

Florida State University Libraries

Electronic Theses, Treatises and Dissertations

The Graduate School

2011

Gender Differences in Post-Trauma Symptoms and Trauma-Related Treatment Referrals in Juvenile Offenders

Jennifer L. Delrey



THE FLORIDA STATE UNIVERSITY

COLLEGE OF EDUCATION

GENDER DIFFERENCES IN POST-TRAUMA SYMPTOMS AND TRAUMA-RELATED
TREATMENT REFERRALS IN JUVENILE OFFENDERS

By

JENNIFER L. DELREY

A Dissertation submitted to the
Department of Educational Psychology and Learning Systems
in partial fulfillment of the
requirements of the Degree of
Doctor of Philosophy.

Degree Awarded:
Fall Semester, 2011

Jennifer L. DelRey defended this dissertation on October 31, 2011.

The members of the supervisory committee were:

Georgios Lampropoulos
Professor Directing Dissertation

Daniel Mears
University Representative

James P. Sampson, Jr.
Committee Member

Steven I. Pfeiffer
Committee Member

The Graduate School has verified and approved the above-named committee members, and certifies that the dissertation has been approved in accordance with university requirements.

Dedicated to Brooke; you are my inspiration and motivation for the advancement of
education.

ACKNOWLEDEMENTS

I would like to thank my husband, Manny, for always supporting all of my aspirations. Your love, patience, and encouragement have made this possible. I also want to thank my parents, Marcia and James Maloney, who always emphasized the value of education and provided me with access to every opportunity to pursue my ambitions. Also, thank you to my brother, Danny Maloney, for your clear-thinking perspective and quick wit when I needed them most. I would also like to thank my sister-in-law, Mary DelRey Mejia, for your gracious support and being my “cheerleader” throughout this process. Additionally, many heartfelt thanks to my dear friends and colleagues, Concetta Hollinger, Jacqui Pequignot, Dr. Linda Cavallero, Dr. Jessica Griffin, Dr. Josh Shifrin, and Dr. Marissa Brattole, for your good-humored support and thoughtful advice.

I also want to express my gratitude to the members of my doctoral committee, Dr. Steven I. Pfeiffer, Dr. James P. Sampson, Jr., and Dr. Daniel Mears, and my major professor, Dr. Georgios Lampropoulos. All of your support and guidance are truly appreciated. Dr. Lampropoulos, your support of my interests and promotion of my professional independent thinking have been much appreciated. Dr. Mears, I am grateful for the personal attention and generous amounts of time you have spent supporting the process of my dissertation. In particular, your willingness to teach me how to think about research in a broader context is a lesson I will carry with me throughout my career. I would like to extend special thanks to Drs. Sampson and Pfeiffer for your mentorship, outside of my doctoral committee, for nearly the last ten years. Dr. Pfeiffer, your clear love of teaching and mentoring students has been evident since our first meeting. Your balance of constructive feedback and supportive guidance have shaped and improved me as a professional, but also as a person. You have always allowed me to develop my own professional path, while offering me anchoring advice and the benefit of your experience. Dr. Sampson, your wisdom and selfless dedication to teaching have been invaluable to my experience as a graduate student. Your lessons have impacted me beyond the classroom and have contributed to my broader understanding of the world and how it impacts our work. Beyond your expertise as a professor, your personal kindness and generously supportive nature have been inspirations. I am grateful for the multiple ways you have supported me and my journey throughout the years. You have been a trusted mentor throughout the years and I am truly thankful.

TABLE OF CONTENTS

List of Tables	viii
Abstract	ix
1. Chapter One: Introduction	1
Social and Professional Significance	1
Importance of Study	2
2. Chapter Two: Literature Review	4
Introduction	4
Overview of Juvenile Delinquency	4
Theories of Juvenile Delinquency Development	5
<i>Garbarino's Theory of Violence</i>	5
<i>Differential Association Theory</i>	6
Trauma-Related Symptoms	6
Events Associated With Trauma	6
<i>Physical Abuse</i>	7
<i>Sexual Abuse</i>	7
<i>Neglect</i>	8
<i>Community Violence</i>	9
<i>Domestic Violence</i>	9
<i>Natural Disasters</i>	10
Differential Occurrence of Trauma Events	11
Occurrence of Trauma Events in Adolescents	11
Occurrence of Trauma Events in Juvenile Offenders	12
Gender Differences in the Occurrence of Trauma in Adolescent Juvenile Offenders	13
Reactions to Trauma	15
<i>Positive Adjustment to Trauma</i>	16
<i>Negative Adjustment to Trauma</i>	16
Adolescents' Reactions to Trauma	20
Juvenile Offenders' Reactions to Trauma	21

Gender Differences in Reactions to Trauma	22
Gender Differences in Traumatic Experiences and Emotional Reactions To Trauma in Juvenile Offenders	24
Availability of Treatment Services for Juvenile Offenders	26
<i>General Services</i>	26
<i>Symptom-Specific Services</i>	27
<i>Gender-Specific Services</i>	27
Gender Differences in Trauma-Related Treatment Referrals Among Juvenile Offenders	28
Critical Analysis of the Literature	29
<i>Research Outcomes</i>	29
<i>Gaps in Content</i>	30
<i>Research Questions</i>	31
 3. Chapter Three: Methodology	 32
Introduction	32
Purpose and Hypotheses	32
Participants	33
<i>Demographic Variables</i>	33
<i>Informed Consent</i>	35
<i>Instruments</i>	35
<i>Scoring, Validity, and Reliability</i>	37
Procedures	38
Data Analysis	39
Power Analysis	39
 4. Chapter Four: Results	 40
Research Question 1	40
Research Question 2	42

5. Chapter 5: Discussion	44
Demographic Descriptors	45
Analysis of Research Questions	45
<i>Research Question One</i>	45
<i>Research Question Two</i>	47
Policy and Practice Implications	48
<i>Implications For Policy</i>	48
<i>Implications For Clinical Practice</i>	49
<i>Implications For Courts</i>	49
Limitations	50
Suggestions for Future Research	51
APPENDIX A: IRB APPROVAL LETTER	53
REFERENCES	55
BIOGRAPHICAL SKETCH	62

LIST OF TABLES

Table 1. Demographics	34
Table 2. Demographics of Juvenile Offenders in Massachusetts	34
Table 3. Comparing mean scores between males and females for scaled scores on the TSCC	41
Table 4. Gender differences for youth in the referred group	41
Table 5. Gender differences for youth in the not referred group	42
Table 6. Comparison of whether or not referral was made by gender, with regard to presence or absence of clinically significant scale elevations on the TSCC	43
Table 7. Comparison of males and females on referral rates for those who showed any clinically significant scale elevations on the TSCC	43

ABSTRACT

Several studies have found that the juvenile offender population has higher rates of experiencing traumatic events than the general population of adolescents. It is approximated that 50% - 80% of adolescents involved with the juvenile justice system have experienced at least one traumatic event (Garbarino, 2001). Across disciplines, researchers generally agree that the risk of involvement with the juvenile justice system increases when a youth experiences a traumatic event (Maschi, 2006). The types of trauma experienced and reactions to trauma vary by gender, which requires examination. Little information is currently available in the literature regarding gender-specific treatment for trauma with the juvenile offender population, especially for males.

The present study examined the relationship between clinically significant symptoms related to trauma, as measured by the Trauma Symptom Checklist For Children (TSCC), and gender in a sample of male and female juvenile offenders. This study also examined the relationship between gender and the decision to refer juvenile offenders for trauma-specific mental health treatment. This study included 250 participants, aged 13 – 16 years, with documented histories of experiencing at least one traumatic event, and valid profiles on the TSCC, as judged by the validity scales of the measure. This study utilized archival data and included exclusively a probation sample of youth. The sample was gathered from the Metrowest area of Massachusetts.

The results indicate that female juvenile offenders are more likely to produce higher elevations on the Depression and Sexual Concerns scales of the TSCC, while male juvenile offenders are more likely to produce higher scores on the Anger scale. No significant differences were found by gender on the Anxiety, Dissociation or PTSD scales. Further, a Logistic Regression revealed that female juvenile offenders are more likely than males to be referred for trauma-related mental health treatment regardless of if they exhibit clinically significant trauma-related symptoms or not.

Keywords: *Trauma, Juvenile Offenders, Treatment Referrals, Gender Differences*

CHAPTER ONE: INTRODUCTION

The experience of trauma is a common event for youth in America, with 20-40% of youth being exposed to a traumatic event before the age of 18 (Gwadz, Nish, Leonard, & Strauss, 2007). Prior research suggests that male and females manifest post-trauma symptoms differently (Tolin & Foa, 2006). Several prior clinical writings have identified the importance of trauma-focused mental health treatment for juvenile offenders, but have mostly focused on females; no studies have specifically focus on trauma-based treatment for adolescent male juvenile offenders. The present study seeks to examine gender differences in symptoms associated with traumatic experiences in adolescents involved with the juvenile justice system and the frequency of referrals made for mental health treatment for male and female juvenile offenders. Additionally, prior studies have primarily used mixed measures, without gender comparisons. The present study will examine gender comparisons of post-trauma symptom presentations on a well-established measure, The Trauma Symptom Checklist For Children. The research questions to be examined in this study are: Q1: What are the gender differences on the Anger, Depression, Anxiety, Dissociation, Sexual Concerns, and PTSD scales of the Trauma Symptom Checklist For Children among youth involved with the juvenile justice system? Q2: What are the gender differences in the frequency with which adolescents who have experienced trauma and are involved with the juvenile justice system are referred for trauma-focused mental health services?

Social and Professional Significance

The social benefit of this study is what the literature commonly refers to as social justice. This study will address a population that is considered to be at-risk and in need of intervention. Professionally, the findings of this research will provide information about the trauma-related mental health symptoms exhibited by male and female juvenile offenders and examine the need for more specialized mental health treatment for this population, particularly male juvenile offenders. This study will lay the groundwork for further research related to the mental health of juvenile offenders, which will in turn help professionals learn how to intervene with this population.

This area of research is necessary due to the influx of juvenile offenders in recent years. Research has shown that one in five crimes committed in the United States is by a juvenile (Allen, 2002). Recent studies by Teplin, et al. (2005), indicate that over 104,000 youth are held

in juvenile facilities each day in America. Of these 104,000 detainees, approximately 15% have a major mental health disorder, classified as psychosis, major depression, or a manic episode (Teplin, et al., 2005). Longitudinal studies estimate that between two-thirds and three-fourths of youth in the correctional system suffer from more than one psychiatric disorder (Teplin, et al., 2005).

The prior research cited provides evidence for both the social and professional need for the present study. With the rates of crime being committed by youthful offenders on the rise every year in addition to the severity of the crimes, we need to know more about the mental health symptoms being suffered by these youth in order to intervene appropriately and effectively. Pajer, et al. (2007), noted the need for advocacy for juvenile offenders with mental health problems and the need for adequate treatment. This study will provide information about the specific mental health needs of male and female juvenile offenders with traumatic experiences, and the types of treatment currently available to them.

Social factors also play a role in forming the background of a juvenile offender. The incidence of child abuse and community violence is disproportionately high among youth who become violent criminal offenders (Garbarino, 2001). Approximately 63% of offenders in the juvenile justice system have been in the child protective system at least once (Wilbur, 2000). Given this information, the present study will address the issue of trauma in this population in order to determine the severity of the symptoms being experienced by these youth, thus laying the groundwork for research in intervention strategies. As mentioned earlier, at this time, trauma is less focused upon in the male offender population. However, prior research has shown that both boys and girls in the correctional system have likely experienced trauma during their lives.

Importance of the Study

This study will examine the need for trauma-based mental health services for youth involved with the juvenile justice system. The incidence of this population experiencing traumatic events continues to rise, but the call for services to meet the needs of the youth has not kept pace with the demand. Further, the impact of early trauma on future behavior has been widely reported in the literature, but the focus largely remains on female populations. This study can assist with providing information related to the incidence and impact of early trauma for male juvenile offenders. The results of the study will also provide knowledge of the types of

symptoms youth report, thus helping to guide recommendations for treatment and services in forensic settings. Finally, the results of this study can be useful in guiding public policy and the development of treatment programs for youth within the juvenile justice system. Currently, there are no studies available that directly address the need and scarcity of trauma-based mental health services for boys within the juvenile justice system.

With specific regard to implications for policy, this study will provide data to help guide the creation of mental health, trauma-focused prevention and intervention services for at-risk adolescent males, which is currently significantly lacking. Further, this study can be a contributory factor for future policy related to Judge's decisions to refer youth for mental health evaluation versus behaviorally-based commitment centers.

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter begins with an overview of the literature on juvenile delinquency, followed by a review of the literature in relation to the first question of the study. This includes a discussion of the theoretical bases for the present study, descriptions of the types of trauma commonly experienced by juvenile offenders, discussion of the differential occurrence of traumatic events, identification of reactions to trauma, and identification of common mental health symptoms associated with the experience of trauma. Gender differences in the aforementioned areas are discussed and emphasized. Lastly, the literature related to the second question of the study is reviewed. This includes a description of the available mental health services for this population, with an emphasis on gender differences.

Several studies have found that the juvenile offender population has higher rates of experiencing traumatic events than the general population of adolescents. According to prior research, it is approximated that 50% - 80% of adolescents involved with the juvenile justice system have experienced at least one traumatic event. Juvenile offenders, particularly those who commit violent crimes, have been shown to be more likely to have experienced a traumatic event during childhood (Garbarino, 2001). Across disciplines, researchers generally agree that the risk of involvement with the juvenile justice system increases when a youth experiences a traumatic event (Maschi, 2006). The types of trauma experienced and reactions to trauma vary by gender; which requires examination.

Overview of Juvenile Delinquency

Every day in America, over 104,000 juveniles are held in juvenile justice facilities (Teplin, et al., 2005). During the 2006 reporting year approximately 2.2 million arrests of juveniles were made nationally. The rate of violent crimes committed by juveniles rose from the 2005 reporting year to the 2006 reporting year. Overall, one in eight violent crimes committed in the United States in 2006 were attributed to a juvenile. From 2004 to 2006 the rate of juveniles arrested for murder charges rose, which is in contrast to a decline in juvenile murder charges during the previous decade. In 2006, the rate of alleged murder offenses committed by juveniles was one in eleven juvenile crimes. Positively, the arrest rate for property crimes committed by

juveniles was at the lowest rate in three decades during the 2006 reporting year (United States Department of Justice, 2008).

The type and rate of crime varies by gender. In the United States, 90% of all lethal assaults are committed by boys, who are also the leading perpetrators of non-lethal crimes (Garbarino, 1999). Girls account for approximately 30% of juvenile offenders and the rate of arrest for girls is increasing more quickly than for boys. In particular, drug charges and simple assault charges rose for female juvenile offenders in 2006, but declined for male juveniles.

Theories of Juvenile Delinquency Development

Many theories of adolescent development, juvenile crime, and the progression of entrance to the juvenile justice system exist. There are two key theories that relate to the contribution of childhood trauma on juvenile crime, the concept of youth perpetuating behaviors taken against them as children, and the impact of childhood trauma on identity formation and development among youth. These theories include Garbarino's Theory of Violence and Differential Association Theory, which are discussed below.

Garbarino's Theory of Violence

James Garbarino has written extensively about the progression of violence among adolescent boys. Garbarino's work highlights the contribution of childhood maltreatment as a key factor in violent behavior among boys in adolescence. Garbarino (1999), identified what he believes to be the key factors contributing to violent behavior, which includes the presence of childhood maltreatment.

Research indicates that by the age of eight, patterns of aggression start to become stable and predictable. The most common pattern in developing aggressive behaviors by age eight is for children who are already considered vulnerable as a result of difficult temperaments, to be the victims of abuse and neglect at home and thus, develop a negative pattern of relating to the world (Garbarino, 1999). This negative pattern of viewing the world has four distinct parts: hypervigilance to the social environment, inability to identify positive gestures in their environment, a tendency to respond aggressively in the face of frustration, and concluding that aggression will ultimately have successful outcomes. Furthermore, research indicates that this negative pattern of behavior is the most significant link connecting a child who has been the

victim of maltreatment and the development of chronic aggressive behavior problems. Being abused as a child increases the odds of developing Conduct Disorder by seven and approximately 80% of incarcerated juveniles have developed this negative pattern of behavior. (Garbarino,1999).

Differential Association Theory

Differential Association Theory purports delinquency is a response to experiencing violence. This perspective identifies criminal behavior as learned behavior; if the people in a person's environment identify criminal behavior (i.e. domestic violence) as an acceptable, the individual will eventually conform and adapt to their social group's norms (Leighninger, Popple, & Phillip, 1996). Parents and peers are the most powerful variables in the socialization process; when these two influences model deviant behavior, the individual is likely to conform and replicate this behavior (Calhoun, Light, & Keller, 1989).

Trauma-Related Symptoms

The *Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM-IV)*, defines posttraumatic stress disorder (PTSD) as an anxiety disorder precipitated by a traumatic event and characterized by symptoms of re-experiencing the trauma, avoidance and numbing, and hyperarousal (American Psychiatric Association, 2000). Historically, determining what qualifies as a "traumatic" event has been a difficult task, with many differing opinions among professionals in the mental health community. According to the *DSM-IV*, actual or threatened death or serious injury or a threat to the physical integrity of self or others and the person's response to the event must involve intense fear, helplessness, or horror for a post-trauma response to be considered (Tolin & Foa, 2006). When compared to other disorders, PTSD is relatively new and requires additional research, especially related to the role of an individual's sex as a vulnerability or protective factor (Tolin & Foa, 2006).

Events Associated With Trauma

The total population of children in America is estimated at 71, 695,000. In 2004, over 3,503,000 children were reported to be victims of abuse; of these reports 872, 000 children were substantiated or indicated as victims of abuse. By 2006, it was estimated that 905,000 children

were the victims of abuse. Boys and girls were equally victimized; however, girls were more likely to be victims of sexual abuse. Children identified as “first-time victims” accounted for 74.3% of the cases. In the northeast, approximately 75% of child victims were considered “first-time victims,” accounting for over 85,000 separate cases (U.S. Department of Health & Human Services, 2004).

During the 2004 reporting year, 1,490 children in the United States died as a result of abuse or neglect, which is the equivalent of 2.03 per 100,000 children. The age group at highest risk for abuse related fatalities is children under 4 years of age, accounting for 81% of abuse related deaths. Within this age group, children under 1 year of age account for 45% of all abuse related fatalities. In general, the abuse related fatality rate for children is inversely proportionate to the age of the child (U.S. Department of Health & Human Services, 2004).

Physical Abuse

Physical abuse of a child is defined as a type of maltreatment where physical acts caused or could have caused physical injury to a youth under the age of 18 and legally considered a minor. Physical abuse accounted for 17.5% of the child abuse cases in 2004, which equates to 152,250 children. For example, in 2008, Massachusetts reports of physical abuse for 21, 717 children were made in the Commonwealth (Massachusetts Department of Children and Families, 2010). Nationally, the age group at highest risk for physical abuse is youth 12 – 15 years old. This age group accounted for more than 36,000 separate physical victimizations of children in 2004. In Florida, approximately 9.2% of child victims experience a recurrence of abuse within 6 months of the initial incident, which is higher than the national average of 8.1%. Nationally, children with a documented disability were 61% more likely to experience a recurrence of abuse than non-disabled youth. In America, children 16 years of age or older are the least likely to experience a recurrence of abuse (U.S. Department of Health & Human Services, 2004).

Sexual Abuse

Sexual abuse is defined as a type of maltreatment that involves a youth under the age of 18, in sexual activity for the gratification or financial benefit of the perpetrator; this includes contact of a sexual nature, molestation, prostitution, statutory rape, pornography, exposure,

incest, or any other sexually exploitative act. In 2004, 9.7% of maltreated youth were victims of sexual abuse, which is the equivalent of 84,398 separate victims. During the 2008 reporting year, 7,851 children in Massachusetts were reported to be the victims of sexual abuse (Massachusetts Department of Children and Families, 2010). The age group at highest risk for sexual victimization is youth 12 – 15 years old. This age group accounted for more than 26,000 separate sexual victimizations of children in 2004 (U.S. Department of Health & Human Services, 2004). While sexual abuse has consistently been reported as the least common form of child abuse, it has been shown to have the most severe psychological effects on children, when compared to other forms of abuse (Tolin & Foa, 2006; Monahan, 1993).

Boys and girls are reported as victims of child abuse in equal numbers, however, reports consistently indicate girls experiencing more sexual victimization than boys. Perpetrators of sexual abuse against children are least likely to be the parent or legal guardian of the child and most likely to be a friend or neighbor of the child or another relative. In 2004, less than 3% of sexual abuse against children was committed by the child's parent, however, nearly 74% of substantiated sexual abuse cases were perpetrated by a family friend or neighbor, with the second most common perpetrators being other relatives of the child, accounting for nearly 30% of substantiated sexual abuse cases (U.S. Department of Health & Human Services, 2004).

All sexual assaults on children are acts of blatant exploitation of adults' power and control, however, when a sexual assault is coupled with verbal threats made to the child, betrayal of the child's trust, other acts of violence, physical injury, physical pain, or rituals the psychological response to the trauma becomes more severe (Monahan, 1993).

Neglect

Neglect is defined as the failure of a caregiver to provide the necessary, age-appropriate care of a child even though they have the financial resources to do so, have been offered resources, or qualify for financial assistance from other sources. Neglect is consistently reported as the most common form of child maltreatment. In 2004, 64.5% of maltreated youth in America were victims of neglect (U.S. Department of Health & Human Services, 2004). In Massachusetts, 101, 243 children were reported to be victims of neglect during the 2008 reporting year (Massachusetts Department of Children and Families). Many children who are victims of neglect

are often also victims of other forms of abuse (U.S. Department of Health & Human Services, 2004).

Law enforcement officers tend to file the largest number of neglect reports, with professionals being second; this pattern of reporting is similar to the figures for sexual abuse. In 2004, girls accounted for 51.7% of child neglect cases and boys 48.3% of the cases. Historically, the number of girls and boys experiencing neglect each year has remained relatively equal, without significant differences in reporting between the genders in recent years. Additionally, younger children tend to account for the largest percentage of neglect cases. In general, the model revealed that the experience of neglect was inversely proportionate with the age of the child (U.S. Department of Health & Human Services, 2004).

Community Violence

According to the National Center for Children Exposed to Violence (2007), community violence is defined as, “exposure to acts of interpersonal violence committed by individuals who are not intimately related to the victim.” Community violence is especially common in low-income, urban areas (Boney-McCoy & Finkelhor, 1995). “Community violence is becoming a source of chronic trauma for our most vulnerable children whose exposure to violence is too frequently paired with the deprivation of growing up in poverty (Monahan, 1993, p. 13).” Data suggests that children living in high-crime neighborhoods experience daily events similar to those found in war-zones.

Studies have shown that approximately 75% of children have been exposed to some form of community violence (Hill & Jones, 1997). The National Center for Children Exposed to Violence (2007) reported that, “the U.S. has the highest rates of childhood homicide, suicide, and fire-arm related death among industrialized countries.” School shootings have become a form of community violence that exposes children to trauma as both direct and indirect victims. School shootings are also among the most highly publicized public events of violence, which leads to vicarious trauma (Monahan, 1993).

Domestic Violence

Every year, 3.3 million children witness domestic violence in their own homes. This exposure to domestic violence increases the odds by 15 that the child will become a direct victim

of physical abuse or neglect (McKay, 1994). Furthermore, girls in families where their father assaults their mother are at risk of sexual abuse at a rate 6.5 times higher than girls from non-abusive homes (Bowker, Arbitell, & McFerron, 1998). Between 50 – 70% of men who physically assault their wives also physically abuse their children (Straus & Gelles, 1990). Additionally, women who are victims of domestic violence, at the hands of a husband, are twice as likely to abuse their children when compared to other women (Child Welfare Partnership, 1995).

Children who witness domestic violence are more likely to present with behavioral problems, physical health problems, depression, anxiety, and exhibit violence towards peers (Jaffe & Sudermann, 1995). Additionally, children who witness domestic violence are more likely to attempt suicide, abuse substances, run away from home, participate in prostitution as teenagers, and perpetrate sexual assault crimes (Wolfe, Wekerle, Reitzel, & Gough, 1995). A study examining 2,245 youth found that exposure to violence in the home was a significant factor in predicting the likelihood of a child exhibiting violent behavior (Singer, et al., 1998).

Natural Disasters

Several studies have examined the psychological effects on children following a natural disaster. The following symptoms have consistently been shown to appear in children following exposure to a natural disaster: (1) fears specifically related to the traumatic event, (2) fears of the trauma reoccurring, (3) anxiety, (4) affective disorders, (5) intrusive memories of images and percepts of the event, (6) play demonstrating post-trauma symptoms, (7) behavioral reenactments of the event, (8) regressive behavior, (9) somatic complaints, (10) avoiding triggers that remind the child of the event, (11) behavioral and academic difficulties, (12) and a change in attitudes with regard to themselves, the world, and their futures (Bloch, Silber, & Perry, 1956; Burke, Moccia, Borus, & Burns, 1986; Green et al., 1991, 1994; Newman, 1976; Pynoos and Nader, 1988; Shannon, Lonigan, Finch, & Taylor, 1994; Terr, 1981, 1983).

Shaw and colleagues (1995), studied the effects of Hurricane Andrew on elementary school student in Miami, Florida. This study demonstrated that the psychological distress experienced by children following this natural disaster was correlated with their proximity to the area of impact. This finding is consistent with the results of previous studies examining the relationship

between proximity to the event and degree of psychological distress following the event (Bloch, Silber, & Perry, 1956; Lonigan et al., 1994; Pynoos et al., 1994).

Garrison, et al (1995), also studied the effect of Hurricane Andrew on youth; however, this study utilized a sample of adolescent participants and specifically focused on PTSD. The researchers found that only a small number of adolescents reported symptoms aligning with the full diagnostic criteria for PTSD, but most reported some type of posttraumatic symptoms. Additionally, results of this study suggest that taxing events occurring after the initial disaster may be more robustly associated with PTSD than the amount of actual contact with the disaster itself.

Differential Occurrence of Trauma Events

Traumatic events do not occur equally across genders and age groups. Patterns of occurrence have been identified among males, females, children, adolescents, and adults. Additionally, youth involved in the juvenile justice system or considered to be “at-risk” for criminal behavior, have their own unique risk factors and patterns of experiencing traumatic events.

Occurrence of Trauma in Adolescents

In 2000, the Child Maltreatment Report, published by the United States Department of Health and Human Services, indicated that youth were victims of abuse and neglect at a rate of 12.2 per 1,000 children. Among the approximately 3 million children who were victims of abuse and neglect in 2000, 63% were victims of neglect, 19% were physically abused, and 10% were victims of sexual abuse. Interestingly, surveys of the general population tend to yield higher rates of abuse and neglect of children than official data (Harris, et al., 2006).

A meta-analysis of 30 comparisons examining sex differences with regard to the frequency of nonsexual child abuse or neglect, found no difference between males and females. It is noteworthy that this finding remained constant across all methodological variables, with one exception: four studies assessed frequency of traumatic events via interview; these studies found that female participants reported more nonsexual child abuse or neglect than male participants. However, the researchers noted that the findings related to interview assessment of the frequency of traumatic events was not robust against the file-drawer effect (Kilpatrick, et al., 2003).

Sexual assault occurs once every two and a half minutes in America. One third of sexual assault victims are under the age of 12. One seventh (14%) of all sexual assault reports filed with

law enforcement agencies are for victims under the age of 6, however, 59% of all sexual assaults go unreported to the police. One in every four girls and one in every six boys will be the victim of sexual abuse before their 18th birthday. Differences exist between the types of perpetrators committing sexual assaults against children and adults. In the adult population, 73% of sexual assaults are committed by someone the victim knows, while 93% of sexual assaults against children are perpetrated by someone the child knows (www.satrc.org/statistics.htm, 05/24/2007).

The “Great Smoky Mountains Study,” a longitudinal study examining the mental health of children living in the western counties of North Carolina, found that 25% of the children living in that area had experienced at least one traumatic event by the age of 16. A study examining the traumatic experiences of children in grades 4 through 12 in New York City found that 64% of the children sampled had experienced at least one traumatic event prior to the September 11th attacks on the World Trade Center. In 1997, the National Institute of Justice sponsored the *National Survey of Adolescents in the United States*, a nationally representative survey of teens in America. This survey estimated that approximately 4 million adolescents (ages 12 – 17) had been the victims of at least one serious physical assault during their life (Harris, et al., 2006). Additionally, the survey found that 9 million adolescents (ages 12 – 17) had witnessed a serious violent act during their lifetime (Harris, et al., 2006).

Occurrence of Trauma in Juvenile Offenders

Exposure to multiple traumatic events appears to be more common among juvenile offenders than among the general population of youth. Several studies have revealed higher prevalence rates of exposure to trauma and PTSD among youth involved with the juvenile justice system, (Abram et al., 2004; Cauffman et al., 1998, Dixon, Howie, & Starling, 2005; Lederman, Dakof, Larrea, & Li, 2004; Steiner, Garcia, & Mathews, 1997; Ruchkin, et al., 2002, Wood, Foy, Goguen, Pynoos, & James, 2002a).

In an epidemiological study conducted by Abram and colleagues (2004), which is considered to be one of the most rigorously conducted studies at the present time, 92.5% of detained youth at a detention center in Chicago, Illinois were found have experienced one or more traumas within the past year. Almost 57% of the sample was exposed to 6 or more traumatic events within the past year. The sample used was randomly selected and traumas were defined as any of the “extreme stressors” identified in the DSM-IV-TR. Male detainees reported more exposure to traumatic events than female detainees. Specifically, 93.2% of male detainees responded

affirmatively, while 84% of female detainees responded affirmatively when asked to indicate whether or not they had experienced a traumatic event. However, it is noteworthy that females were more likely to report trauma of a sexually coercive nature than their male counterparts (Abram, et al., 2003).

According to Miller (1989), when delinquent and non-delinquent youth are compared, the presence or absence of a history of family violence or abuse is the most significant difference between the two groups. Similar to non-offender samples, male juvenile offenders show higher rate of experiencing traumatic events than female juvenile offenders, with the exception of sexual assault or sexual coercion (Abram, et al., 2004).

The incidences of child abuse and community violence are disproportionately high among youth who become violent criminal offenders (Garbarino, 2001). Approximately, 63% of offenders in the juvenile justice system have been in the child protective system at least once (Wilbur, 2000). Furthermore, children living in “socially toxic” environments consisting of aggression, violence, racism, and low economic resources are particularly vulnerable to becoming violent youth. Some children grow up in a war zone like neighborhood where they are not confident that adults can protect them. This results in “juvenile vigilantism,” where children are joining gangs and taking up arms as a form of personal protection (Garbarino, 2001). Furthermore, most incarcerated youth showed a persistent lack of trust in others and trust in adults’ ability and desire to protect them (Garbarino, 2001).

Gender Differences in the Occurrence of Trauma in Adolescent Juvenile Offenders

Prior research suggests that juvenile offenders are more likely to experience traumatic events than their non-offending peers, but that gender differences regarding the types of trauma experienced by adolescents in general also hold true for juvenile offenders. Prior studies suggest that the majority of juvenile offenders have experienced at least one traumatic event and that the overall rate of PTSD among males and females juvenile offenders is around 30% (Carrion and Steiner, 2000; Cauffman et al., 1998; Steiner et al., 1997). Recent research has found that most male juvenile offenders have experienced a traumatic event and that approximately 25% of them meet the full criteria for the diagnosis of PTSD (Ruchkin, et al., 2002). A recent study that examined the rate of PTSD among female juvenile offenders found that 77% of adolescent female offenders have experienced a traumatic event and 33% of them met the full criteria for the diagnosis of PTSD (Michio, et al., 2008). Research has also shown that among the female

juvenile offenders that meet full criteria for PTSD, approximately 70% have experienced a sexual assault (Dixon, et al., 2005). Prior research also suggests that the juvenile offender population, regardless of gender, is a group at high-risk for experiencing trauma, specifically sexual assault (Grover, 2004).

A meta-analysis of 30 comparisons of the general juvenile offender population examining gender differences with regard to the frequency of nonsexual child abuse or neglect, found no difference between males and females, which is similar to findings regarding the experience of trauma among the juvenile offender population. It is noteworthy that this finding remained constant across all methodological variables, with one exception: four studies assessed frequency of traumatic events via interview; these studies found that female participants reported more nonsexual child abuse or neglect than male participants (Tolin & Foa, 2006).

Another meta-analysis, consisting of 35 comparisons addressing the frequency of childhood sexual abuse in male versus female participants, found that females showed significantly greater prevalence rates than their male counterparts. This difference between the genders remained constant across a wide range of methodological variables. It is noteworthy that this same meta-analysis found that the difference in frequency of childhood sexual abuse between males and females was significantly greater among criminal, homeless, and help-seeking samples than among other samples (Kilpatrick, et al., 2003).

A meta-analysis conducted by Tolin and Foa (2006), found that adolescent females are more likely to experience sexual assault and sexual abuse than male adolescents. This pattern is also found among adolescent females in the juvenile justice system; however, adolescent females involved with the juvenile justice system are more likely to have experienced a traumatic event in general, including sexual assault, than the general population of female adolescents. Girls also have a specific set of risk factors increasing their likelihood of exposure to trauma. A study conducted by Costello et al. (2002), found that the presence of a family history of mental illness doubled the risk of exposure to trauma for both boys and girls. The same study also found that girls were especially vulnerable to sexual abuse if their parents had a criminal record or if their home life was very poor or disorganized.

A meta-analysis of 114 data sets indicated that adolescent males were significantly more likely to experience nonsexual assault than their female counterparts. When 25 data set comparisons were examined, male and female adolescent samples did not differ in their reports

of combat, war, or terrorism. The researchers conducting this meta-analysis hypothesized that there was not a significant gender difference found due to the small sample sizes utilized in the studies examined. A separate meta-analysis examining 34 comparisons for the frequency of accidents experienced by male and female adolescents found that male participants were significantly more likely to report accidents than were females. Additionally, the researchers conducting this meta-analysis found that this conclusion was consistently reached across most methodological variations (Kilpatrick, et al., 2003).

A meta-analysis, examining 105 separate analyses, revealed that male adolescents are more likely to report witnessing death or injury to another person than female adolescents (Tolin & Foa, 2006). Furthermore, this differential occurrence of witnessing death or injury between the genders remained constant through a variety of methodological approaches. For example, this differential occurrence remained when DSM-IV criteria A1 and A2 were used as the definition of trauma, when help-seeking samples were used, and when this traumatic event was assessed over a discrete period of time. It is noteworthy that this same difference between the genders and the experience of witnessing death or injury to another person was the same in adults samples (Tolin & Foa, 2006).

Overall, the meta-analysis conducted by Tolin & Foa (2006), found that adolescent males are more likely to experience accidents, nonsexual assault, combat/war, disaster or fire, serious illness, or witnessing death or injury to another person than female adolescents.

Reactions to Trauma

The psychological aspect of trauma is defined as, “a circumstance in which an event overwhelms or exceeds the person’s capacity to protect his or her psychic wellbeing and integrity, (Cloitre, Cohen, & Koenen, 2006, p. 3).” The power of the traumatic event exceeds the individual’s available resources, causing deterioration in functioning and well-being occur. Therefore, the impact of trauma must take into account the vulnerabilities of the specific individual involved. Individuals react to traumatic events in a variety of ways. Identifiable patterns of responding to trauma have been discovered, with the most common symptom set being the diagnostic criteria for PTSD. The science is currently examining the different reactions manifested by individuals exposed to trauma with regard to age, gender, type of trauma experienced, and age at which the traumatic event occurred.

Positive Adjustment to Trauma

Risk and resiliency related to developing symptoms following a traumatic event is a popular point of examination within the trauma research. Some individuals appear to be able to cope with the experience of trauma in a more positive fashion than others. At this time, it is unclear what specific factors make some people more resilient or resistant to developing symptoms than others. Lonigan, et al. (2003), recently conducted a review of the literature related to children and PTSD; in this review the researchers identified eight risk factors associated with increased expression of PTSD symptoms in children following a traumatic event. The risk factors identified are: (1) type of trauma, (2) level of exposure to the traumatic event, (3) age, (4) gender, (5) ethnicity, (6) pre-exposure level of functioning, (7) social support, and (8) coping behaviors (Lonigan, Phillips, & Richey, 2003). Another hypothesis being explored by researchers is the belief that cognitive ability is a strong protective factor for individuals, thus people with higher cognitive abilities may be less likely to develop negative symptoms than those with lower levels of cognitive ability. Other conjectures regarding resiliency following trauma are related to the age the trauma occurred, who the perpetrator was, and the duration of the event (a single occurrence or a repeated/habitual event).

Negative Adjustment to Trauma

The experience of trauma tends to have cumulative effects on an individual's functioning (Breslau & Davis, 1987), and often results in the manifestation of co-morbid conditions (Breslau, et al, 1991; Hubbard, et al., 1995). "There is ongoing discussion about whether or posttraumatic stress disorder (PTSD) symptoms occur on a continuum of frequency and severity, with 'full' criteria representing an arbitrary cutoff point rather than a clinically meaningful dividing point, (Ruchkin, et al., 2002, p. 322)."

Post-Traumatic Stress Disorder

PTSD is classified as a type of anxiety disorder in the *DSM-IV-TR* (2000). This disorder has been identified as one of the most severe psychological outcomes for children or adolescents who have experienced one or more traumatic events. The diagnostic criteria in the *DSM-IV-TR* (2000) indicate that a person must exhibit the following symptoms to qualify for diagnosis: (A) the response to an "extreme stressor" must involve intense fear, helplessness, or horror, which in children may manifest as disorganized or agitated behavior. (B) the person must exhibit all of the following symptoms: 1) re-experiencing the traumatic event (i.e., intrusive thoughts,

flashbacks, or internal distress in response to cues), 2) persistent avoidance of stimuli associated with trauma, and 3) persistent symptoms of increased arousal (American Psychiatric Association, 2000).

As previously mentioned, some people are more likely to develop PTSD than others. Three specific characteristics that appear to be associated with the likelihood of developing PTSD and the severity of symptoms, if symptoms are experienced, are: (1) the degree of physical and emotional exposure to the event, (2) personality traits, which acts as moderating variables in the face of trauma, and (3) the person’s perception of the traumatic event. Of these three factors, the area of personality has been repeatedly examined within the juvenile offender population. First, juvenile offenders often have novelty seeking tendencies, which could potentially lead to increased exposure to violence or dangerous situations. Second, the trait of behavioral inhibition, or harm avoidance, which is often low in juvenile offenders, appears to be related to the severity of posttraumatic stress and other internalizing disorders (Ruchkin, et al., 2002).

Other negative reactions to trauma

Other negative reactions to trauma include mental health symptoms and/or reactions that negatively impact a person’s life, but do not meet the full criteria for the diagnosis of PTSD. The resource-loss model identifies psychological and material resources that are diminished in a child’s life as a response to trauma. This model identifies the losses incurred in response to trauma as follows:

Psychological	Material
<ul style="list-style-type: none"> • Reduced sense of security • Loss of optimism regarding the future • Loss of social/familial supports • Reduction in the quality of life 	<ul style="list-style-type: none"> • Loss of a consistent home/being forced to move • Loss of family structure/roles • Loss of school or employment • Loss of a community within which to prosper

(Cloitre, Cohen, & Koenen, 2006, pp. 6)

The experience of childhood trauma can affect multiple areas of a person’s life such as reducing school readiness, negatively impacting school performance, decreasing cognitive abilities, increased incidence of substance abuse, mental health disorders, and physical health

concerns. Additionally, children who experience trauma exhibit behavioral, emotional, and academic difficulties at a higher rate than their non-traumatized counterparts. Among the most common psychological problems experienced by youth who are exposed to traumatic events are: depression, anxiety, aggression, conduct disorder, sexualized behaviors, eating disorders, somatization, and substance abuse (Harris, et al., 2006).

The effect of abuse versus environmental and biological factors on mental health has been a subject of much debate in the literature, however, recent twin studies with child samples, confirm a significant causal relationship between child abuse and major psychopathology. Specifically, studies of twins have consistently shown that in situations where one twin has experienced physical abuse and the other has not, the twins who suffered physical abuse showed significantly higher rates of depression, attempted suicide, conduct disorder, alcohol dependence, nicotine dependence, and sexual promiscuity. Similar findings have been documented in studies examining the effects of emotional abuse, neglect, and witnessing domestic violence (Harris, et al., 2006).

Youth who witness violence commonly exhibit eleven symptoms, in a variety of combinations and on a continuum of severity. Certain combinations the eleven identified symptoms can be classified as PTSD, however, many youth do not exhibit the combination or severity of symptoms congruent with the disorder. The symptoms are described as follows:

1. Sleep difficulties: This symptom is characterized by waking frequently throughout the night, experiences nightmares, and exhibiting a fear of falling asleep.
2. Somatic complaints: This symptom set includes complaints of headaches, stomach aches, and general aches and pains with no identifiable medical cause.
3. Increased aggressive behavior/angry outbursts: This symptom is identified as physically or verbally assaulting others.
4. Increased activity level: This symptom set includes restlessness, difficulty sitting still, and fidgeting. This symptom set is often mistaken for Attention Deficit Hyperactivity Disorder (ADHD).
5. Hypervigilance: This symptom is defined as increased arousal, overreaction to loud noises or sudden movements, or worries and fears that are excessive and outside of normal limits for the youth's developmental level.

6. Regression: This symptom is identified as a youth losing skills learned at an earlier age. Caregivers often describe this as “babyish” behavior.
7. Withdrawal: This symptom is characterized by a loss of interest in activities or people the youth once enjoyed.
8. Numbing: This symptom is defined as appearing to be void of feelings or being emotionally “shut down.”
9. Increased separation anxiety: This symptom is characterized by the child being visibly upset when they are required to separate from the parent (i.e. for day care or babysitting) or refusal to attend routine activities such as school.
10. Distractibility: This symptom is identified as difficulty concentrating or focusing. This symptom is often mistaken for ADHD, Inattentive Type.
11. Changes in play: This symptom involves younger children repeatedly acting out or recreating the violent event in their play or a decrease in their ability to play spontaneously and creatively (Boston Medical Center, 2007).

Marked changes in youths’ personality can be a response to traumatic events. The severe tax put on a child’s inner resources following a trauma can result in changes in the course of the child’s personality development. Specific changes that encompass this change in personality factors include new attitudes and thoughts about themselves, other people, and their life in general in addition to changes in their basic assumptions and expectations of the world. These changes can be temporary and able to be resolved while the child is at a malleable stage of development, or more long-lasting. The research is not definitive in identifying what factors are related to a child experiencing temporary changes in personality versus enduring changes, however, it appears that the more severe and more repetitive the traumatic event, the more permanent the change in personality (Monahan, 1993).

Change in a child’s level of trust in others is another common response to the experience of trauma. Most children will eventually return to their original level of trust, but others never do. This decrease in trust is often manifested as wariness, suspiciousness, or pessimism. Children, whose symptoms go untreated and unresolved, can experience a change in personality that results in a constant state of dread and distrust as part of their world-view (Monahan, 1993).

The experience of witnessing violence or being a direct victim, have consistently shown a significant relationship with the perpetration of crimes and the manifestation of aggressive,

violent behavior. Additionally, children exhibiting violent, aggressive, or criminal behaviors experience depression more than other children. An examination of trauma with chronic juvenile offenders found that “dangerously violent,” adolescent males were six times more likely to have been a victim or witness to violence than males in the control group (Flannery, Singer, & Wester, 2001). A study conducted by Moses (1999), examining the effects of violence on inner-city adolescents, found that hostility and depression rates could be predicted by exposure to violence and victimization. A relationship between the risk of aggression and depressive symptoms has also been found in elementary school students.

Children who witness violence between their parents or experience child abuse are also more likely to imitate violent behavior and tolerate violent behavior than their peers who grow up in non-violent home. Additionally, witnessing violence within the family context affects the child’s cognitive processes by legitimizing the use of violence as a form of interaction in intimate relationships. This is often manifested among teenagers as dating violence, which has been referred to as the “training ground” for marital violence. According to intergenerational transmission of violence theories, exposure to violence within an individual’s family of origin heightens the risk of that individual continuing the cycle of violence within their own family as an adult (O’Keefe, 1998). This intergenerational transmission of violence within families is also supported by social learning theory, which purports that children learn by observing and imitating behaviors in their social environment (Bandura, 1977).

Adolescents’ Reactions to Trauma

The experience of repeated trauma in a child’s life brings a distinct set of physical and psychological symptoms. Commonly, this symptom set includes recurring dreams or nightmares, flashbacks, increased physical arousal, hypervigilance, increased startle response, sleep difficulties, irritability, anxiety, avoidance of stimuli associated with the traumatic event, and psychological hyperactivity (Ryan, 1996).

Mood disturbances have been noted as one of the most pervasive symptoms experienced by children following the experience of trauma. It is common for children to vacillate between feelings of anxiety and depression in addition to demonstrating difficulties identifying and expressing their emotions. While it is developmentally appropriate for children to experience some deficits in emotional awareness and expression, children who have experienced a traumatic event are often outside of normal limits on this developmental task. Some children become

stunted to such an extreme in learning to identify and express feelings that Alexithymia is developed. Alexithymia is identified as experiencing moods and feelings at only a physiological level, without the ability to distinguish between different feelings or verbally articulate feelings (Ryan, 1996).

Youth who have been the victims of abuse and neglect have been shown to consistently perform worse in school than their non-abused peers. Two specific areas related to school that abused youth have shown marked deficits in are cognitive abilities and regulation of behavior. With regard to cognitive deficits, research has consistently shown that youth who experience abuse and neglect have lower IQ scores and lower levels of language ability than non-abused youth (Harris, et al., 2006). Additionally, youth with a diagnosis of PTSD, that is related to childhood abuse or neglect, have shown specific academic difficulties in the areas of attention tasks, abstract reasoning, and executive functioning when compared to children considered to be healthy (Harris, et al., 2006). Furthermore, Harris, et al. (2006), reported that, “a population based sample of more than 1,000 pairs of twins found that exposure to domestic violence accounted for approximately 4% of the variation in child IQ and was associated with an average decrease in IQ of 8 points.”

Juvenile Offenders’ Reactions to Trauma

The prevalence of exposure to trauma and subsequent PTSD in youth considered “at-risk” is significantly higher and more variable than samples of the general populations. Prevalence rates of “at-risk” youth meeting full criteria for PTSD ranges from 14.4% to 58%, depending on gender and type of trauma experienced. A sample of 90 “at-risk” female adolescent girls in a primary care clinic found a prevalence rate of 14.4% (Lipschitz et al., 2000). However, a 58% prevalence rate was found in a sample of children who experienced both physical and sexual abuse (Ackerman, Newton, Mcpherson, Jones, Dykman, 1998).

Recent epidemiological studies with youth involved in the juvenile justice system indicate detained or incarcerated youth have higher rates of PTSD than youth in community samples. Abram and colleagues reported that 11.2% of juvenile detainees in a sample of 898 met full criteria for a diagnosis of PTSD within the past year (Abram et al., 2004). These prevalence rates are lower than several other studies with female detainees, where rates of PTSD have been as high as 37% (Dixon et al., 2005) to 48.9% of youth exhibiting current symptoms (Cauffman et

al., 1998). With male detainees, Steiner and colleagues (1997) found 32% of youth met full criteria for the disorder and 20% met partial criteria (Steiner, et al., 1997). The broad range of prevalence rates may reflect the differing assessment points among studies (initial detainment vs. post-adjudication and commitment), assessment methodology, and sample characteristics (Abram et al., 2004), making it difficult to compare rates across studies. A recent study also found a strong relationship between the experience of sexual assault and symptoms of depression among male and female juvenile offenders (Grover, 2004).

Gender Differences in Reactions to Trauma

The differences between males and females with regard to mental health functioning are well documented in the literature. Findings continuously suggest that both adolescent and adult males are at increased risk for substance abuse disorders and lower risk for PTSD and major depression following the experience of a traumatic event of an interpersonal nature, while both adolescent and adult females have been consistently shown the opposite (Kilpatrick, et al., 2003). However, practitioners are cautioned to routinely screen for substance abuse in both male and female adolescents who have been exposed to an interpersonal traumatic event because the already high prevalence rates of substance abuse in adolescents coupled with the increased risk that experiencing interpersonal trauma adds, suggests that both adolescent males and females could be at risk for developing substance abuse disorders (Kilpatrick, et al., 2003).

Epidemiological studies have consistently indicated that PTSD may have higher prevalence rates among women and girls than among men and boys (Tolin & Foa, 2006). According to Tolin and Foa (2006), girls are more likely than boys to develop PTSD following any traumatic event, with one exception being sexual abuse. Studies of the prevalence of PTSD in males and females have generally shown that both genders have similar rates of developing PTSD following an incident of sexual abuse (Tolin & Foa, 2006). Additionally, sexual abuse increases the likelihood of individuals of both genders developing a post-trauma response when compared to other types of trauma (Tolin & Foa, 2006).

Adolescent males who have been victimized are at higher risk for school drop-out, school expulsions, behavioral acting-out, defiance, poor academic grades, aggressiveness, and school avoidance when compared to other boys. Similar to their female counterparts, males who have been victimized exhibit symptoms of PTSD including nightmares, intrusive thoughts about the

traumatic event, and hypervigilance. Additionally, boys can act impulsively or demonstrate self-injurious behavior as a response to trauma (Yellin-Bogin, 2006).

Differences in responses to sexual abuse exist between males and females. Males are socialized to be less vigilant of the possibility of being sexual assaulted, while females are socialized to be aware that they are vulnerable to sexual attacks. This difference in society's socialization styles towards male and female children often results in males experiencing higher levels of shame, psychological repression, denial, and shock following a sexual victimization when compared to females who experience the same type of abuse (Yellin-Bogin, 2006). Additionally, male victims of sexual abuse are more likely to commit violent crimes than female victims of sexual abuse (Calderwood, 1987 & Frazier, 1993). While sexual abuse is less frequent in male populations than female populations, the response to this form of victimization shows severe symptoms in boys. Adolescent males, who report victimizations of a physical or sexual nature, often present with behavioral difficulties, truancy from school, and substance abuse problems. However, boys who have been sexually abused also report feeling unattractive, crying spells, and experiencing difficulty with communication that involves sexual topics, which are symptoms often overlooked in the male population (Yellin-Bogin, 2006).

Male victims of sexual abuse also face the risk of secondary victimization, which is the act of being re-victimized by being blamed for the abuse or not being believed (Yellin-Bogin, 2006). Males are often reluctant to come forward with reports of sexual abuse because societal myths regarding sexual assaults include beliefs that males cannot be sexually victimized by females or that being sexually victimized by a male is associated with homosexuality. Additionally, males who identify as homosexual are often faced with two types of re-victimization: being blamed for or not believed about their experience of sexual abuse and having their sexual orientation used as a means of discrimination or judgment by their peers (Yellin-Bogin, 2006). The experience of being discriminated against or judged with bias on the basis of sexual orientation is a hate crime; this is also a form of additional trauma experienced by adolescent males. Homosexual females also experience re-victimization through hate crimes following sexual assaults, but not as frequently or as severely as males (Yellin-Bogin, 2006).

Both male and female victims of sexual assaults, who are also the victims of hate crimes, present with more severe, negative responses to the traumatic events than victims who do not experience hate crimes in addition to the assault. While females do experience similar forms of

re-victimization following sexual assaults, the impact of this type of additional trauma in the male population has been long overlooked in the literature (Yellin-Bogin, 2006).

The effects of witnessing domestic violence also appear to be different between genders among adolescent samples. Boys seem show a stronger relationship between witnessing aggressions between their parents and exhibiting aggressive behavior in dating relationships as adolescents than females. Furthermore, the quality of justifying dating violence has been identified as a significant predictor of males becoming perpetrators of dating violence, but not females (O'Keefe, 1998). The research in this specific area is limited, but patterns appear to be developing in this direction. Patterns are also developing in identifying factors that place adolescents at higher risk of being victims of dating violence (O'Keefe, 1997).

In general, adolescents of both genders who experience traumatic events in childhood are more likely than the general population of adolescents to develop maladaptive personality traits (Herman, et al., 1989). In particular, girls who have experienced traumatic events are more likely than boys who have experienced trauma to develop Borderline Personality Disorder (Herman, et al., 1989). To date, no studies were found that specifically examine differential reactions to traumatic events according to gender among the juvenile offender population.

In sum, generally adolescent females are more likely than adolescent boys to develop PTSD following a traumatic experience. In the instance of sexual abuse, the likelihood of an adolescent developing PTSD increases and is similar in prevalence rates for both genders. Additionally, adolescent boys are more likely than adolescent girls to respond to the experience of trauma with aggression, physical violence, and behavioral acting-out. Adolescent females are more likely to develop mood-related symptoms, such as depression and anxiety, following traumatic events. The same patterns tend to hold true for adolescent juvenile offenders.

Gender Differences in Traumatic Experiences and Emotional Reactions to Trauma in Juvenile Offenders

Male and female juvenile offenders are exposed to trauma at nearly equal rates, however, male adolescents' experience of trauma has not been researched or examined to the same degree as their female counterparts' experiences (Maschi, 2006). Further, prior research suggests that male and female juvenile offenders experience different types of trauma. Females are more likely to experience sexual assault, while neglect and physical abuse have been found to occur at about

equal rates among male and female adolescents (Abram et al., 2004; Dixon et al., 2004; Ruchkin et al., 2002; Wood et al., 2002). Some research suggests that the experience of trauma contributes to youth being more likely to become involved with the juvenile justice system regardless of gender. Males who experience maltreatment prior to the age of 12 have been shown to become involved in serious juvenile delinquency later in adolescence at higher rates than their male peers who have not experienced a traumatic event (Maschi, 2006).

According to Falshaw, et al. (1996), male and female youth who experience traumatic events during childhood are at increased risk of acting violently later in their lives. However, adolescent males appear to be more likely to act aggressively and express anger as a response to traumatic experiences than their female counterparts (Hoffman and Su, 1997). Prior research suggests that adolescent males tend to emotionally respond to trauma-related stress with anger, rage, physical aggression, and negative affect (Lui and Kaplan, 1999). Further, adolescent males are more likely to have problematic reactions to peer and social relationships (Howe and Parke, 2001). Agnew and Brezina (1997) purport that unresolved anger can contribute to male adolescents reacting to stress with violence. Female juvenile offenders have been found to be at particular risk for exhibiting symptoms associated with Post-Traumatic Stress Disorder (PTSD). Approximately 67% of female offenders have been found to experience PTSD during their lifetime (Cauffman et al., 1998) compared to 30% of male juvenile offenders (Carrion and Steiner, 2000; Ruchkin et al., 2002; Steiner et al., 1997). These rates are dramatically higher than the approximated incidence rates of PTSD among the general population, which is estimated to be between 1% and 14% (American Psychiatric Association, 1994). Carrion and Steiner (2000) found that dissociation is a common emotional response to trauma in both male and female juvenile offenders.

According to Maschi and Bradley (2008), prior research has found evidence that adolescents of both genders who experience trauma are likely to react with a variety of maladaptive emotional and behavioral difficulties, but the link between trauma and delinquency has not been fully explored or understood in the literature. Maschi and Bradley (2008) also suggest that particularly the unresolved negative emotions of adolescent males in response to trauma have not been thoroughly explored. Carrion and Steiner (2000) suggest that exploring the sequelae of trauma in the juvenile population is important for contributing to more directed interventions.

Availability of Treatment Services for Juvenile Offenders

It is estimated that between 33% and 75% of detained juveniles have one or more psychiatric disorders; 15% of these youth have a major mental health disorder. In a study by Teplin, et al. (2005), only 16% of youth identified as needing mental health treatment while in custody received some form of mental health services within six months of admission or before their case disposition. It is noteworthy that this study utilized very stringent requirements to determine who needs treatment and very liberal definitions of what accounted for mental health services, therefore it can be hypothesized that the number of youth needing services is greater and the number youth actually receiving services is even less than reported. In addition, while some juvenile receive “assistance,” which is defined as minimal contact with someone in a counseling role, during their incarceration or detention, they are often released without access to on-going mental health treatment (Hammond, 2007). This is a problem within the juvenile justice system that should be examined (Teplin, et al. 2005).

General Services

According to the Department of Juvenile Justice (2007), juvenile offenders are in need of specialized treatment services. A survey recent survey of arrested youth indicated that 49% of juvenile offenders surveyed had a diagnosed DSM-IV mental disorder and an additional 14% demonstrated behaviors which suggested mental disorder; 35% of the surveyed juvenile offenders had a diagnosed DSM-IV substance-related disorder and an additional 30% demonstrated behaviors which suggested substance abuse.

Mental health services for juvenile offenders vary by geographic location, type facility where they are evaluated and/or held, and the juvenile’s access to outside resources. Some jurisdictions provide specialized courts to hear cases for juveniles with mental health concerns, although this is a rare occurrence. Services that currently exist for juveniles include individual therapy, group therapy (topics vary by facility), family therapy, substance-abuse specific therapy, and trauma-based therapy (Hammond, 2007). Specific statistics regarding the type and prevalence of services available for youth is widely debated and not agreed upon. However, it is widely accepted that mental health services for juveniles are lacking and appropriate referrals are often not made (Hammond, 2007; Teplin, et al., 2005).

Symptom-Specific Services

Symptom-specific mental health services are available for juvenile offenders. The most common issues addressed by these services are substance abuse, anger management, sexual offending, and exposure to trauma. For the treatment of post-trauma symptoms, Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) has been adopted by most juvenile justice programs as the treatment of choice. The adoption of this method resulted from studies documenting that Cognitive Behavioral Therapy (CBT) is an evidence-based practice for symptoms of post-traumatic stress. The TF-CBT program targets boys and girls, through age eighteen, of all socioeconomic backgrounds, diverse ethnic groups, and encompasses treatment for youth exposed to all types of traumatic events. A study of the effectiveness of the TF-CBT program showed that children who received TR-CBT had significantly less acting-out behavior, significantly reduced PTSD symptoms, significantly greater improvement in depressive symptoms, and significantly greater improvement in social competence; these gains were maintained one year after treatment ended (Office of Juvenile Justice and Delinquency Prevention, 2009). In addition to specific programs, most juvenile facilities employ counselors to provide individual treatment to juveniles with mental health concerns (Hammond, 2007). This provides an option for assessors and evaluators to refer juveniles for individually based, symptom-specific services.

Gender-Specific Services

Girls and boys in the juvenile justice system share many of the same criminogenic risk factors, and therefore many of their treatment needs are similar (Hammond, 2007). The majority of gender specific services or special treatment projects that exist within juvenile justice programs are targeted for girls (Office of Juvenile Justice and Delinquency Prevention, 2009). For safety reasons, males and females are often held in separate units and participate in treatment groups with only their own gender, which leads to gender-specific groups; however, the treatment is often not tailored to the specific needs of each gender.

No studies to date have examined the availability of gender-specific mental health treatment services for trauma for juvenile offenders. According to the Office of Juvenile Justice and Delinquency Prevention (2009), female juvenile offenders are described as a “special population” and mental health treatment services specifically for girls is a major initiative within

the juvenile justice arena. Practitioners in the field report that some juvenile justice facilities provide “men’s groups” focused on psychoeducational intervention, but that trauma-focused treatment groups for male juvenile offenders are not common, if they exist at all (N. Wonder, personal communication, 2007).

A comprehensive review of the literature indicated that the type and frequency of mental health services provided to juvenile offenders varies widely and is determined individually by each jurisdiction. Further, there are no set standards in place for what type of mental health treatment juvenile facilities must offer to juvenile offenders. The current literature suggests that, in most jurisdictions, the decision about whether or not to refer a juvenile offender for mental health treatment is the decision of a Judge, case manager, or social worker. According to documents published by the Office of Juvenile Justice and Delinquency Prevention (2009) “gender-specific services” only refers to initiating and developing mental health services for female juvenile offenders. No indications of “gender-specific” mental health services for male juvenile offenders were found in the literature.

Gender Differences in Trauma-Related Treatment Referrals Among Juvenile Offenders

Despite the high incidence of trauma in juvenile offenders, access to trauma-related mental health treatment for juvenile offenders has not been widely studied. The majority of gender specific services or special treatment projects that exist within juvenile justice programs are targeted for girls (Office of Juvenile Justice and Delinquency Prevention, 2009). No indication of trauma-specific mental health services for boys within the juvenile justice system was found. At the present time, little investigation of mental health services offered to juvenile offenders has been conducted although the need for mental health initiatives for this population has been known for many years. The Juvenile Justice and Delinquency Prevention Act of 1974 (PL 93-415) was passed by Congress as an attempt to improve the conditions of juvenile detention facilities, including the access to appropriate psychiatric care (Howell, 1998). However, the act does not define what “appropriate care” is means (Pajer et al., 2007). Further, the act does not include symptom-specific or type of mental health care to be provided.

Currently, the literature points to only three studies that have surveyed the mental health care policies of juvenile justice facilities. In 1983 only 24% of facilities had policies directing mental health care of juvenile detainees (Anno, 1984). The Office of Juvenile Justice and

Delinquency Prevention (OJJDP) found that in 1991, 67% of juvenile detention facilities had a policy for some type of mental health care (Parent, et al., 1994), but the type of treatment and professionals administering it were not defined. A study conducted in 1998 and aimed at specifically investigating the policies of juvenile detention facilities regarding mental health treatment found that 71% of facilities had policies to screen for mental health problems, 56% to perform mental health evaluations, 85% had emergency mental health services, 74% provided medication therapy, 27% had a plan for necessary 24-hour mental health care, and 43% provided mental health therapy from a licensed clinician (Pajer et al., 2007). Currently, there are no studies examining gender difference in treatment referrals among juvenile offenders, but policy writings and clinical observations suggest that there is more attention to services for females than males. The present study will examine the number of referrals made for mental health treatment for male and female juvenile offenders with a documented history of experiencing a traumatic event and exhibiting symptoms associated with a post-trauma response.

Critical Analysis of the Literature

Research Outcomes

Research related to juvenile offenders has largely focused on the types of crimes, recidivism rates, and characteristics that relate to court-involved youth. In general, the research has consistently shown that juvenile offenders, as a whole, are at greater risk for experiencing trauma, particularly community violence, physical abuse, and domestic violence. Further, the research has generally agreed that juvenile offenders show higher prevalence rates of psychiatric disorders than the general population of youth. Further, differences between males and females with regard to mental health functioning are well documented in the literature. Findings continuously suggest that adolescent females are at higher risk for affective disorders while males are at higher risk for behavioral and substance abuse disorders.

While the literature tends to converge around characteristics and needs of juvenile offenders, great divergence exists in the types of intervention indicated for juvenile offenders. Most notably, the fact that individual jurisdictions mandate the evaluation and treatment of juvenile offenders leads to much inconsistency in the methods of intervention, thus making outcome studies difficult. One area that the literature seems to indicate similarities among jurisdictions is the higher focus on mental health services for females as opposed to males.

As a whole, the juvenile offender population can be difficult to study because of their status as a vulnerable population. Inherent in that categorization, much of the research is based upon either small studies, with few participants, or a few large studies that use the same data repeatedly for different analyses. The former results in results with little generalizability and thus, little fuel for policy change. The latter results in a, relatively speaking, small number of juvenile offenders being considered representative of the population, when that may not be accurate.

Gaps in Content

The juvenile offender population is of interest to researchers, clinicians, and policy-makers, given the significant numbers of youth who are involved with the juvenile courts each year. However, research related to specific services available to juvenile offenders is lacking. In particular, there are no known studies that examine gender differences with regard to trauma-related symptoms or trauma-related treatment referrals. Further, to date, the availability of gender-specific mental health treatment services for trauma for juvenile offenders is absent in the literature. Additionally, female juvenile offenders, with regard to their designation as a “special population” and their need for mental health treatment, are overrepresented in the literature, while mental health services for male juvenile offenders is less studied. Conversely, behavioral approaches and interventions appear to be more commonly studied for male juvenile offenders than females. With regard to psychological evaluation of juvenile offenders, gaps are present with regard to consistency in the manner that juvenile offenders are screened for evaluation, the types of measures used, and the interpretation of symptoms. In particular, there appears to be disagreement regarding the manifestation of anger male juvenile offenders with regard to oppositional and defiant styles, antisocial tendencies, and unresolved psychological trauma.

A comprehensive review of the literature indicated that there are no set guidelines for what type of mental health treatment should be offered to juvenile offenders; this represents a significant gap in need of attention. Further, there is a gap in the literature with regard to the qualifications and training of individuals involved in the decision-making, clinically and legislatively, for juvenile offenders.

The present study seeks to lay some groundwork for further investigation into the issues related to trauma-related symptoms and treatment for male and female juvenile offenders.

Research Questions

After thorough review of the literature, the following two research questions are in need of investigation and will be examined by the present study:

- 1) What are the gender differences on the Anger, Depression, Anxiety, Dissociation, Sexual Concerns, and PTSD scales of the Trauma Symptom Checklist For Children among youth involved with the juvenile justice system?
- 2) What is the relationship between the decision to refer juvenile offenders with clinically significant trauma reactivity, (as measured by scale elevations on the Anger, Depression, PTSD, Dissociation, Sexual Concerns and Anxiety scales of the TSCC), for trauma-based mental health services and gender?

CHAPTER THREE: METHODOLOGY

Introduction

Chapter Three addresses the methods involved in conducting this study. It begins with the study purpose and hypotheses, followed by a description of the participants, procedure, measures, and statistical analyses used.

Purpose and Hypotheses

The aim for the present study is to examine the relationship between clinically significant expressed symptoms associated with the experience of trauma and gender in a sample of male and female juvenile offenders with known histories of experiencing traumatic events. Additionally, the present study will examine the relationship between gender and the decision to refer to treatment juvenile offenders with known histories of experiencing traumatic events and clinically significant expressed symptoms associated with trauma.

Two hypotheses were generated for the study:

The first hypothesis suggests that there will be a difference between male and female juvenile offenders' expressed symptoms of trauma, as measured by the Anger, Depression, PTSD, Dissociation, Sexual Concerns, and Anxiety scales of the Trauma Symptom Checklist For Children. It is hypothesized that female juvenile offenders will produce higher scores than male juvenile offenders on the Anxiety, PTSD, Depression, and Sexual Concerns Scales. It is also hypothesized that male juvenile offenders will produce higher scores than female juvenile offenders on the Anger scale. It is hypothesized that there will be no difference in clinical significance of scores on the Dissociation scale by gender. Research indicates that females are far more likely to be victims of sexual abuse than males (U.S. Department of Health & Human Services, 2004). Therefore, it is reasonable to assume that girls will produce a higher number of clinically significant scores on scales that measure symptoms specifically associated with sexual trauma. Additionally, research supports that females are more likely to exhibit symptoms of PTSD, depression, and anxiety.

The second hypothesis states that female juvenile offenders will be more likely to be referred for trauma based mental health services than males, controlling for their expressed symptoms, as measured by the Anger, Depression, PTSD, Dissociation, Sexual Concerns, and Anxiety scales of the Trauma Symptom Checklist For Children. The alternate hypothesis was

used as the researcher hypothesized that the decision to refer for trauma-based mental health services will occur significantly more frequently for female juvenile offenders than male juvenile offenders.

Participants

The participants for this project were drawn from archival data. The participants are adolescents (46% male and 54% female), aged 13 – 16 ($M = 14.28$; $SD = 1.02$), who have been charged with at least one crime in the Juvenile Court, have received a psychological evaluation, and have a documented history of experiencing a traumatic event. Types of legal charges incurred by the participants include: Assault and Battery, Domestic Assault and Battery, Drug Possession, Drug Possession With Intent To Sell, Theft, Violations of Probation, and CHINS Petitions. The participants are entirely a probation population. The program from which the archival data are drawn does not serve incarcerated youth and is a diversion option for youth on probation status. Each participant was administered the Trauma Symptom Checklist For Children as part of the psychological evaluation they received, as part of routine services through the facility from which the data was drawn. The participants represent Caucasian, African American, and Hispanic, and Asian ethnic groups. Participants' demographics are presented in Table 1. All available participants who met these criteria were included in the study ($N = 250$). Any prospective participant who produced an invalid profile on the TSCC was removed from the study. The data were collected from a treatment facility in the Metrowest area of Massachusetts that provides mental health treatment and evaluation services to adolescents, including juvenile offenders. The clients at this facility routinely receive psychological evaluations, including the administration of the TSCC as part of their treatment program. This population of juvenile offenders was referred to the facility from five jurisdictions of Juvenile Courts during the 2008 – 2011 reporting years.

Demographic Variables

Table 1 presents specific characteristics of the 250 subjects used in this study. As stated previously, all demographic information was obtained anonymously, through archival data, which is routinely collected by the facility that provided the data.

Table 1

Demographics

	Frequency	Percent
Gender		
Male	115	46
Female	135	54
Probation Status		
Male	115	100
Female	135	100
Ethnicity		
Caucasian	105	42.0
African American	73	29.2
Hispanic	63	25.2
Asian	4	1.6
Other	5	2.0

The distribution of the ethnicity of the participants in this study appears to be representative of relevant data for the state from which the data were collected. According to a review of the Massachusetts Juvenile Justice population conducted in 2008 as part of the Massachusetts No Child Left Behind Collaboration Project, by Thomas G. Blomberg and George Pesta, the demographic related to ethnicity of the Massachusetts population of youth involved with the juvenile justice system are as follows:

Table 2

Demographics of Juvenile Offenders in Massachusetts

Ethnicity	Percent
Caucasian	37.0
Hispanic	25.0
African American	27.0

Table 2 – continued

Ethnicity	Percent
Asian	4.0
Other	7.0

Informed Consent

This study utilizes archival data; the researcher had no access to identifying information about the clients from whom the information was obtained. The agency providing the archival data maintains intake files for each client with this data as a routine part of their facility’s operational procedures. Data are routinely entered and maintained anonymously in an electronic file, which is routinely accessed for research purposes. In addition, a signed consent by a parent or guardian to utilize information gained during the course of treatment and/or evaluation, anonymously, for research purposes, is received by the agency at the time of the youth’s intake. Therefore, additional informed consent is not necessary for this study.

Instruments

The Trauma Symptom Checklist For Children (TSCC) is the primary instrument used in this study. Information regarding the content, validity, and psychometric properties of this instrument is discussed below. In addition, participant demographic information (gender, age, and race) and referral for services are measured as indicated in the procedure section above. Copies of the TSCC and profile scoring page are not appended to this document due to copyright regulations.

The Trauma Symptom Checklist for Children is a 54-item self-report measure of symptoms related to post traumatic stress and other psychological symptoms associated with trauma (Briere, 1996). The TSCC is used to evaluate children who have experienced traumatic events including childhood physical or sexual abuse, victimization by peers, major losses, witnessing violence, and natural disasters (Briere, 1996). The TSCC asks the respondent to indicate how often they experience specific symptoms or events on a 4-point Likert type scale (with 0 = Never; 1 = Sometimes; 2 = Lots of Times; 3 = Almost all the Time). The TSCC consists of two validity scales: Underresponse (10 items) and Hyperresponse (8 items) plus six clinical scales: Anxiety, which measures the presence of symptoms such as hyperarousal, worry, and specific fears (9 items); Depression, which measures the presence of feelings such as

sadness, loneliness, guilt, and suicidality (9 items); Anger, which measures the presence of behaviors such as difficulty de-escalating anger and the desire to argue and fight with others, and feelings of anger and hatred (9 items); Posttraumatic Stress, which measures the presence of symptoms such as intrusive thoughts, nightmares, and fears (10 items); Dissociation, which measures the presence of symptoms of derealization, emotional numbing, memory problems, and dissociative avoidance (with two subscales totaling 10 items); and Sexual Concerns, which measures symptoms such as sexual conflicts, negative responses to sexual stimuli, and fear of being sexually exploited (with two subscales totaling 10 items) and eight critical items (Briere, 1996). Examples of items from each scale are as follows:

Anxiety Scale:

- Feeling nervous or jumpy inside
- Worrying about things

Depression Scale:

- Crying
- Wanting to kill myself

Anger Scale:

- Feeling mad
- Wanting to hurt other people

Posttraumatic Stress Scale:

- Bad dreams or nightmares
- Scary ideas or pictures just pop into my head

Dissociation Scale:

- Going away in my mind, and trying not to think
- Feeling like things aren't real

Sexual Concerns Scale:

- Not trusting people because they might want sex
- Getting scared or upset when I think about sex

Scoring, Validity, and Reliability

All administrations and scoring of the TSCC were conducted by doctoral level psychologists, or by doctoral candidates in psychology under the direct supervision of doctoral level psychologists. Only participants with clinically valid profiles on the TSCC, as measured by the Underreporting and Hyper-reporting scales on the TSCC, were included in this study.

The TSCC is a well-established clinical tool for assessing the presence of post-trauma symptoms in adolescents (Briere, 1996). Additionally, TSCC Professional Manual also provides information related to profiles of youth experiencing trauma from witnessing domestic violence (especially boys witnessing males aggressing towards their mothers) and youth experiencing trauma from interpersonal violence, both of which, based upon past research, are hypothesized to be traumatic situations commonly experienced by this population (Briere, 1996). Therefore, this measure was deemed an appropriate tool to measure post-trauma symptomology among the sample used in this study by the Principal Investigator.

Standardization

The TSCC has been standardized on a sample of 3,008 subjects, aged 8 – 16 years-old in nonclinical settings (Briere, 1996). The norm group represented both genders, with 53% of the sample being female and 47% of the sample male (Briere, 1996). The representation of different races in the normative sample was 44% Caucasian, 27% African American, 22 % Hispanic, 2% Asian, and 4% not specified (Briere, 1996). Based on statistical analyses, the test developers standardized TSCC scores by age and gender (Briere, 1996). Standard scores are available for the following groups of children on the TSCC: boys aged 8 – 12, boys aged 13 – 16, girls aged 8 – 12, and girls aged 13 – 16 (Briere, 1996).

Reliability

Five of six clinical scales of the TSCC have high internal consistency with the alpha coefficients ranging from .82 to .89, based upon the normative sample (Briere, 1996). In four studies reported by Briere (1996), internal consistency for the scales ranged as follows: Anxiety ($\alpha = .82 - .89$), Depression ($\alpha = .85 - .89$), Anger ($\alpha = .87 - .89$), Posttraumatic Stress ($\alpha = .85 - .87$), Dissociation ($\alpha = .80 - .89$), Sexual Concerns ($\alpha = .64 - .78$).

Validity:

- a. Content Validity:

The TSCC was initially developed with 75 items to address the six clinical domains referenced above (Briere, 1996). Expert judges, who were clinicians specializing in the treatment of traumatized children, identified 21 items that were either redundant or did not meaningfully assess the six target clinical domains (Briere, 1996). The remaining 54 items were tested in several studies related to child abuse where reliability and validity measures indicated that the items adequately measured the six target clinical scales (Briere, 1996). The intercorrelations between the clinical scales of the TSCC range from .37 - .81. The strongest intercorrelation (.81) was found between the Anxiety and Posttraumatic Stress scales. The weakest intercorrelation (.37) was found between the Anger and Sexual Concerns scales.

b. Convergent and Discriminant Validity:

Both the convergent and discriminant validity of the TSCC were measured in relation to other measures of trauma (Briere, 1996). According to Briere (1996), “TSCC scales correlated most with scales of similar content (concurrent validity) and least with scales of less similar content (discriminant validity).” Significant correlations were found specifically between the TSCC and the Child Behavior Checklist -Youth Version (CBCL - Y) internalizing scales and externalizing scales, the Child Behavior Checklist – Parent Version (CBCL – P) internalizing scales and externalizing scales, and the Children’s Depression Inventory (CDI) (Lanktree & Briere, 1995).

Procedures

The researcher’s application for research to the FSU Institutional Review Board was approved for this study on 04/19/2011 (See Appendix A). Additionally, written permission to use archival data from the facility that provided the data was obtained. Coded data of T-scores was collected from the Anger, Depression, Anxiety, Dissociation, Sexual Concerns, and PTSD scales of the TSCC for each participant and compared for elevations of clinical significance. T-scores were also collected for the two validity scales of the TSCC for each participant; only valid profiles were used in the present study. Validity was determined by using the levels of clinical significance set forth by the technical manual of the TSCC. Referrals for trauma-related treatment are recorded in the database in a categorical yes-no format (“yes”, was coded as “1”, for participants who were referred for trauma-related treatment and “no”, was coded as “2”, for

participants who were not referred for trauma-related treatment). Coded demographic data was collected for purposes of identifying the sample. Demographic information included age, gender, and race. Only participants meeting the requirements for inclusion, as previously noted, were used in the present study. Coded data indicating the presence or absence of a known history of experiencing trauma was also collected for inclusion purposes. Participants without a known history of trauma were not included in the present study.

Data Analysis

In order to answer the two posed research questions the researcher performed two statistical analyses.

Question 1: To investigate the relationship between gender and production of clinically significant scores on the Anger, Depression, Anxiety, Dissociation, PTSD, and Sexual Concerns scales of the TSCC, an MANOVA analysis was conducted with gender as an independent variable and the six scale scores of the TSCC as continuous dependent variables.

Question 2: To investigate the relationship between the decision to refer juvenile offenders with clinically significant indications of trauma reactivity (as measured by scale elevations on the Anger, Depression, Anxiety, Dissociation, PTSD, and Sexual Concerns scales of the Trauma Symptom Checklist For Children) for trauma-based mental health services and gender, a Logistic Regression was used. Clinically significant indications of trauma reactivity were recorded by creating a new variable with two categories: having at least one score of 65 or greater out of six symptoms of trauma versus having none. Having been referred for trauma-specific treatment or not was used as the outcome variable.

Power Analysis

A Power Analysis was conducted for an MANOVA, with within-between interactions. The results of the Power Analysis indicate that with a moderate effect size (.25), the inclusion of all 250 available cases, and six measurements, the power is 87%.

CHAPTER FOUR: RESULTS

This study evaluated gender differences in indications of trauma-reactivity, as measured by the Trauma Symptom Checklist For Children, among juvenile offenders, and gender differences in referrals for trauma-specific mental health treatment among juvenile offenders. This study included 250 participants, ages 13 – 16, evaluated at a nonprofit mental health treatment facility in Massachusetts, and only included archival data. All of the participants were a probation population. The data was analyzed using an MANOVA and Logistic Regression. The purpose of using an MANOVA to answer the first question was to test for significant differences between the means of scores produced by the participants in order to determine the presence or absence of significant differences in characteristics by gender. The purpose of using a Logistic Regression to answer the second research question was to determine the impact of client gender to predict if an individual would or would not be referred for trauma-specific mental health treatment.

Research Question One

What are the gender differences on the Anger, Depression, Anxiety, Dissociation, Sexual Concerns, and PTSD scales of the Trauma Symptom Checklist For Children among youth involved with the juvenile justice system?

MANOVA, using Wilks' Lambda criteria, indicated statistical significance [F(6,243)=43.04, P-value=<0.0001]. This supports rejection of null hypothesis and indicates a high probability of an overall gender effect.

The results of MANOVA post-hoc tests using a Bonferroni correction indicated that females were found to have statistically significantly higher scores in the trauma symptoms of Depression (p=0.012) and Sexual Concerns (p=0.007), while males were found to have statistically significantly higher scores in the trauma symptom of Anger (p = <0.0006). No significant differences were found between genders in the scores of Anxiety, PTSD and Dissociation (Table 3).

When looking at the differences between males and females among those who were referred to trauma-based mental health services, statistically significant difference is found only on the Anger scale where females referred for trauma-specific treatment have significantly lower scores than referred males (p = <0.0001) (Table 4). When looking at the differences between males and females among those who were not referred to trauma-based mental health services,

non-referred males had significantly higher scores than non-referred females in all six symptoms of trauma (Table 5).

The key for the abbreviations used in Tables 3, 4, and 5 are as follows: ANX = Anxiety; DEP = Depression; ANG = Anger; PTSD = Post-Traumatic Stress; DIS = Dissociation; SC = Sexual Concerns. The following tables indicate mean scores and standard deviations, which are indicated in parentheses.

Table 3

Comparing mean scores between males and females for scaled scores on the TSCC

	ANX	DEP	ANG	PTSD	DIS	SC
FEMALE	74.38 (15.43)	75.92 (15.23)	64.76 (12.41)	74.74 (15.96)	70.07 (17.11)	70.91 (16.39)
MALE	70.34 (11.14)	70.63 (10.60)	74.57 (9.93)	72.03 (10.42)	67.17 (12.35)	64.90 (11.76)
DF	1	1	1	1	1	1
F	5.45	9.8	46.5	2.44	2.29	10.76
Bonferroni adjusted p-value	0.12	0.012	0.0006	0.72	0.78	0.0072

Table 4

Gender differences for youth in the referred group

	ANX	DEP	ANG	PTSD	DIS	SC
FEMALE	80.74 (10.41)	82.41 (9.71)	69.69 (7.28)	81.27 (10.27)	75.87 (13.88)	76.90 (12.60)
MALE	80.66 (5.17)	80.44 (5.96)	83.88 (4.82)	83.54 (5.04)	75.22 (9.70)	73.49 (9.77)
p-value	0.96	0.23	<0.0001	0.18	0.78	0.12

Table 5

Gender differences for youth in the not referred group

	ANX	DEP	ANG	PTSD	DIS	SC
FEMALE	53.91 (10.29)	55.03 (10.12)	48.91 (12.29)	53.72 (12.49)	51.38 (12.61)	51.63 (11.67)
MALE	64.62 (9.29)	65.20 (8.49)	69.42 (8.11)	65.65 (6.32)	62.70 (11.40)	60.14 (9.97)
p-value	<0.0001	<0.0001	0.004	<0.0001	<0.0001	0.0002

Research Question Two

What is the relationship between the decision to refer juvenile offenders with clinically significant trauma reactivity, (as measured by scale elevations on the Anger, Depression, PTSD, Dissociation, Sexual Concerns and Anxiety scales of the TSCC), for trauma-based mental health services and gender?

When comparing females and males who showed at least one clinically significant scale elevation on the TSCC (N=205), females were referred 99% of the time, while males were referred 39% of the time. This difference is statistically significant with a p-value of <0.0001. Table 6 illustrates these results. Among those participants with no clinically significant scale elevations, females were referred for trauma-specific mental health treatment 14% of the time, while males were referred 0% of the time (Table 6). Additionally, 61% of males with clinically significant scale elevations (N=65) were not referred for trauma-specific mental health treatment. Females with no clinically significant trauma-related scale elevations were referred for trauma-specific treatment 14% of the time. Only one female in the sample with clinically significant scale elevations was not referred for trauma-related treatment. Among participants with at least one clinically significant scale elevation, there is a statistically significant difference between males and females in the proportion that was referred for trauma-specific treatment (Table 7).

The analysis of the data revealed an inherent limitation of this study; only nine males in the study were found to have no scale elevations of clinical significance. Therefore, it was not

possible to perform a statistical test comparing referral rates of males and females who had no clinically significant scale elevations and a Chi Square is not reported.

The following tables indicate raw numbers of participants, with percentages given in parentheses.

Table 6

Comparison of whether or not referral was made by gender, with regard to presence or absence of clinically significant scale elevations on the TSCC

		REFERRED	NOT REFERRED
FEMALE	SCALE ELEVATION PRESENT	98(99%)	1(1%)
	NO SCALE ELEVATIONS	5(14%)	31(86%)
MALE	SCALE ELEVATION PRESENT	41(39%)	65(61%)
	NO SCALE ELEVATIONS	0(0%)	9(100%)

Table 7

Comparison of males and females on referral rates for those who showed any clinically significant scale elevations on the TSCC

	REFERRED	NOT REFERRED	P-VALUE
FEMALE	98(99%)	1(1%)	<0.0001
MALE	41(39%)	65(61%)	
TOTAL	139(68%)	66(32%)	

CHAPTER FIVE: DISCUSSION

The purpose of this study was to examine gender differences in the reported symptoms associated with a post-trauma response in juvenile offenders and in the decision to refer juvenile offenders for trauma-specific mental health treatment. Currently, there are no known studies that examine the types of mental health treatment referrals made for this population of adolescents.

Prior research suggests that juvenile offenders are more likely to experience traumatic events than their non-offending peers, the majority of juvenile offenders have experienced at least one traumatic event, and that the overall rate of PTSD among males and females juvenile offenders is around 30% (Carrion and Steiner, 2000; Cauffman et al., 1998; Steiner et al., 1997). Recent research has found that most male juvenile offenders have experienced a traumatic event and that approximately 25% of them meet the full criteria for the diagnosis of PTSD (Ruchkin, et al., 2002). A recent study that examined the rate of PTSD among female juvenile offenders found that 77% of adolescent female offenders have experienced a traumatic event and 33% of them met the full criteria for the diagnosis of PTSD (Michio, et al., 2008). In general, prior research suggests that the juvenile offender population, regardless of gender, is a group at high-risk for experiencing trauma (Grover, 2004).

Additionally, there is a lack of uniformity between jurisdictions regarding the type of services available for juvenile offenders and the methods for assessing their needs (N. Wonder, 2007, Personal Communication,). Specific statistics regarding the type and prevalence of services available for youth is widely debated and not agreed upon. However, it is widely accepted that mental health services for juveniles are lacking and appropriate referrals are often not made (Hammond, 2007; Teplin, et al., 2005). The current study utilized one of the tools with strong validity for assessing post-trauma symptoms in adolescents, the Trauma Symptom Checklist For Children (Briere, 1996).

The remainder of this chapter will discuss the findings of this study as they related to the research questions. This chapter will also identify specific implications for practitioners, indicate limitations of the study, and suggest areas for future research.

Demographic Descriptors

Of the 250 subjects in this study 115 (46%) were males and 135 (54%) were females. This aligns with prior research which suggests that although more males than females are

involved with the juvenile justice system, females are more likely to be referred for evaluations related to mental health needs. This is particularly interesting considering that both genders within this population of youth tend to have similar mental health treatment needs (Hammond, 2007). As a result of more females receiving psychological evaluations, it is reasonable to assume that more females than males would be referred for treatment; however, the results of this study suggest that the rate at which females are more frequently referred cannot be solely attributed to them representing 10% more of the sample.

The analysis of ethnic diversity of the sample indicates that the sample used in this study is similar to the ethnic diversity of the juvenile justice population represented in the state from which the data was collected. The ethnicities of the participants in the current study were distributed as follows: Caucasian: 42% (105), African-American: 29.2 % (73), Hispanic: 25.2% (63), Asian: 1.6% (4), and Other: 2.0% (5). The distribution of ethnicities estimated in the state from which the data was collected is as follows: Caucasian: 37%, African-American: 27 %, Hispanic: 25%, Asian: 4%, and Other: 7%. Therefore, the sample can be considered representative of the population.

Analysis of Research Questions

Research Question One

What are the gender differences on the Anger, Depression, Anxiety, Dissociation, Sexual Concerns, and PTSD scales of the Trauma Symptom Checklist For Children among youth involved with the juvenile justice system?

The researcher hypothesized that female juvenile offenders would produce higher scores than male juvenile offenders on the Anxiety, PTSD, Depression, and Sexual Concerns scales. Depression and Sexual Concerns were the only scales found to have significantly higher elevations by females, with p-values of 0.012 and 0.007, respectively. It was further hypothesized that male juvenile offenders would produce higher scores than female juvenile offenders on the Anger scale. The analysis of the data supported this hypothesis, with a p-value of 0.0006. Therefore, it is reasonable to conclude that the gender differences in production of clinically significant symptoms on these three scales were likely not due to chance and are likely a characteristic of the population. These findings support prior research, which widely suggests that depression is more common among females and anger is more often exhibited by males.

Interestingly, the difference between *exhibition* of anger and *feeling* angry may not be adequately assessed by the TSCC. Regarding the gender difference for females endorsing higher levels of sexual concerns, this may be accounted for by the higher prevalence rate of sexual abuse among adolescent females, especially those in a juvenile offender population (Abram, et al., 2004; Tolin & Foa, 2006). Another possible reason for the difference is that males may be less socialized to express or admit difficulties related to sexual issues and emotional difficulties.

No significant differences were found between genders in the scores of Anxiety, PTSD and Dissociation. Several reasons for the lack of gender differences in the elevation of scores on these three scales are possible. First, prior research has suggested that the population of males and females in the juvenile offender population are generally at higher-risk for PTSD (Carrion and Steiner, 2000; Cauffman et al., 1998; Steiner et al., 1997); therefore, they may exhibit similar levels of PTSD, but with different variables contributing to the make-up of their symptoms. For example, some of the items on the TSSC that load on the PTSD scale also load onto other scales of the TSCC (Briere, 1996). Therefore, it is possible that males and females endorsed different types of items, which produced clinically significant scores on specific symptom scales, but combined, showed no difference on the PTSD scale, which includes items from multiple scales.

Regarding no statistically significant differences found by gender on the Dissociation scale, it is possible that the current study replicated prior research, which suggests that dissociation is a common emotional response to trauma in both male and female juvenile offenders (Carrion & Steiner, 2000). Therefore, differences in gender would not be great enough to be detected. Surprisingly, no significant gender differences were found on the Anxiety scale, despite the literature overwhelmingly suggesting that females generally experience higher rates of anxiety. It is possible that this similarity between genders may relate to Garbarino's Theory of Violence (1999) for this population. Garbarino's theory, in part, purports that juvenile offenders tend to live in more "toxic" environments and generally have higher levels of hypervigilance to their social environment (Garbarino, 1999). Therefore, it is reasonable to consider that the social environment of juvenile offenders in and of itself may be considered "traumatic," thereby producing high levels of anxiety in both genders.

Research Question Two

What is the relationship between the decision to refer juvenile offenders with clinically significant trauma reactivity, (as measured by scale elevations on the Anger, Depression, PTSD, Dissociation, Sexual Concerns and Anxiety scales of the TSCC), for trauma-based mental health services and gender?

It was hypothesized that female juvenile offenders would be more likely to be referred for trauma based mental health services than males, which was supported by the analysis of the data. Examination of the data suggests that there may be a gender bias with regard to referring juvenile offenders for trauma-specific mental health treatment. Further, it appears that simply being female increased the likelihood that an individual would be referred for trauma-specific mental health services. Most notably, females with no trauma-related symptoms were considered to be in need of trauma treatment 14% of the time, as opposed to males with no trauma-related symptoms never being considered in need of trauma-specific treatment. Further, the comparison of males and females who were not referred for trauma-specific treatment suggested that many non-referred males either showed some clinically significant symptoms or high levels of subclinical symptoms, while females who were not referred generally showed much lower levels of subclinical symptoms. It is possible that as a society, we are socialized to expect females to be more severely impacted by emotional issues and therefore, attend to their needs, even if they are of a subclinical or mildly clinical level, quickly.

Several other possible explanations for the gender differences in trauma-specific treatment referrals for this population may exist. For example, these results could suggest that clinicians may use different guidelines for assessing the need for trauma-specific mental health treatment for male and female juvenile offenders. Specifically, it is possible that trauma-related symptoms in males, such as anger, which this population of males appears to exhibit significantly more than females, are attributed to other causes than trauma by clinicians. Additionally, comorbidity of symptoms may have impacted clinicians' decisions to refer youth for particular types of treatment. The clinicians' perceptions of a potential lack of evidence-based practice for trauma therapy could have also been a possible factor for clinicians not referring males for trauma-specific treatment, which requires further examination.

According to the Office of Juvenile Justice and Delinquency Prevention (2009), female juvenile offenders are described as a "special population" and mental health treatment services

specifically for girls is a major initiative within the juvenile justice arena. Therefore, clinicians' decisions to refer youth for services may be influenced by policy related to promoting services for this population of females. Further, the population in this study was derived from five different Juvenile Courts. Therefore, there might have been some systematic gender bias in the referral process based on differences in the way each Court identifies youth in need of mental health evaluation.

A comprehensive review of the literature indicated that the type and frequency of mental health services provided to juvenile offenders varies widely and is determined individually by each jurisdiction. Further, there are no set standards in place for what type of mental health treatment juvenile facilities must offer to juvenile offenders. According to documents published by the Office of Juvenile Justice and Delinquency Prevention (2009), "gender-specific services" only refers to initiating and developing mental health services for female juvenile offenders. No indications of "gender-specific" mental health services for male juvenile offenders were found in the literature. Therefore, the results of this study may reflect clinical-decision making in light of reduced availability of services for males.

Policy and Practice Implications

Implications for Policy

Several studies have revealed higher prevalence rates of exposure to trauma and PTSD among youth involved with the juvenile justice system, (Abram et al., 2004; Cauffman et al., 1998, Dixon, Howie, & Starling, 2005; Lederman, Dakof, Larrea, & Li, 2004; Steiner, Garcia, & Mathews, 1997; Ruchkin, et al., 2002, Wood, Foy, Goguen, Pynoos, & James, 2002a). Additionally, Hammond (2007) concluded that the treatment needs of male and female juvenile offenders are similar. The results of this study suggest that it may be possible that programs that serve juvenile offenders are in need of updating and improving their policy and treatment models to support the needs of males with post-trauma symptoms. This includes both identifying the needs of this population of males with post- trauma symptoms and providing relevant services. It appears prudent to consider the wealth of data that suggests this population of males experience higher rates of trauma than the general population of adolescents, and the scarcity of support and advocacy for appropriate treatment for these youth.

Implications for Clinical Practice

It is important to note that the current study only included youth with documented histories of experiencing trauma. The results of this study suggest that the combination of professionally documented experiences of trauma and clinically significant indications of trauma reactivity were still not sufficient for a significant number of males to be referred for trauma-specific treatment. This suggests that further examination of clinical decision-making and efficacy of treatment for this population may be needed to improve the assessment and treatment of this subset of high-risk males. This study has built upon prior research and identified a group of individuals that is in possible need of services to improve the likelihood that their mental health needs are appropriately met. Further, it is important to consider that this study utilized purely a probation population of juvenile offenders, which suggests that the options for treatment able to be created for them are much greater than incarcerated youth because of their freedom to receive services from multiple sources and facilities. This suggests that other modalities of mental health treatment, such as home-based treatment initiatives and therapeutic school-based programs, could be included in policy and clinical decisions for these youth.

The results of the current study suggest that clinicians working with juvenile offenders may need to be better trained to differentiate the trauma-based and non-trauma-based etiologies of symptomology, especially anger. For male juvenile offenders, it appears that anger may be viewed as a “problem” exclusive of trauma and not part of trauma-reactivity. This is especially concerning in light of the fact that the anger scale of the TSCC is designed to assess the manifestation of anger related to trauma-reactivity. It will be important for clinicians working with this population to be trained to understand the manifestation of anger in male juvenile offenders through a trauma-informed lens.

Implications for Courts

The current literature suggests that, in most jurisdictions, the decision about whether or not to refer a juvenile offender for mental health evaluation is the decision of a judge, case manager, or social worker. Therefore, possible differences in how jurisdictions make decisions to refer youth for services and the training of the staff making referrals may vary and account for some of the variance in referral rates by gender. This suggests that some Courts may benefit from consultation from mental health professionals to guide internal policy for deciding how youth are referred for mental health evaluations and/or treatment. In particular, training related to the way

adolescent males tend to manifest trauma may be especially important. In particular, if future research suggests that lack of training is a salient factor in lower rates of referrals for males from the Courts, training related to the way adolescent males tend to manifest trauma may be especially important.

Socioeconomic differences may also be a factor related to which jurisdictions, and thereby which youth, have access to clinically trained staff and sufficient options for evaluation and/or treatment referrals. If lack of access to resources is an issue, advocacy for Juvenile Justice policy that creates more available mental health treatment options for this population may be helpful. However, it will be important to consider the need for empirical support of treatment modalities for this population of youth. Investigating the effectiveness of such treatments may be important in addition to increasing availability of services.

Limitations

There are limitations associated with this study. First, the participants all range in age from 13 to 16 years. Since the study focuses on adolescents, the results cannot be generalized to children or adults. Second, the population of this study only includes juvenile offenders referred for mental health screening and evaluation at a non-profit community mental health agency, providing services for youth involved with state-funded agencies in the Massachusetts. Therefore, geographic limitations to generalization exist. Further, all of the participants are youth involved with the juvenile justice system; therefore, the generalization of the findings is limited to juvenile offenders. Finally, the current study utilized only a probation population of juvenile offenders; therefore, the results cannot be generalized to incarcerated juvenile offenders or those with other legal statuses.

Further, the present study was predicated on three major assumptions. First, it was expected that at the time of evaluation, all participants completed the instruments accurately and honestly. Second, it is assumed that the historical information recorded regarding the participants' exposure to trauma and present symptoms were accurately reported. Finally, it is assumed that the population is a representative sample of the juvenile justice population, on probation status, in Massachusetts, although their status as juvenile offenders suggests that they are not representative of most youth, ages 13 – 16, in the Northeast, which further limits the generalizability of the results. As previously mentioned, the data analysis revealed an inherent

limitation of the sample – only nine males were found to not have any trauma-related symptoms, which resulted in a direct comparison of males and females with no symptoms to not be feasible.

With regard to the analyses, an inherent limitation of the sample was discovered through Logistic Regression. A cell of zero participants emerged in the comparison of the referred and not-referred groups, by gender. There were zero males with no clinically significant symptoms referred for trauma-specific treatment. Therefore, the researcher was unable to investigate if distributions of the categorical variable (male or female) differed from one another.

Suggestions for Future Research

To date, there are no known studies that have examined the availability of gender-specific mental health treatment services for trauma for juvenile offenders. The results of the current study suggest that examination is needed regarding the availability of gender-specific services for male juvenile offenders. Further, the current study examined if male and female juvenile offenders were referred for trauma-based mental health services, but did not include an analysis of what, if any, mental health services youth with post-trauma symptoms who were not referred for trauma-based treatment were referred for. This is an important area for future research to help guide our understanding of treatment models for this population. Further, it seems important to examine the differences in outcomes for male juvenile offenders with post-trauma symptoms who receive and who do not receive trauma-specific mental health treatment. Specific outcome variables that would be of interest may include likelihood to reoffend, performance in school, and pre-test and post-test measures of symptomology and functioning.

Availability of mental health treatment for juvenile offenders should be more widely studied. Further, examination of types and access to (including time on waiting lists for treatment, etc.) mental health treatment for this population, by jurisdiction, accounting for socioeconomic factors, should be examined. This could help guide specific needs in specific areas through policy. Additionally, future research should examine possible effects of race with regard to referrals for treatment, for both genders, in this population.

Ryan (1996) identified mood disturbances as one of the most common types of symptoms manifested as part of a post-trauma response among youth. The results of the current study suggest that anger may not necessarily be viewed by clinicians as a form of mood disturbance among male juvenile offenders. Future research should examine the uniqueness of the variable of

anger and its clinical interpretation among this population, especially among youth that may have previously been identified as being oppositional, defiant, or having a conduct disorder.

The results of the current study also raised the question of the methodology of clinical decision-making for this population. It would be interesting for future research to study how clinicians who assess this population of youth weigh different factors in their decision to refer or not refer youth for particular types of treatment. In particular, it would be interesting to study the differences between clinicians who have received trauma-focused training and those who have not received trauma-focused training with regard to their likelihood to refer juvenile offenders for trauma-specific mental health treatment. Additionally, examination of clinicians' perceptions of the effectiveness of trauma-specific therapy, in light of the possible lack of evidenced-based treatment modalities for trauma, should be pursued to further understand clinical decision-making for trauma.

Another area of interest for future research may include examination into the impact of combined clinically significant symptoms on referrals for trauma-specific treatment, by gender. Specifically, examination of the relationship between comorbid mental health conditions and referral rates for different types of intervention will be important to better understand the trajectory of care for this population of youth. Finally, it will be important for future research to include studies similar to the present study with juvenile offenders in other parts of the country and with those with different legal statuses, such as incarcerated youth, to examine if similar findings are present in a broader range of juvenile offenders.

APPENDIX A
IRB APPROVAL LETTER

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 4/19/2011

To: Jennifer DelRey

Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research

GENDER DIFFERENCES IN POST-TRAUMA SYMPTOMS AND TRAUMA-RELATED TREATMENT REFERRALS
IN JUVENILE OFFENDERS

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 04/13/2011. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in

recruiting research subjects.

If the project has not been completed by 4/11/2012 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Georgios Lampropoulos, Advisor

HSC No. 2011.5965

REFERENCES

- Abram, K. M., Teplin, L. A., McClelland, G. M., & Dulcan, M. K. (2003). Comorbid psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry*, *60* (11), 1097-1108.
- Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61* (4), 403-410.
- Agnew, R., & Brezina, T. (1997). Relational problems with peers, gender, and delinquency. *Youth and Society*, *29*, 84-111.
- American Academy of Child and Adolescent Psychiatry Official Action (2005). Practice parameter for the assessment and treatment of youth in juvenile detention and correctional facilities, *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*(10), 107-125.
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders*. Washington, D.C.: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th ed., text revision)*. Washington, D.C.: Author.
- Anno, B.J. (1984). The availability of health services for juvenile offenders: preliminary results of a national survey. *Journal of Prison and Jail Health*, *4*, 77-90.
- Bandura, A. & Ribes-Inesta, E. (1976). *Analysis of delinquency and aggression*. Lawrence New Jersey: Erlbaum Associates, Inc..
- Bandura, A. (1977). *Social learning theory*. New York, NY: General Learning Press.
- Bayer, P., Hjalmarsson, R., & Pozen, D. (2003). Building criminal capital behind bars: Social learning in juvenile corrections. *Economic Growth Center*, *864*, 1-55.
- Bloch, D.A., Silber, E., & Perry, A.B. (1956). Some factors in the emotional reaction of children to disaster. *American Journal of Psychiatry*, *113*, 416 - 422.
- Blomberg, T.G. & Pesta, G. (2008) Juvenile justice no child left behind collaboration project Massachusetts juvenile justice education case study results. *Center for Criminology and Public Policy Research*, 1-10.
- Boney-McCoy, S., & Finkelhor, D. (1995). Psychosocial sequelae of violent victimization in a national youth sample. *Journal of Consulting and Clinical Psychology*, *63*(5), 726-736.
- Breslau, N. & Davis, G.C. (1987). Posttraumatic stress disorder: The etiologic specificity of wartime stressors. *American Journal of Psychiatry*, *144*, 578-583.

- Breslau, N., Davis, G.C., Andreski, P. & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, 48, 216-222.
- Breslau, N., Kessler, R.C., Chilcoat, H.D., Schultz, L.R., Davis, G.C., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit area survey of trauma. *Archives of General Psychiatry*, 55, 626-632.
- Briere, J. (1996). *Trauma Symptom Checklist For Children Professional Manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Burke, J., Moccia, P., Borus, J., & Burns, B. (1986). Emotional distress in fifth grade children ten months after a natural disaster. *Journal of the American Academy of Child Psychiatry*, 25, 536-541.
- Calderwood, D. (1987). The male rape victim. *Medical Aspects of Human Sexuality*, 21(5), 53 – 55.
- Calhoun, C., Light, D., & Keller, S. (1989). *Sociology*, 5th edition. New York: Alfred A. Knopf.
- Carrion, V. G., & Steiner, H. (2000). Trauma and dissociation in delinquent adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(3), 353-359.
- Cauffman, E., Feldman, S. S., Waterman, J., & Steiner, H. (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(11), 1209-1216.
- Child Welfare Partnership (1995). *Domestic violence summary: The intersection of child abuse and domestic violence*. Portland, OR: Portland State University.
- Cloitre, M., Cohen, L.R., & Koenen, K. (2006). *Treating survivors of childhood abuse: psychotherapy for the interrupted life*. New York, NY: The Guilford Press.
- Costello, E. J., Erkanli, A., Fairbank, J. A., & Angold, A. (2002). The prevalence of potentially traumatic events in childhood and adolescence. *Journal of Traumatic Stress*, 15(2), 99-112.
- Cottler, L.B., Compton, W.M., III, Mager, D., Spitznagel, E.L., & Janaca, A. (1992). Posttraumatic stress disorder among substance abuse users in the general population. *American Journal of Psychiatry*, 149, 664-670.
- Deykin, E.Y. & Buka, S.L. (1997). Prevalence and risk factors for posttraumatic stress disorder among chemically dependent adolescents. *American Journal of Psychiatry*, 154, 752-757.
- Dixon A., Howie P., Starling J. (2004). Psychopathology in female juvenile offenders. *Journal of Child Psychology and Psychiatry*, 45, 1150-1158.

- Dixon, A., Howie, P., & Starling, J. (2005). Trauma exposure, posttraumatic stress, and psychiatric comorbidity in female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(8), 798-806.
- Falshaw, L., Browne, K. D., & Hollin, C. R. (1996). Victim to offender: a review. *Aggression and Violent Behavior, 1*, 389-404.
- Finkelhor, D. (1984). *Child sexual abuse: new theory and research*. New York: Free Press.
- Flannery, D.J., Singer, M.I., & Wester, K. (2001). Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(4), 435-442.
- Frazier, P. (1993). A comparative study of male and female rape victims seen at a hospital-based rape crisis program. *Journal of Interpersonal Violence, 8*(1), 64 – 76.
- Garbarino, J. (1999). How we can save violent boys. *The Education Digest, 65*(4), 28-32.
- Garbarino, J. (2001). Making sense of youth violence. In Richman, J.M. & Fraser, M.W. (Ed.), *The context of youth Violence: Resilience, risk, and protection* (pp.83-96). Westport, CT: Praeger Publishers.
- Garrison, C.Z., Bryant, E.S., Addy, C.L., Spurrier, P.G., Freedy, J.R., and Kilpatrick, D.G. (1995). Posttraumatic stress disorder in adolescents after hurricane Andrew. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*(9), 1193 – 1201.
- Green, B.L., Grace, M.C., Vary, M.G., Kramer, T.L., Gleser, G.C., & Leonard, A.C. (1994). Children of disaster in the second decade: A 17 year follow-up of Buffalo Creek survivors. *Journal of the American Academy of Child and Adolescent Psychiatry, 33*, 71-79.
- Green, B.L., Karol, M, Grace, M.C., Vary, M.G., Anthony, L.C., Gleser, G.C., et al. (1994). Children and disaster: Age, gender, and parental effects on PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 945-951.
- Groth, A.N. & Burgess, A.W. (1980). Male rape: Offenders and victims. *American Journal of Psychiatry, 137*, 806-810.
- Grover, Angela R. (2004). Childhood sexual abuse, gender, and depression among incarcerated youth. *International Journal of Offender Therapy and Comparative Criminology, 48* (6), 683-696.
- Gold, Martin & Osgood, D. Wayne (1992). *Personality and Peer Influence in Juvenile Corrections*. Westport, CT: Greenwood Press.
- Gwadz, M.V., Nish, D., Leonard, N.R., & Strauss, S.M. (2007). Gender differences in

- traumatic events and rates of post-traumatic stress disorder among homeless youth. *Journal of Adolescence*, 30(1), 117-129.
- Hammond, S. (2007). Mental health needs of juvenile offenders. *National Conference of State Legislatures*, Washington, DC.
- Herman, J.L., Perry, J.C., van der Kolk, B.C. (1989). Childhood trauma in borderline personality disorder. *American Journal of Psychiatry*, 146, 490-495.
- Hoffman, J. P., & Su, S. (1997). The conditional effects of stress on delinquency and drug use: A strain theory assessment of sex differences. *The Journal of Research in Crime and Delinquency*, 34, 46–78.
- Howe, T. R., & Parke, R. D. (2001). Friendship quality and sociometric status: between group differences and links to loneliness in severely abused and nonabused children. *Child Abuse & Neglect*, 25(5), 585–607.
- Howell, J.C. (1998). NCCD's survey of juvenile detention and correctional facilities. *Crime And Delinquency*, 44, 102-109.
- Hubbard, J., Realmuto, G.M., Northwood, A.K., & Masten, A.S. (1995). Comorbidity of psychiatric diagnoses with posttraumatic stress disorder in survivors of childhood trauma. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(9), 1167-1173.
- Kessler, R.C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C.B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1060.
- Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the national survey of adolescents. *Journal of consulting and clinical psychology*, 71(4), 692-700.
- Kremen, W.S., Koenen, K.C., Boake, C., Purcell, S., Eisen, S.A., Franz, C.E., et al.(2007). Pretrauma cognitive ability and risk for posttraumatic stress disorder. *Archives of General Psychiatry*, 64(3), 361-368.
- Lanktree, C & Briere, J. (1995). Outcome of therapy for sexually abused children: A repeated measures study. *Child Abuse and Neglect*, 19 (9), 1145-1155.
- Lederman, C. S., Dakof, G. A., Larrea, M. A., & Li, H. (2004). Characteristics of adolescent females in juvenile detention. *International Journal of Law and Psychiatry*, 27(4), 321-337.
- Leighninger, L., Popple, & Phillip, R. (1996). *Social work, social welfare, and American society: 3rd edition*. Allyn and Bacon: Needham, Heights, MA.

- Lipschitz, M.B., Rasmusson, A.M., Anyan, W., Cromwell, P., & Southwick, S.M. (2000). Clinical and functional correlates of posttraumatic stress disorder in urban adolescent girls at a primary care clinic. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1104-1110.
- Lui, X., & Kaplan, H. B. (1999). Explaining gender differences in symptoms of subjective distress in young adolescents. *Stress Medicine, 15*, 41–51.
- Lonigan, C.J., Phillips, B.M., Richey, J.A. (2003). Posttraumatic stress disorder in children: diagnosis, assessment, and associated features. *Child and Adolescent Psychiatric Clinics of North America, 12*, 171-194.
- Lonigan, C.J., Shannon, M.P., Taylor, C.M., Finch, A.J., & Sallee, F.R. (1994). Children exposed to disaster: Risk for the development of post-traumatic symptomology. *Journal of the American Academy of Child and Adolescent Psychiatry, 33*, 94-105.
- Maschi, T. (2006). Unraveling the link between trauma and male delinquency: The cumulative versus differential risk factors. *Social Work, January 51*(1), 59-70.
- Maschi, T. & Bradley, C. (2008). Exploring the moderating influence of delinquent peers on the link between trauma, anger, and violence among male youth: implications for social work practice. *Child and Adolescent Social Work Journal, April (2)*, 25, 125-138.
- Massachusetts Department of Children and Families (2010). *2008 Child Maltreatment Statistics*, Boston, MA: Department of Children and Families.
- McKay, M. (1994). The link between domestic violence and child abuse: Assessment and treatment considerations. *Child Welfare League of America, 73*, 29 – 39.
- Michio, A., Uhara, T., Takeuchi, K., Ishige, Y., Nakano, R., & Mikuni, M. (2008). Trauma exposure and posttraumatic stress disorder in delinquent female adolescents. *Journal of Child Psychology and Psychiatry, 49* (1), 79 – 87.
- Moses, A. (1999). Exposure to violence, depression, and hostility in a sample of inner-city high school youth. *Journal of Adolescence, 22*, 21-32.
- Newman, C.J. (1976). Children of disaster: Clinical observations at Buffalo Creek. *American Journal of Psychiatry, 133*, 306-312.
- Norris, F.H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60*, 409-418.
- Office of Juvenile Justice Delinquency and Prevention Annual Report: Washington, DC. (2009).

- O'Keefe, M. (1997). Predictors of dating violence among high school students. *Journal of Interpersonal Violence, 12*, 546 – 568.
- O'Keefe, M. (1998). Factors mediating the link between witnessing interparental violence and dating violence. *Journal of Family Violence, 13(1)*, 39 – 57.
- Pajer, K.A., Kelleher, K., Gupta, R.A., Rolls, J., & Gardner, W. (2007). Psychiatric and medical health care policies in juvenile detention facilities. *Journal of the American Academy of Child and Adolescent Psychiatry, 46 (12)*, 1660-1667.
- Parent, D.G., Leiter, V., Kennedy, S., Livens, L., Wentworth, D., and Wilcox, S. (1994). *Conditions of confinement: Juvenile detention and corrections facilities*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Pino, N.W. & Meier, R.F. (1999). Gender differences in rape reporting. *Sex Roles, 40*, 979-990.
- Pynoos, R., Frederick, C., Nader, K., Arroyo, W., Steinberg, A., Eth, S., et al. (1994). Life threat and posttraumatic stress in school age children. *Archives of General Psychiatry, 44*, 1057-1063.
- Pynoos, R. & Nader, K. (1988). Psychological first aid treatment approach to children exposed to community violence: Research implications. *Journal of Traumatic Stress, 1*, 413-430.
- Ruchkin, V.V., Schwab-Stone, M., Kopolov, R., Vermeiren, R., & Steiner, H. (2002). Violence exposure, posttraumatic stress, and personality in juvenile delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry, 41(3)*, 322 – 329.
- Ryan, K. (1996). The chronically traumatized child. *Child and Adolescent Social Work Journal, 13(4)*, 287-310.
- Shaw, J.A., Applegate, B., Tanner, S., Perez, D., Rothe, E., Campo-Bowen, A.E., & Lahey, B.L. (1995). Psychological effects of hurricane Andrew on an elementary school population. *Journal of the American Academy of Child and Adolescent Psychiatry, 34(9)*, 1185 – 1192.
- Shannon, M.P., Lonigan, C.J., Finch, A.J., & Taylor, C.M. (1994). Children exposed to disaster: Epidemiology of post-traumatic symptoms and symptom profile. *Journal of the American Academy of Child and Adolescent Psychiatry, 33*, 80-93.
- Straus, M.A. & Gelles, R.J. (1990). *Physical violence in American families*. New Brunswick, NJ: Transaction Publishers.
- Steiner, H., Garcia, I. G., & Matthews, Z. (1997). Posttraumatic stress disorder in incarcerated juvenile delinquents. *Journal of the American Academy of Child & Adolescent Psychiatry, 36(3)*, 357-365.

- Teplin, L.A., Abram, K.M., McClelland, G.M., Washburn, J.J., & Pikus, A.K. (2005). Detecting mental disorder in juvenile detainees: Who receives services. *American Journal of Public Health, 95*(10), 1173 – 1780.
- Terr, L.C. (1981). Psychic trauma in children: observations following the Chowchilla bus kidnapping. *American Journal of Psychiatry, 138*, 14-19.
- Terr, L.C. (1983). Chowchilla revisited: the effects of trauma four years after a school bus kidnapping. *American Journal of Psychiatry, 140*, 1543-1550.
- Tolin, D.F. & Foa, E.B., (2006). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. *Psychological Bulletin, 132*(6), 959-992.
- United States Department of Health and Human Services (2004). *Child Maltreatment 2004*, Washington, DC: Administration on Children, Youth, & Families, Children's Bureau.
- United States Department of Justice (2008). *Juvenile Justice Bulletin, November 2008*.
- Wood, J., Foy, D. W., Goguen, C. A., Pynoos, R., & James, C. B. (2002). *Violence exposure and PTSD among delinquent girls*. In Greenwald, R. (Ed.) *Trauma and juvenile delinquency: Theory, research and interventions* (109-126). Binghamton, NY: The Haworth Maltreatment and Trauma Press.
- Yellin-Bogin, G. (2006). Out of the darkness: male adolescents and the experience of sexual victimization. *School Social Work Journal, 30*(2), 1 – 21.

BIOGRAPHICAL SKETCH

Jennifer L. DelRey is a doctoral candidate in the Combined Doctoral Program in School and Counseling Psychology at Florida State University. She earned her bachelor's degree in Psychology from Florida State University in 2002, her Master's degree in Mental Health Counseling from Florida State University in 2004, and her Education Specialist degree in Mental Health from Florida State University in 2004. Jennifer completed a Master's-level internship at the Tallahassee Regional Juvenile Detention Center and an APA approved Doctoral-level internship at Franciscan Hospital for Children in Boston, MA. Jennifer has several years of clinical experience with children and adolescents with special needs and those involved with the juvenile justice system. She also has experience working with other forensic populations, including families involved with the Family and Probate Court of Massachusetts. She has served as a Guardian *ad Litem* and has testified as an expert witness through the Family Court. Jennifer also has clinical experience with individual and group therapy, psychological assessment, and academic consultation, and has provided assessment and consultation services to school districts and colleges.