

AN ABSTRACT OF THE THESIS OF

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Title: A Comparison of Scores on the Post-traumatic  
Stress Disorder Subscale of Sexually Abused and  
Non-sexually Abused Female Adolescents

Abstract approved: Cooper B. Holmes

The present study investigated the potential utility of the Post-traumatic Stress Disorder (PTSD) Subscale from the Minnesota Multiphasic Personality Inventory (MMPI), found valid in diagnosing PTSD in war veterans and civilian trauma victims, in assessing sexual abuse trauma in female adolescents (ages 14 to 18). Mean scores on the PTSD subscale for three groups of female adolescent subjects were compared: 1) a sexual abuse group ( $N = 66$ ) comprised of sexually abused adolescents from an outpatient mental health center in Kansas, 2) a non-sexual abuse group ( $N = 22$ ) comprised of adolescents with no history of sexual abuse and a clinical diagnosis other than PTSD from outpatient mental health centers in Kansas, and 3) a normal group ( $N = 66$ ) comprised of adolescents with no history of sexual abuse or psychological disorders from Kansas.

The results of this study revealed that the sexual abuse group scored significantly higher on the PTSD

subscale than either the non-sexual abuse group or the normal group. Although statistically significant, the PTSD subscale showed poor clinical significance in that it failed to identify a history of sexual abuse in 47% of the sexual abuse group. The PTSD subscale was not a valid indicator of sexual abuse in this study. However, subjects who obtained high scores on the PTSD subscale tended to have a history of sexual abuse. In addition, a large variance in scores was observed for the sexual abuse group.

A COMPARISON OF SCORES ON THE POSTTRAUMATIC STRESS  
DISORDER SUBSCALE OF SEXUALLY ABUSED AND  
NON-SEXUALLY ABUSED FEMALE ADOLESCENTS

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A Thesis

Presented to

the Division of Psychology and Special Education  
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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science

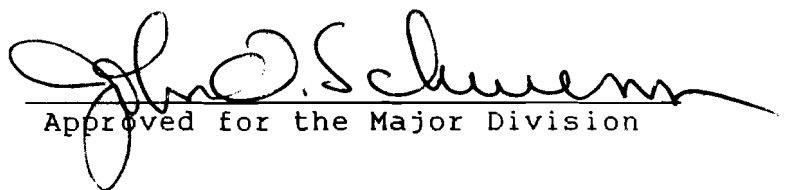
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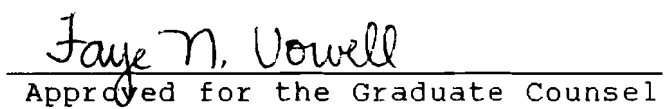
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The greatest gifts in life are not things, but people. I am reminded of this when I think of the individuals who have made this research project possible. To my committee members Dr. David Dungan, Dr. Cooper Holmes, and Dr. Loren Tompkins I express my sincere thanks for the time and guidance they have given throughout the project. I would like to share my great appreciation for Dr. Wes Jones, whose foresight and priceless contributions made this research project a reality. I would like to give my heartfelt thanks to Dr. Thomas Keith from Sterling College for believing in me and caring enough to push me when I needed it; without his influence I would not be in clinical psychology today. To my friends and family I would like to share my deepest gratitude for their continuous support and prayers. With all the love in my heart, I thank my husband who during this first year of our marriage has given so unselfishly of himself and whose unwavering love and encouragement have been a tremendous source of strength for me.

In addition, I would like to dedicate this research project to my mother and friends who have experienced the pain and suffering of childhood sexual abuse.

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## CHAPTER I

### INTRODUCTION

Sexual molestation of children has occurred since the earliest of times. However, only during the last 15 years have psychologists become increasingly aware of the negative long-term psychological impact sexual abuse can leave on its victim. The symptoms that often occur as a result of sexual abuse strongly resemble those experienced by war veterans diagnosed with post-traumatic stress disorder (PTSD) (Figley, 1985; Johnson, 1989; Kiser et al., 1988; Lipovsky, 1991; Lyons, 1988; Massie & Johnson, 1989; McLeer, Deblinger, Atkins, Foa, & Ralphe, 1988; Rowan & Foy, 1993; Wolfe, Gentile, & Wolfe, 1989). As a result, PTSD has become the most widely accepted model used to explain the trauma of sexual abuse.

Accurate diagnosis of the effects of the abuse is essential for effective treatment in preventing the development of more severe long-term psychological problems (Briere & Runtz, 1987; Browne & Finkelhor, 1987; Finkelhor, 1990; Lyons, 1988; Massie & Johnson, 1989; McLeer et al., 1988). However, the diversity and complexity of symptoms in PTSD and the ambiguous nature of sexual abuse have made accurate diagnosis difficult (Ettedgui & Bridges, 1985; Lipovsky, 1991; Lyons, 1988; McNally, 1991; Patten, Gatz, Jones, & Thomas, 1989;

Silver & Salamone-Genovese, 1991). Unfortunately, few instruments exist to aid the clinician in the psychological assessment of sexually abused children.

Historically, PTSD has been closely linked to trauma from military combat. For this reason, much research has been done on PTSD in veterans and in the development of instruments to aid in the psychological assessment of PTSD in veterans. The similarities in reactions of sexually abused children and combat veterans lead one to suggest that instruments found valid in diagnosing PTSD in veterans may have strong potential in assessing PTSD in sexually abused children.

### Literature Review

The incidence of sexual abuse appears to have grown dramatically over the last 15 years. However, sexual abuse has deep historical roots and is evidenced as far back as Greek mythology. In actuality the occurrence of sexual abuse has changed little (Feldman et al., 1991). What has changed is society's attitude toward the sexual abuse of children. Sexual abuse was once considered taboo and private, but today sexual abuse is viewed as something that is psychologically traumatizing and must be addressed to protect the welfare of children. The growing knowledge of the trauma caused by sexual abuse and the resulting increase in the reporting of sexual abuse have produced an overwhelming demand on clinicians

to diagnosis and treat sexually abused children (Powell & Wagner, 1991; Walker, 1990).

The symptoms that emerge after sexual abuse will frequently coalesce into a pattern that fits DMS-III-R criteria for PTSD (Figley, 1985; Johnson, 1989; Kiser et al., 1988; Lipovsky, 1991; Lyons, 1988; Massie & Johnson, 1989; McLeer et al., 1988; Rowan & Foy, 1993; Wolfe, Gentile, & Wolfe, 1989). In an examination of 31 sexually abused children in outpatient treatment, McLeer et al. (1988) found that 48% of the sample met clinical criteria for PTSD. Similar results were also observed by Kiser, Heston, Millsap, & Pruitt (1991) in which 55% of children and adolescents sexually and/or physically abused demonstrated clinical symptoms of PTSD. In addition, abused subjects who did not meet full criteria for PTSD showed more severe partial symptoms such as depression, delinquency, aggression, and overall maladjustment. Deblinger, McLeer, Atkins, Ralphe, and Foa (1989) compared samples of children with histories of sexual abuse, physical abuse, and no abuse from a clinical population. Results indicated sexually abused children experienced the highest rate of PTSD (21%) as compared to physically abused children (7%) and no-abuse children (10%). The low percentage of abused children meeting criteria for PTSD in the study may be largely due to their sole dependency on clinical records for

determination of abuse history. These studies lend support to PTSD as a common reaction in individuals who have experienced sexual abuse.

Post-traumatic stress disorder is defined by the following features in the DSM-III-R (1987). The key component of PTSD is the existence of a recognizable "stressor" in which the individual has experienced an event that is generally uncommon to usual human experience and would be distressing to almost anyone. The symptoms that often manifest as a result of sexual abuse trauma tend to fall within three clusters. The first symptom cluster involves reexperiencing the traumatic event through recurrent and distressing recollections, recurrent distressing dreams, and sudden acting or feeling as if the traumatic event was recurring. The second symptom cluster involves avoidance of stimuli and numbing of general responsiveness to the environment. Feelings of detachment or estrangement, a sense of a foreshortened future, a diminished interest in significant activities, a restricted affect, and an effort to avoid thoughts, feelings, and situations that are associated with the trauma may be experienced. The third symptom cluster involves increased arousal as indicated by sleep disturbances, hypervigilance, exaggerated startle response, increased irritability, physiological

responses to events that symbolize the trauma, and difficulty concentrating.

Symptoms of PTSD may have an immediate onset following the traumatic event or a delayed onset after a period of months or even years. However, duration of the symptoms must exceed one month or more to be diagnosable as PTSD. Symptoms can produce mild to severe impairment in children's ability to function in academic and social areas of their lives. Factors that effect the severity of symptoms are length of trauma, age of victim at time of trauma, how violent the abuse was, whether the victim played an active or passive role, previous victimizations, and condition of family relations (Browne & Finkelhor, 1987; Kiser et al., 1991; Massie & Johnson, 1989; McLeer et al., 1988; Patten, et al., 1989; Rowan & Foy, 1993; Walker, 1990; Wolfe et al., 1989). A child's level of development will largely determine how they experience the trauma and what symptoms of PTSD develop (Massie & Johnson, 1989). In many instances of sexual abuse, victimization is ongoing and may continue throughout childhood (Goodwin, 1988). Children may not understand the meaning of the abuse until they reach a certain level of developmental maturity at which they may experience the event as traumatic. It is not uncommon for children who are sexually abused at a young age to appear undisturbed,

but when they reach adolescence or adulthood to manifest symptoms of PTSD.

Systematic studies have shown clear evidence of the serious initial and long-term effects of childhood sexual abuse (Briere & Runtz, 1987; Browne & Finkelhor, 1987; Goodwin, 1988; Massie & Johnson, 1989; McLeer et al., 1988; Rowan & Foy, 1993; Wolfe et al., 1989). Browne and Finkelhor (1987) reviewed a large number of studies on the impact of sexual abuse and concluded that 46% to 66% of sexually abused children experience severe psychological effects. The most common initial reactions exhibited by sexually abused children are fear, depression, anger and hostility, guilt and shame, lower levels of self-esteem, eating and sleeping disturbances, inappropriate sexual behaviors, difficulties in school, delinquency, truancy, running away from home, drug abuse, and early marriage by adolescents.

In the majority of cases, sexual abuse of children goes undetected until adolescence when issues of developing sexuality and self-identity are prominent (Massie & Johnson, 1989). The pressures related to these developmental tasks combined with the unresolved sexual abuse experience can result in serious emotional and behavioral problems. Frequently, during adolescence, individuals come into contact with mental

health services for problems such as depression, delinquency, and sexual acting out are discovered to have hidden histories of sexual abuse and to be displaying symptoms of PTSD. Without identification of sexual abuse and appropriate intervention, symptoms may interfere with developmental progress and consequently produce long-standing dysfunctional patterns in emotional, interpersonal, and behavioral domains throughout adulthood (Lyons, 1988; Massie & Johnson, 1989; McLeer et al., 1988).

Empirical findings indicate that sexual abuse during childhood is associated with subsequent psychological impairment as an adult (Briere & Runtz, 1987; Browne & Finkelhor, 1987; Finkelhor, 1990; Massie & Johnson, 1989). The long-term effects of sexual abuse shown in adults include depression, anxiety, self-destructive behaviors, higher rates of suicide attempts, feelings of isolation and stigmatization, negative self-concepts, difficulties in interpersonal relationships and parenting, higher rates of revictimization, a tendency toward involvement with an abusive husband or partner, problems in sexual adjustment (for example, sexual dysfunction, promiscuity, and avoidance), higher rates of prostitution, and substance abuse. Lindberg and Distad (1985) studied 17 women who had experienced incest as children and found that all 17 met DSM-III

criteria for PTSD. To reduce the potential for further psychological damage of sexually abused children that often leads to a troubled adult life, effective treatment is critical. However, successful treatment depends on the accurate assessment of the effects of the abuse (Massie & Johnson, 1989).

The diversity and complexity of symptoms that result from trauma make accurate diagnosis of PTSD difficult (Lyons, 1988; Silver & Salamone-Genovese, 1991). PTSD symptoms in sexual abuse victims are commonly misdiagnosed as an adjustment disorder, major depression, or borderline personality disorder. (Lyons, 1988; Patten et al., 1989). Clinicians are often misled because the characteristics of PTSD in sexual abuse victims are also evident in other disorders. Some PTSDs experience perceptual disturbances that are easily misdiagnosed as psychotic. Frequently, depression in PTSD will also meet DSM-III-R criteria for depression (Ettegui & Bridges, 1985).

Earl (1991) investigated the diagnosis of 85 female adolescent inpatients diagnosed as borderline personality disorder who were not responding to treatment. Sixty of these adolescents were victims of sexual and/or physical abuse. Earl suggested that these adolescents were actually suffering from PTSD. Once treatment was directed toward treating PTSD, the



subjects improved significantly. The success of the treatment approach provided evidence for misdiagnosis. These adolescents did not have a disabling personality disorder, but were experiencing the effects of trauma.

The difficulty in accurately assessing PTSD in sexual abuse victims is attributable to the nature of the traumatic event itself. Sexual abuse is difficult to prove because physical evidence is often absent or ambiguous. Also, children may be unwilling or unable to describe their experiences (Lipovsky, 1991; McNally, 1991). For this reason, the use of reliable and valid psychological measures to aid in the diagnosis of PTSD is important. The clinician's diagnosis alone is often less reliable than a diagnosis based upon information gleaned from objective psychometric measures (Cannon, Bell, Andrews, & Finkelstein, 1987).

Although PTSD is the most widely used model to explain the impact of sexual abuse on its victims (Finkelhor, 1987), it has only been since the revised DSM-III was published in 1987 that the American Psychological Association recognized and included criteria for the diagnosis of PTSD in sexually abused children. Historically, PTSD has been closely linked to trauma from military combat. Research on the development of techniques for assessing PTSD has almost exclusively centered around combat veterans. As a

result, methods presently used to assess PTSD in children have received inadequate research attention and are plagued with extensive problems (McNally, 1991; Rowan & Foy, 1993).

Three categories of instruments exist for assessing PTSD: the structured interview, which requires considerable time and training; inventory scales; and a combined structured interview and questionnaire (Watson, 1990). The most popular method is the structured interview. However, the serious failing of this method is that it relies solely on children's verbalization of symptoms and experiences (Lipovsky, 1991). In addition, most inventory scales used to assess PTSD in children and adolescents do not measure the full range of PTSD symptoms (McNally, 1991). More research is needed on existing instruments now used with children for evaluating PTSD before they can be used with confidence (Lipovsky, 1991). A greatly overlooked area of excellent promise is the investigation of the potential of methods found successful in assessing PTSD in adults for use in assessing PTSD in children.

The ideal method for assessing PTSD in sexually abused children is an objective psychometric inventory. Objective psychometric inventories have advantages over other methods used to assess PTSD because they are time efficient, less cumbersome, economical, empirically

supported, do not rely on verbalization of symptoms, and have the potential for comparing symptoms within and across symptom clusters and disorders (Sutker, Bugg, & Allain, 1991). The ideal psychometric measure is one that can be researched and incorporated into a commonly administered psychological test with established reliability and validity for the detection of PTSD (Silver & Salamone-Genovese, 1991).

One psychometric inventory that clearly stands out in its potential for use with sexually abused children, ages 14 to 18, is the PTSD subscale for the Minnesota Multiphasic Personality Inventory (MMPI) developed by Keane, Malloy, and Fairbank (1984). The PTSD subscale is composed of 49 items that were endorsed significantly different by veterans diagnosed with PTSD and veterans diagnosed with a disorder other than PTSD. Keane et al. found the optimal cut-off score of 30 resulted in the correct classification of 82% of PTSD veterans in both validation and cross-validation subjects. Research has demonstrated that the reactions caused by the trauma of sexual abuse strongly resemble the reactions of many veterans to their experiences of war (Goodwin, 1988; Rowan & Foy, 1993). The similarity of reactions provide strong support for the potential validity of the PTSD subscale in accurately assessing trauma in sexually abused adolescents. The PTSD subscale also utilizes the

MMPI which remains a commonly used psychological test with adolescents from ages 14 to 18. The Keane et. al PTSD Subscale is the most well-researched and widely used instrument in the assessment of PTSD in combat veterans (Litz et al., 1991).

Watson, Kucala, and Manifold (1986), in a cross-validation study, showed that the PTSD subscale significantly differentiated PTSD veterans from psychologically healthy veterans at a correct identification rate of 80.5%. However, the scale was less sensitive with a 63% correct identification rate in diagnosing PTSD from other psychiatric disorders. An overlap may account for this lack of sensitivity as some subjects with PTSD may concurrently have other disorders and symptoms of PTSD that are also shared with other disorders.

Cannon et al. (1987) looked at the correspondence between the PTSD subscale and the clinical diagnosis of PTSD and also the subscale's utility in discriminating PTSD from other psychiatric disorders. Results were consistent in supporting the ability of the PTSD subscale as a reliable measure in relation to the clinical diagnosis of PTSD (76%). The PTSD subscale showed "sensitivity" in identifying subjects with PTSD and "selectivity" in distinguishing PTSD from other disorders. However, Cannon et al. found a high false

negative rate. Seventy-four percent of subjects who scored high on the PTSD subscale did not receive a clinical diagnosis of PTSD. Two possible reasons for this finding were the questionable reliability of the clinical diagnosis (based on clinical records) and the low base rate of PTSD subjects in the study.

The appearance of the PTSD subscale leaves the impression that items do not accurately measure DSM-III-R criteria for PTSD. A study conducted by Watson, Juba, Anderson, and Manifold (1990) demonstrated that the PTSD subscale not only correlated significantly with each of the individual symptoms of the DSM-III-R PTSD criteria, but also the subscale correlated significantly with all four symptom clusters of PTSD ( $r = .46$  to  $.67$ ,  $p < .0005$ ): history of trauma, trauma reexperiencing, numbed responsiveness, and increased arousal ( $r = .40$  to  $.69$ ,  $p < .05$ ). Correlations for all symptoms were generally equal and correlations for the symptom clusters of trauma reexperiencing, numbed responsiveness, and increased arousal were also similar. The correlation for traumatic history was lower, suggesting the PTSD subscale is less sensitive as a measure of trauma history and more effective as a measure of PTSD symptoms. These results support the moderate accuracy of the PTSD subscale in distinguishing PTSD from other psychiatric disorders and the subscale's

high accuracy in distinguishing PTSD subjects from well-adjusted subjects.

Results similar to this study were also found by McFall, Smith, Roszell, Tarver, and Malas (1990).

McFall and associates advocate the usefulness of the PTSD subscale as an index of PTSD symptom severity for clinical and research purposes. Several other studies have also found the PTSD subscale for the MMPI to be a valid measure in distinguishing combat veterans with PTSD from various veteran comparison groups, but with lower rates of accuracy than reported by Keane et al. (Blanchard, Wittrock, Kolb, & Gerardi, 1988; Silver & Salamone-Genovese, 1991; Sutker et al., 1991).

This substantial body of research offers support for the validity of the PTSD subscale in diagnosing PTSD in combat veterans. Once a method used to diagnose PTSD is determined to be reliable and valid, the instrument can be used as a research tool to study PTSD's unique nature and the consistency of symptoms across different groups of trauma victims over time (Sukter et al., 1991). However, only a few studies have investigated the PTSD subscale's utility in diagnosing PTSD in other trauma groups. Future research should address this issue (Koretsky & Peck, 1990; Sutker et al., 1991; Watson, 1990; Watson et al., 1990).

Koretzky and Peck (1990) focused on the use of the

PTSD subscale with civilian trauma victims (victims of violent crime, industrial accidents, and transportation accidents). The PTSD subscale correctly identified PTSD in 87% of the validation group and 88% of the cross-validation group. These results strongly support the use of the PTSD subscale for assessing PTSD in civilian trauma victims. Koretzky and Peck speculated that the diagnosis of PTSD among civilian trauma victims may be easier and more accurate than with combat veterans.

#### Statement of Problem

Presently, there are no published research studies on the utility of the PTSD subscale in assessing sexual abuse trauma. Therefore, the next step is clear. Research must commit itself to investigating the utility of the PTSD subscale in distinguishing PTSD in sexually abused adolescents.

#### Statement of Significance

If the PTSD subscale proved to have validity in identifying PTSD in sexually abused adolescents, then the cloud of ambiguity and uncertainty that surrounds the assessment of sexual abuse trauma would be made clearer. This would allow clinicians to diagnosis sexual abuse trauma with more confidence and accuracy, and to provide more effective treatment. Besides being more accurate, the PTSD subscale utilizes the MMPI, a commonly administered psychological test used in the

assessment of adolescents, making the PTSD subscale more time efficient, economical, and supported by a wealth of empirical tradition. With the PTSD subscale, clinicians would be able to better meet the high demands placed on them for assessing and treating sexual abuse trauma in an increasing number of sexually abused female adolescents.

The PTSD subscale not only holds excellent potential for use in mental health settings, but also in research on PTSD. The PTSD subscale, found valid in identifying PTSD in victims of war, natural disasters, accidents, and perhaps sexual abuse, may be the key that will enable researchers to directly compare the quality of reactions to different traumatic events. Application of the PTSD subscale with sexually abused female adolescents would allow one to investigate the consistency of human psychological and physiological reactions across different types of severe stressors. Also, the PTSD subscale may provide researchers with an opportunity to study the variability of traumatic reactions within sexual abuse victims. It is evident that research with the PTSD subscale would lead to a greater understanding of the trauma of sexual abuse and the nature of PTSD.

#### Statement of Purpose

The present study was designed as a preliminary



investigation of the potential use of the PTSD subscale with sexually abused adolescents and to determine if further study is warranted. This was investigated by comparing mean scores on the PTSD subscale of sexually abused female adolescents and non-sexually abused female adolescents from a clinical population, and non-sexually abused female adolescents from a non-clinical population. Specifically, it was hypothesized sexually abused female adolescents from a clinical population would score significantly higher on the PTSD subscale than female adolescents with no history of sexual abuse and a diagnosis other than PTSD from a clinical population and female adolescents with no history of sexual abuse from a non-clinical population.

## CHAPTER II

## METHOD

Sample

This study compared groups of subjects from three target populations. Only female adolescents 14 to 18 years of age were included in the study, with a total of 154 subjects.

A sample of 66 sexually abused female adolescents referred to a community outpatient mental health center for treatment of sexual abuse trauma were drawn to represent sexually abused female adolescents from a clinical population. For purposes of this study, sexual abuse was defined as coerced or forced sexual behavior imposed on a child by someone 5 years or older than the child. Selection of subjects to the sexual abuse group included all female adolescents referred to the Mental Health Center of East Central Kansas for treatment of sexual abuse and were administered the Post-traumatic Stress Disorder (PTSD) Subscale as part of psychological screening before treatment as recorded in clinical records.

A sample of 66 female adolescents from the Midwest who had never received psychological services was drawn to represent "normal" female adolescents with no history of sexual abuse or psychological disorders. Subjects for the normal group were female adolescents from

Emporia, Ellinwood, and Northern Heights High School in Kansas who reported no history of mental health services. Both the adolescent and a parent or legal guardian gave informed consent to participate in this study.

A sample of 22 female adolescents from mental health centers in the Midwest who had not experienced sexual abuse and were receiving psychological services for a disorder other than PTSD was drawn to represent female adolescents with no history of sexual abuse or PTSD from a clinical population. Subjects for the non-sexual abuse group were female adolescents referred to the 17 participating mental health centers in Kansas whose clinical records and/or therapists indicated no history of sexual abuse and were currently receiving treatment for a psychological disorder(s) other than PTSD. Both the adolescent and a parent or legal guardian gave informed consent to participate. Adolescents with no sexual abuse history, but whose therapists or records suggested a strong possibility of sexual abuse, were excluded as potential subjects from this group.

### Instrument

The PTSD subscale developed by Keane et al. (1984) consists of 49 items from the Minnesota Multiphasic Personality Inventory (MMPI) found to discriminate

Vietnam combat veterans with PTSD from Vietnam combat veterans with other psychiatric disorders. The PTSD subscale has also shown validity in distinguishing PTSD veterans from well-adjusted veterans and in assessing PTSD in civilian trauma victims. As discussed in chapter one, the PTSD subscale is the most well-researched and supported instrument in the assessment of PTSD in veterans. To date no reliability studies on the PTSD subscale have been reported.

#### Procedure

The PTSD subscale for the sexual abuse group was collected from clinical records. All subjects in the sexual abuse group were administered the PTSD subscale by the same experienced psychologist in Children's Services as a part of psychological screening before treatment for sexual abuse trauma. To insure accuracy, the PTSD subscale was rescored for each subject.

The PTSD subscale for the normal group was administered by the researcher in two settings. Fifty-six subjects were tested in a private home setting. This testing arrangement increased participation because of convenience for subjects and also provided the best opportunity to secure informed consent from the adolescents' parents or legal guardians. Ten subjects were tested during a psychology class at Northern Heights High School. All aspects of test administration

for subjects in the class setting were the same as in the private home setting, except for the location of testing and size of group. Also, parent consent was not required, because all subjects were 18 years of age.

After obtaining signed informed consent from subjects and parents or legal guardians, consent forms were removed and placed in a separate envelope to insure subjects' names would never be connected to their completed PTSD subscales. This procedure was executed to strengthen the subjects' awareness of the anonymity of their answers and to increase accuracy in responses. Administration of the PTSD subscale followed the standardized format outlined for use with the MMPI. All subjects were given identical instructions for filling out the subscale. To give subjects privacy, the researcher, when possible, left the room and returned only when subjects had placed their completed subscale in an envelope as directed. However, in all cases subjects were seated in a position for testing that allowed them privacy in answering items on the PTSD subscale. In order to determine if subjects in this group had a history of psychological problems, an additional question was included on the PTSD subscale that asked if they had ever received mental health services. Subjects who indicated they were presently receiving or had received mental health services were

excluded from the normal group.

The PTSD subscale for the non-sexual abuse group was administered by subjects' therapists ( $N = 15$ ) or the researcher ( $N = 7$ ) on site at the outpatient mental health centers. The 17 participating outpatient mental health centers in Kansas were sent testing packets that included informed consent forms, PTSD subscales, instructions for administration, and an addressed stamped envelope for returning completed questionnaires to the researcher. In order to maintain consistency across groups, clear guidelines identical to those followed for the normal group were provided for introducing the study, obtaining informed consent for adolescents and parents or legal guardians, and administering the PTSD subscale. Only 8 out of the 17 outpatient mental health centers provided subjects for the non-sexual abuse group. Mental health centers indicated the outcome was due to the extremely small number of adolescents who were in treatment and had not been sexually abused.

Each subject's score on the PTSD subscale was calculated using the procedures outlined by Keane et al. (1984). A subject received one point for each question answered in the scored direction for a possible total score of 49 points. A cut-off score of 30, as proposed in the original study on the PTSD subscale by

Keane et al. (1984), was used to indicate subjects displaying symptoms of PTSD.

## CHAPTER III

## RESULTS

In order to compare mean group scores on the Post-traumatic Stress Disorder (PTSD) subscale a one-way ANOVA was utilized. The Score by Group analysis (see Table 1) demonstrated a significant difference in group mean scores obtained on the PTSD subscale ( $F = 46.13$ ,  $p < .0001$ ). As expected, a follow-up Tukey-HSD test revealed that the sexual abuse group ( $M = 30.41$ ,  $SD = 10.25$ ,  $N = 66$ ) scored significantly higher than either the non-sexual abuse group ( $M = 18.95$ ,  $SD = 8.70$ ,  $N = 22$ ) or the normal group ( $M = 15.44$ ;  $SD = 8.02$ ,  $N = 66$ ). The difference between mean scores for the two latter groups did not reach significance.

Of the sexual abuse group, 53% met the cut-off decision rule for classification of PTSD (score of 30 or over). However, only 9% of the non-sexual abuse group and 5% of the normal group met the classification rule for PTSD on the subscale.



Table 1

ANOVA Summary of Comparison of Scores by Group

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Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Score by Groups	7692.19	2	3846.10	46.13	.0001
Within Groups	12589.17	151	83.37		
Total	20281.36	153			

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## CHAPTER IV

## DISCUSSION

The nature of sexual abuse and post-traumatic stress disorder (PTSD) has produced the need for an objective psychometric inventory to aid in the diagnosis of sexually abused adolescents. With this purpose, the present study investigated the potential utility of the PTSD subscale with sexually abused female adolescents that has previously been found to be valid in assessing PTSD in war veterans and civilian trauma victims.

Results from this study indicated the sexual abuse group had significantly higher mean scores on the PTSD subscale than the normal group and the non-sexual abuse group. Although statistical significance was obtained, the PTSD subscale showed little clinical significance when one considers it failed to identify a history of sexual abuse in 47% of the sexual abuse group. The PTSD subscale does not appear to be a valid indicator of sexual abuse history in female adolescents and performed little better than chance in this study.

However, these results also revealed that female adolescents in this study who scored high (over 30) on the PTSD subscale tended to have a history of sexual abuse. This tendency combined with the large variance in scores observed for the sexual abuse group suggests that the PTSD subscale may be showing sensitivity to

some factor(s) within the sexual abuse group.

Results from this study demonstrated that a large proportion of the sexual abuse group (53%) met the classification rule compared to only 9% of the non-sexual abuse group and 5% of the normal group. This finding is consistent with results from previous research on the rates of PTSD in sexually abused children and adolescents (McLeer et al., 1988; Rowan & Foy, 1993). Evidence from this study suggests that further empirical evaluation of the potential of the PTSD subscale in distinguishing between sexually abused female adolescents with PTSD and sexually abused adolescents with a disorder other than PTSD is warranted. Future evaluation of the PTSD subscale should focus on the scales diagnostic hit rate with sexually abused adolescents with PTSD and sexually abused adolescents diagnosed with a disorder other than PTSD.

The intent of this present study was to instigate future research on the validity of the PTSD subscale in diagnosing PTSD in sexually abused adolescents for both clinical and research purposes.

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**Appendix A**  
**Informed Consent Form**

## APPENDIX A

## Informed Consent Form

The Department of Psychology and Special Education at Emporia State University supports the practice of protection of human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. Your willingness to participate will allow valuable information to be collected that may otherwise be unavailable. You should be aware that even if you agree to participate, you are free to withdraw at any time.

The purpose of this study is to assess the activities, attitudes, and perceptions of 14 to 18 year old female adolescents. If you choose to participate you will be asked to fill out a short questionnaire, which will take approximately 20 minutes of your time. All names and data will remain confidential. To participate you must have a parent or legal guardian's signature.

"I have read the above statement and have been fully advised of the procedures to be used in this study. I also understand that I or my child can withdraw from the study at any time without being subject to reproach."

\_\_\_\_\_  
Parent/legal guardian's signature

\_\_\_\_\_  
Date

"I have read and understand the above statement and agree to participate in this study. Also, I have received written consent from a parent or legal guardian to participate in this study. I understand that I can withdraw from the study at any time."

\_\_\_\_\_  
Subject's signature

\_\_\_\_\_  
Date

**Appendix B****Post-traumatic Stress Disorder Subscale**

## APPENDIX B

## Post-traumatic Stress Disorder Subscale

There are no right or wrong answers. Clearly mark (T) for True or (F) for False. Please answer all questions as best as you can.

- (T) (F) 1. I have a good appetite.
- (T) (F) 2. I wake up fresh and rested most mornings.
- (T) (F) 3. My daily life is full of things that keep me interested.
- (T) (F) 4. Once in a while I think of things too bad to talk about.
- (T) (F) 5. I am sure I get a raw deal from life.
- (T) (F) 6. At times I have fits of laughing and crying that I cannot control.
- (T) (F) 7. No one seems to understand me.
- (T) (F) 8. I have nightmares every few nights.
- (T) (F) 9. I find it hard to keep my mind on a task or job.
- (T) (F) 10. I have had very peculiar and strange experiences.
- (T) (F) 11. At times I feel like smashing things.
- (T) (F) 12. Most any time I would rather sit and daydream than do anything else.
- (T) (F) 13. My sleep is fitful and disturbed.
- (T) (F) 14. I am a good mixer.
- (T) (F) 15. I have not lived the right kind of life.
- (T) (F) 16. I wish I could be as happy as others seem to be.
- (T) (F) 17. I am troubled by discomfort in the pit of my stomach every few days or more often.
- (T) (F) 18. Most of the time I feel blue.

- (T) (F) 19. I usually feel that life is worthwhile.
- (T) (F) 20. I do many things which I regret afterwards. (I regret things more or more often than others seem to).
- (T) (F) 21. At times I have a strong urge to do something harmful or shocking.
- (T) (F) 22. I don't seem to care what happens to me.
- (T) (F) 23. Much of the time I feel as if I have done something wrong or evil.
- (T) (F) 24. I am happy most of the time.
- (T) (F) 25. Often I feel as if there were a tight band around my head.
- (T) (F) 26. I believe that my home life is as pleasant as that of most people I know.
- (T) (F) 27. Sometimes I feel as if I must injure myself or someone else.
- (T) (F) 28. I have often lost out on things because I couldn't make up my mind soon enough.
- (T) (F) 29. Most nights I go to sleep without thoughts or ideas bothering me.
- (T) (F) 30. I have had periods in which I carried on activities without knowing what I had been doing.
- (T) (F) 31. I am afraid of losing my mind.
- (T) (F) 32. I frequently find myself worrying about something.
- (T) (F) 33. I dream frequently about things that are best kept to myself.
- (T) (F) 34. I am never happier than when alone.
- (T) (F) 35. I am so touchy on some subjects that I can't talk about them.
- (T) (F) 36. Once in awhile I think of things too bad to talk about.

- (T) (F) 37. I have had very peculiar and strange experiences.
- (T) (F) 38. At times I have fits of laughing and crying that I cannot control.
- (T) (F) 39. I easily become impatient with people.
- (T) (F) 40. I have certainly had more than my share of things to worry about.
- (T) (F) 41. Most of the time I wish I were dead.
- (T) (F) 42. I have strange and peculiar thoughts.
- (T) (F) 43. I hear strange things when I am alone.
- (T) (F) 44. Bad words, often terrible words, come into my mind and I cannot get rid of them.
- (T) (F) 45. Sometimes some unimportant thoughts will run through my mind and I cannot get rid of them.
- (T) (F) 46. Even when I am with people I feel lonely much of the time.
- (T) (F) 47. I tend to be interested in several different hobbies rather than stick to one of them for a long time.
- (T) (F) 48. Policemen are usually honest.
- (T) (F) 49. My plans have frequently seemed so full of difficulties that I have had to give them up.



**Appendix C**

**Mental Health Center Research Summary Proposal**

## APPENDIX C

## Mental Health Center Research Summary Proposal

## A Comparison of Scores on the PTSD Subscale of Sexually Abused and Non-sexually Abused Female Adolescents

Mental health service providers are well aware of the large numbers of sexually abused adolescents that come into contact with mental health centers for evaluation and treatment. Therapists are faced with the challenge of accurately diagnosing the effect of sexual abuse trauma on adolescents. Symptoms of sexually abused adolescents frequently coalesce into a pattern that meets DSM-III-R criteria for post-traumatic stress disorder (PTSD). However, the nature of sexual abuse and PTSD can make accurate diagnosis difficult. The most popular methods of diagnosing PTSD in sexually abused adolescents are standardized interviews. Not only are these methods time consuming, but they also rely on the ability to verbalize symptoms and adolescents are often unwilling or unable to do this. Therefore, therapists need a tool that is more reliable, time efficient, economical, and does not rely on the verbalization of symptoms to aid in the diagnosis of sexual abuse trauma. An instrument shown to be effective in distinguishing PTSD in other trauma groups, particularly war veterans, is the PTSD subscale. The PTSD subscale, composed of 49 questions from the MMPI, may have potential in screening for PTSD in sexually abused female adolescents.

This study is a comparison of scores on the PTSD subscale of sexually abused and non-sexually abused female adolescents receiving psychological services from a mental health center in the Kansas. Two target populations are of interest. One target population is female adolescents (age 14 to 18) receiving psychological treatment for sexual abuse trauma from mental health centers in Kansas. The other target population is female adolescents (age 14 to 18) who have no history of sexual abuse and are receiving psychological treatment for a disorder other than PTSD from mental health centers in Kansas.

I am requesting your center's participation in administering the PTSD subscale to 14 to 18 year old female adolescent clients who have no history of sexual abuse and are receiving psychological treatment for a disorder other than PTSD at your center. The PTSD subscale will take adolescent clients approximately 15 to 20 minutes to complete, depending on their reading

level. To insure confidentiality subjects' names are at no time connected to the completed questionnaire. Clear directions for administration of the PTSD subscale are provided. Conditions for testing should follow the same standardized format used for the MMPI, with all questionnaires being completed on site at your center.

The specific procedures for administering the PTSD subscale are at the discretion of the particular mental health center and may vary according to situational variables. However, one arrangement for administering the PTSD subscale that has worked well is to have clients stay 20 minutes after their appointment. This set up allows the therapist to use the last 5 minutes of the client's session to introduce the questionnaire, gain informed consent, and to provide instructions for filling out the questionnaire. Administration of the PTSD subscale requires little monitoring and once started the client can be left alone to complete the questionnaire. This can be done in an extra room where the client can just leave the questionnaire in the room when finished or at the front desk. This arrangement results in the least interruption of therapy time for both the client and therapist.

I am asking each mental health center to provide at least 10-15 subjects. However, if you could provide more than 10-15 that would be wonderful. Included in this packet are 15 PTSD subscales and consent forms, 5 sets of instructions for administration, and a pre-addressed stamped envelope for you to return the completed questionnaires to me. If you need more copies of the PTSD subscale, please make copies and I will reimburse your center. Please return completed questionnaires to me by April 1, 1994. Contact me if you need more time.

Each mental health center participating will receive a summary of the results of this study. If you feel your center will not be able to participate in this study, I would deeply appreciate you sending the testing packet back to me in the envelope provided.

Thank you for playing an important role in gathering this valuable information.

**Appendix D**  
**Instructions for PTSD Subscale Administration**

## APPENDIX D

## Instructions for PTSD Subscale Administration

Dear Mental Health Service Provider,

I am conducting research to compare scores on the post-traumatic stress disorder Subscale of sexually abused and non-sexually abused female adolescents receiving psychological services from mental health centers in Kansas. The research will be used for my master's thesis and is supported by the Mental Health Center of East Central Kansas and Emporia State University. Presently, I am trying to collect a sample of 14 to 18 year old female adolescents who have no sexual abuse history and are receiving psychological services at your center for a disorder other than post-traumatic stress disorder. However, to do this I need your assistance. I would sincerely appreciate it if you would have your female adolescent clients who fit the above profile complete the provided PTSD questionnaire.

Instructions for introducing the study and administering the subscale to clients:

### I. Introducing Study

A. The following information should be given regarding details of the study.

1. The purpose of the questionnaire is to assess the activities, attitudes, and perceptions of 14 to 18 year old female adolescents receiving services here at the mental health center.
2. The questionnaire will take approximately 15 minutes to complete.
3. A name will never be connected to the completed questionnaire. This is to insure complete confidentiality.
4. To participate informed consent must be obtained from both the parent or a legal guardian and the adolescent.

### II. Administration

A. Informed Consent Forms (Informed Consent Forms enclosed)

1. Have them read and sign the Informed Consent forms attached to the questionnaire.
2. Let them see you tear the informed consent sheet off of the questionnaire and place in the envelope. Tell them, "This is to insure that your name is not connected to your completed questionnaire".

B. PTSD Questionnaire

1. Read directions to them and insure they

understand what they are supposed to do. Emphasize there are no right and wrong answers and to answer all questions as accurately as possible.

2. Standard testing conditions - Give them as much privacy as possible and have them complete the questionnaire at your center.
3. When they have finished, encourage them to complete any questions left unanswered. If they do not understand what a certain question or word means they can be helped.

Thank you for your time and cooperation!  
Carol D. Pauls

TO: All Graduate Students Who Submit a Thesis or  
Research/Project as Partial Fulfillment of  
the Requirements for an Advanced Degree

FROM: Emporia State University Graduate School

I, Carol D. Lathrop-Pauls, hereby submit  
this thesis/report to Emporia State University as  
partial fulfillment of the requirements for an advanced  
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Signature of Author

7-27-94

Date

A Comparison of Scores on the Post-traumatic  
Stress Disorder Subscale of Sexually Abused  
and Non-sexually Abused Female Adolescents  
Title of Thesis/Research Project

Way Cooper

Signature of Graduate Office Staff Member

July 27, 1994

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