There is growing evidence of the effectiveness of certain treatments for victimization-related PTSD symptoms (e.g., Kilpatrick & Veronen, 1984; Kilpatrick & Amick, 1985; Kilpatrick & Calhoun, 1988; Olasov & Foa, 1987). Early identification of this disorder will enable the clinician to deliver appropriate treatment.

Future research should explore factors related to victims and incidents of child sexual abuse that are related to specific types of psychological problems and mental disorders. Kilpatrick, Saunders, Amick-McMullan, Best, Veronen, and Resnick (1989) have described victim and incident characteristics related to the development of crime-related PTSD. Similar studies are needed to determine factors associated with the development of specific mental disorders among victims of child sexual assault. Further, studies are needed to explicate the

bio-psycho-social mechanisms that tie experiences of child sexual assault to increased risk for mental disorders. Both retrospective and longitudinal studies designed to track the development of mental health problems among victims are needed.

Footnotes

<sup>1</sup>As noted by Finkelhor and Baron (1986, p. 88) the concept of "risk factor" indicates that there is a significantly greater likelihood that a particular disorder will develop in people who have the risk characteristic than in people who do not. Risk factors are present in individuals prior to the development of disorders, but are not assumed necessarily to be directly causal.

<sup>2</sup>Copies of the Incident Report Interview and the revised version of the Diagnostic Interview Schedule used in this study are available from the first author.

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## CHILD SEXUAL ASSAULT AS A RISK FACTOR

Page 31

Table 1

Demographic characteristics of the total sample and nonvictims and victims of child sexual assault

Characteristic	Total	Nonvictims	Victims
	n (%)	n (%)	n (%)
<u>Race</u>			
White	285 (72.9)	190 (73.1)	95 (72.5)
Black or Other	106 (27.1)	70 (26.9)	36 (27.5)
<u>Marital Status</u>			
Married	254 (65.0)	159 (61.2)	95 (72.5)
Div.-Sep.-Wid.	79 (20.2)	59 (22.7)	20 (15.3)
Never Married	58 (14.8)	42 (16.2)	16 (12.2)
<u>Education</u>			
less H.S. grad.	54 (13.8)	34 (13.1)	20 (15.3)
H. S. graduate	101 (25.8)	60 (23.1)	41 (31.3)
Some College	127 (32.5)	87 (33.5)	40 (30.5)
College grad.	109 (27.9)	79 (30.4)	30 (22.9)

Table 1 (continued)

Demographic characteristics of the total sample and nonvictims and victims of child sexual assault

Characteristic	Total	Nonvictims	Victims
	<u>n</u> (%)	<u>n</u> (%)	<u>n</u> (%)
<u>Employment</u>			
Unemployed	157 (40.2)	108 (41.5)	49 (37.4)
Employed-Student	234 (59.8)	152 (58.5)	82 (62.6)
<u>Income<sup>a</sup></u>			
\$0 - \$15,000	104 (27.4)	76 (30.3)	28 (21.9)
\$15,001 - \$25,000	102 (26.9)	61 (24.3)	41 (32.0)
\$25,001 - \$35,000	84 (22.2)	58 (23.1)	26 (20.3)
\$35,000 or more	89 (23.5)	56 (22.3)	33 (25.8)
Age [ <u>M</u> ( <u>SD</u> )] years	41.8 (14.3)	42.8 (14.8)	39.9 (13.3)*

<sup>a</sup>Income data was not available for 12 cases. Percentages are based on the number of valid cases. \* $p < .05$ .

Table 2

Relationship of perpetrator to victim by type of child sexual assault<sup>a</sup>

Perpetrator	Noncontact <u>n</u> = 37	Molest <u>n</u> = 64	Rape <u>n</u> = 38	Contact <u>n</u> = 102	Total <u>n</u> = 139
Complete stranger	24.3%	14.1%	5.3%	10.8%	14.4%
Known nonrelative	54.1%	50.0%	47.4%	49.0%	50.4%
Father-Stepfather	5.4%	3.1%	15.8%	7.8%	7.2%
Other relative	16.2%	32.8%	31.6%	32.4%	28.1%

<sup>a</sup>Based on a total of 139 child sexual assaults.

Table 3

Percentage of child sexual assault groups with lifetime history of mental health problems

Diagnosis	Noncontact $n = 35$	Molest $n = 57$	Rape $n = 39$	Nonvictims $n = 260$	$\chi^2$ <sup>a</sup> $df = 3$
Depression	34.3	45.6 <sup>*b</sup>	48.7 <sup>**</sup>	27.7	11.80 <sup>**</sup>
Agoraphobia	5.7	7.0	17.9 <sup>***</sup>	3.5	13.65 <sup>**</sup>
Panic Disorder	5.7	3.5	10.3	3.8	3.43
Obsess.-Compul.	2.9	10.5 <sup>**</sup>	15.4 <sup>***</sup>	2.3	17.27 <sup>***</sup>
Social Phobia	8.6	8.8	23.1 <sup>***</sup>	5.4	14.64 <sup>**</sup>
Simple Phobia	17.1	29.8	20.5	17.3	4.83
Sexual Disorders	54.3	63.2 <sup>**</sup>	66.7 <sup>**</sup>	44.2	11.99 <sup>**</sup>
PTSD	11.4	33.3 <sup>*</sup>	64.1 <sup>***</sup>	--	22.52 <sup>***</sup>
Psychosis	2.9	1.8	5.1	1.9	1.67
Suicide Ideation	31.4	31.6 <sup>*</sup>	35.9 <sup>*</sup>	19.6	8.61 <sup>*</sup>
Suicide Attempt	2.9	15.8 <sup>**</sup>	17.9 <sup>**</sup>	5.8	12.67 <sup>**</sup>

<sup>a</sup>Overall four group chi square test. <sup>b</sup>Follow-up chi square tests for the victim groups compared to the Nonvictim group, except for PTSD. For PTSD the Molest and Rape groups were compared to the Noncontact group. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 4

Percentage of child sexual assault groups who met diagnostic criteria at the time of the assessment interview

Diagnosis	Noncontact $n = 35$	Molest $n = 57$	Rape $n = 39$	Nonvictims $n = 260$	$\chi^2$ <sup>a</sup> $df = 3$
Depression	11.4* <sup>b</sup>	10.5*	5.1	3.1	8.54*
Agoraphobia	2.9	1.8	12.8***	0.8	22.03***
Panic Disorder	0.0	0.0	7.7*	1.5	9.49*
Obsess.-Compul.	2.9	8.8*	10.3**	2.3	9.20*
Social Phobia	5.7	3.5	15.4***	3.5	10.72**
Simple Phobia	17.1	24.6	20.5	16.2	2.45
Sexual Disorders	11.4	31.6**	25.6	16.2	9.68*
PTSD	5.7	8.8	17.9	--	2.28
Psychosis	2.9	1.8	0.0	0.4	3.54
Suicide Ideation	5.7	3.5	2.6	1.5	2.87

<sup>a</sup>Overall four group chi square test. <sup>b</sup>Follow-up chi square tests for the victim groups compared to the Nonvictim group. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 5

Percentage of respondents with a positive current diagnosis who were victims of child sexual assault

Diagnosis	Noncontact		Molest	Rape	Nonvictims		$\chi^2_{a}$
	n	n = 35	n = 57	n = 39	n = 260	df = 3	
Total Sample	391	9.0	14.6	10.0	66.5	--	
Depression	20	20.0	30.0	10.0	40.0	8.54*	
Agoraphobia	9	11.1	11.1	55.6**	22.2	22.03***	
Panic Disorder	7	0.0	0.0	42.9	57.1	9.49*	
Obsess.-Compul.	16	6.3	31.3	25.0	37.5	9.20*	
Social Phobia	19	10.5	10.5	31.6*	47.4	10.72**	
Simple Phobia	70	8.6	20.0	11.4	60.0	2.45	
Psychosis	3	33.3	33.3	0.0	33.3	3.54	
Sexual Disorders	74	5.4	24.3	13.5	56.8	9.68*	
PTSD	14	14.3	35.7	50.0	--	2.28	
Suicidal Ideation	9	22.2	22.2	11.1	44.4	2.87	

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

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