

ASSESSING TRAUMA IN THE JUVENILE OFFENDER POPULATION: AN
EXPLORATION OF THE TSCC AND THE CROPS

by

CATHERINE STAMATERIS FLAHERTY

(Under the Direction of Georgia B. Calhoun)

ABSTRACT

The objective of this study was to determine the utility of the Child Report of Post-traumatic Symptoms (CROPS; Greenwald & Rubin, 1999) and the Trauma Symptom Checklist for Children (TSCC; Briere, 1996) in assessing for trauma symptomology among a sample of 46 female and 30 male adjudicated youth. Results indicated that for the TSCC, gender accounted for differences on the Anger, Sexual Concerns Total, and Sexual Concerns Dissociation subscales. Gender also accounted for differences on the CROPS Total Score. In addition, logistic regression revealed that in comparison to the CROPS, the TSCC Anxiety Scale made a significant contribution to prediction of trauma or no-trauma groups within the sample. Finally, results indicated that for the TSCC, more serious offenders differed significantly from less serious offenders on the Dissociation Fantasy subscale. No differences were found across types of offenders on the CROPS.

INDEX WORDS: Juvenile Offenders, Adjudicated Youth, Trauma, Recidivism,
Posttraumatic Stress, Assessment, TSCC, CROPS

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CATHERINE STAMATERIS FLAHERTY

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M.A., Teachers College, Columbia University, 2013

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CATHERINE STAMATERIS FLAHERTY

Major Professor: Georgia Calhoun
Committee: Brian Glaser
Alan Stewart

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
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CHAPTER ONE

Introduction

Trauma experiences in childhood and adolescence are quite common. In the United States alone approximately 68% of adolescents have experienced some sort of trauma (Stevens, Ruggiero, Kilpatrick, Resnick, & Saunders, 2005). Begle and colleagues (2011) indicate that there is a high prevalence of interpersonal violence victimization among adolescents, including sexual assault, physical assault/abuse, and witnessing domestic or community violence. These sorts of interpersonal traumas are in contrast to isolated incidents of trauma, such as natural disasters (Terr, 1985). Kilpatrick, Sanders, and Smith (2003) report that among adolescents ages 12-17, male adolescents were more likely to experience physical assault and witness community violence, whereas female adolescents were more likely to experience sexual abuse or assault. Understandably, experiences of trauma throughout childhood have a profound effect on the mental health and well-being of adolescents and children. Various psychological disorders, such as depression, anxiety, and posttraumatic stress disorder, are all consequences of isolated and repeated experiences of childhood trauma (Widom, Marmorstein, & White, 2006; Hamburger, Leeb, & Swahn, 2008).

The relationship between delinquent behavior and trauma exposure has been clearly established in both longitudinal and concurrent research (Abram, Teplin, Charles, Longworth, McClellan, & Dulcan, 2004; Cauffman, Feldman, Waterman, & Steiner, 1998). Kerig, Moeddel, and Becker (2011) report that trauma exposure in early childhood is often predictive of engagement in antisocial behavior that subsequently leads to involvement in the juvenile justice

system. The trauma literature estimates that 75% of youth involved in the juvenile justice system have been exposed to victimization (Ford, Chapman, Mack, & Pearson, 2006). Other researchers indicate that 50-79% of male victims of child maltreatment before the age of 12 later become involved in serious juvenile delinquency (Lemmon, 1999; Widom, 1989).

Trauma exposure greatly impacts the development of children and adolescents. Numerous studies establish a link between trauma, high risk behavior, such as alcohol and drug use, and delinquency (Finkelhor, Turner, Ormrod, Hamby, Kracke, 2009; Kilpatrick, Acierno, Saunders, Resnick, Schnurr, 2000; Widom et al, 2006). Researchers question the directional nature of the relationship between experiences of trauma and high-risk behavior. Lazarus (1993) posits the coping theory, which proposes that adolescents engage in high risk behaviors as a way to cope with exposure to victimization. Other propose that adolescents who engage in high risk behavior are vulnerable to experiencing trauma and victimization due to deviant lifestyle choices (Danielson, de Arrellano, Ehrenreich, Suarez, Bennett, Cheron, 2006). In a nationally representative sample of adolescents, Begle and colleagues (2011) report that in fact both pathways towards high-risk behavior and delinquency exist when separated by gender. That is, in the sample of adolescent males, risk taking behavior preceded exposure to trauma, whereas in the sample of adolescent females, exposure to trauma often preceded delinquent behavior.

The literature indicates that traumatic experience is a facet of juvenile crime. Identifying trauma in offending youth is critical, yet challenging, given the constellation of symptoms and time course of trauma response (Perkins, Calhoun, & Glaser, 2014). The methods and measures used to assess trauma exposure in the juvenile offender population vary widely, from self-report, caregiver-report, juvenile court rating, and qualitative interviews (Ford et al, 2008; Kerig et al, 2011). Youth experience many barriers to disclosing an incident of or repeated traumatic

experience. For one, many youth exhibit symptoms of trauma not included in the DSM-V, including challenges with affect regulation, attachment style, relationship with others, alterations in consciousness, interpersonal aggression, and fragmented self-perception (Herman, 1992; Kerig, Moeddel, & Becker, 2011). Emotional numbing is a coping strategy used by many youth after an experience of trauma. As such, research indicates that many youth who experience trauma lack a resolute awareness of their experience, which impacts the nature and extent of what they tend to disclose (Kerig & Bennett, 2013). Dembo, Williams, and Schmeidler (1998) report that many communities' lack quality screening and assessment resources in regards to assessment of trauma. Many trauma screeners identify traumatic symptoms related to posttraumatic stress disorder as indicated in the Diagnostic and Statistical Manual for Mental Disorders (American Psychiatric Association, 2000), which limits the clinical utility of measures in the youth population. Finally, many youth are understandably resistant to disclose traumatic experience due to the stigmatizing nature of the traumatic experience. In one study, Dembo and colleagues (2007) found that among juvenile offenders, female and male adolescent offenders were more likely to disclose physical abuse over experiences of sexual abuse. These findings indicate that identifying trauma in youth is both challenging and critical.

Given the prevalence of posttraumatic stress among juvenile offenders, and the role that experiences of trauma play in delinquent behavior, it is important for researchers and clinicians to identify traumatized youth and prescribe trauma-informed treatment as necessary. Given the barriers to self-report within this population and among traumatized youth considerable attention must be given to the assessment measures utilized in identifying individuals. Common assessment measures like the Massachusetts Youth Screening Instrument (MAYSI-2; Grisso, Barnum, Fletcher, Cauffman, Peuschold, 2001), the UCLA PTSD Reaction Index (PTSD-RI;

Steinberg, Brymer, Decker, & Pynoos, 2004), the Childhood Trauma Questionnaire- Short Form (CTQ-SF; Bernstein, Stein, Newcomb, Walker, Pogge, Ahluvalia, 2003) and the Early Trauma Inventory Self Report- Short Form (ETISR-SF; Bremner, Bolus, Mayer, 2007) are all adequate yet insufficient tools for assessing trauma in children. The literature indicates that significant gaps remain as to whether or not commonly used trauma measures capture the complex nature of childhood trauma. The nature and extent of childhood trauma is not always easily quantified, and as a result many assessment measures fail to capture the effect of chronic abuse or neglect (Ford, Chapman, Pearson, Borum, & Wolpaw, 2008). Additionally, many trauma assessments use culturally-irrelevant or use insensitive language in describing experiences and symptoms, thereby possibly contributing to youth underreport of traumatic symptoms (Vincent & Grisso, 2005).

Purpose of the Present Study

The purpose of the present study is to explore the clinical utility within the juvenile offender population of two commonly used trauma assessment measures, including the Child Report of Posttraumatic Symptoms (CROPS; Greenwald, & Rubin, 1999) and the Trauma Symptoms Checklist for Children (TSCC; Briere, 1996). While several measures related to the construct of trauma exist, very few are specifically used within the juvenile offender population. Both the TSCC and the CROPS are widely used to assess trauma in youth (Perkins, Calhoun, & Glaser; 2014; Newman, 2002; Greenwald, 2002; Briere, 1996; Strand, Sarmiento, & Pasquale, 2005). The CROPS (Greenwald & Rubin, 1999) is a self-report measure that screens for posttraumatic symptoms. The TSCC (Briere, 1996) is a self-report measure that evaluates the impact of trauma as a manifestation of PTSD and related psychological symptomology. Both the CROPS and the TSCC show promise a broad screening measure for symptoms of trauma in

youth, further validation with juvenile offenders is critical for accurate assessment and treatment of juvenile offenders.

Context within Counseling Psychology

Within the psychology literature, increased attention has been drawn to youth involved in the juvenile justice system. Researchers estimate that approximately 40-82% of youth in the juvenile justice system have at least one mental health disorder (Lyons, Baerger, Quigley, Erlich, & Griffin, 2001). Regarding adjudicated youth with posttraumatic symptoms, Kerig & Becker (2010) estimate that approximately 32% of boys and 52% of girls in juvenile detention settings meet criteria for a diagnosis of PTSD. Research suggests that there is a bidirectional relationship between trauma and delinquency (Belknap & Holsinger, 2006; Wareham & Dembo, 2007; Ford, 2002; Gavazzi & Yarcheck, 2006). As a result, accurate assessment and treatment of juvenile offenders with significant histories of trauma is crucial for successful rehabilitation (Wolpaw & Ford, 2004).

The study of trauma and juvenile offenders is significant to the field of counseling psychology for many reasons. The discipline of counseling psychology emerged shortly after World War II and evolved from three distinct streams of influence, including the development of vocational guidance, advances in psychological testing, and the growth of person-centered psychotherapy (Super, 1955). Given the historical roots of the field, the field of counseling psychology has held a philosophical stance and a professional emphasis on the strengths of individuals and communities (Gelso & Fretz, 2001; Fretz, 1985). Adjudicated youth present with a host of needs and strengths, and are in the midst of the unique developmental timeframe of adolescence (Bennett & Kerig, 2014). In a similar vein, counseling psychologists have long been unified by the themes of remediation, prevention, and education as hallmarks of the specialty

(Lopez, Magyar-Moe, Petersen, Ryder, Krieshok, O'Bryne, Lichenteberg, & Fry, 2006). These foundational themes of the field relate strongly to the needs of juvenile offenders, particularly those struggling with posttraumatic symptoms and other mental health needs. To that end, the field of counseling psychology values justice and advocacy as a critical aspect of the practice of mental health care (Miller & Sendrowitz, 2011). Adjudicated youth are often stigmatized, even among allied professionals. Advocacy, therefore, becomes a critical and integral aspect of mental health care within the adjudicated youth population. Lastly, the field of counseling psychology embodies the marriage of science and practice through the emphasis on the Scientist-Practitioner model of training (Murdock, Alcorn, Heesacker, & Stoltenberg, 1998). The Scientist-Practitioner model of training's emphasis on psychometrics indicates the natural fit with the study of trauma assessment among adjudicated youth.

Research Statement

The current study seeks to compare the psychometric properties of the TSCC and the CROPS to assess trauma symptomology and exposure among adjudicated youth. An analysis of variance (ANOVA), linear regression, and descriptive discriminant analysis will be used to explore whether the TSCC or the CROPS successfully captures the self-report of adjudicated youth trauma symptoms.

Definition of Terms

Trauma

The American Psychological Association Task Force on Posttraumatic Stress Disorder and Trauma in Children and Adolescents (2008) understand the definition of trauma to be the emotional response to events that threaten injury, death, and/or physical and emotional safety.

Traumatic events include sexual abuse, neglect, physical abuse, domestic violence community violence, motor vehicle accidents, terrorism, and natural disasters, among others.

Adjudicated Youth, Juvenile Offender

Adjudicated Youth and Juvenile Offender both refer to adolescents between the ages of 12-17 who are involved in the juvenile justice system.

Serious, Violent, and Chronic Offenders

Juvenile Offenders who has committed and been charged with a violent felony, such as armed robbery or aggravated rape.

Research Questions

This study will determine the clinical utility of the CROPS and the TSCC within the juvenile offender population to assess for trauma symptomology. An analysis of variance (ANOVA), logistic regression, and descriptive discriminant analysis will be used to determine the strength of each clinical assessment in indicating trauma symptomology across juvenile offenders across offense history. The following research questions are based on a review of the pertinent literature on trauma symptomology and trauma assessment with juvenile offenders:

Research Question 1

Is there a difference between the sensitivity of the CROPS versus the TSCC in assessment symptoms of trauma among youth who endorsed experiences of trauma?

Null Hypothesis 1: There is not a difference between the sensitivity of the CROPS versus the TSCC in assessment symptoms of trauma among youth who endorsed experiences of trauma.

Research Question 2

Is there a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP?

Null Hypothesis II: There is not a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP.

Research Question 3

Are there differences in TSCC profiles among different types of offenders as defined by OJJDP?

Null Hypothesis III: There are not differences in TSCC profiles among different types of offenders as defined by OJJDP?

CHAPTER TWO

Review of Relevant Literature

Prevalence of Juvenile Offending in the United States

Juvenile offending is a pervasive issue in communities around the United States. In the US alone, approximately 1.3 million youth under the age of 18 were arrested in 2012 (Puzzanchera, 2015). In 2012, 1 in 5 violence juvenile crime arrests involved females and more than half involved minority youth (Puzzanchera, 2015) Juveniles accounted for 1 in 14 arrests made for Murder in the United States in 2012, and 1 in 5 arrests made for other violent crimes like burglary, robbery, and motor vehicle theft (Puzzanchera, 2015). In the year prior in 2011, 68% of juveniles arrested were referred to juvenile court (i.e. probation or detention), 22% were released, and 7% were transferred to superior court (Puzzanchera & Hockenberry, 2013). These data from recent years paints a picture of the nature of juvenile offenders and juvenile crime in the United States.

Posttraumatic Stress Disorder (PTSD)

Posttraumatic Stress Disorder (PTSD) has long been considered one of the most debilitating stressor-related disorders resulting from ones exposure to trauma such as combat, rape, natural disasters, and others (Frans, Rimmo, Aberg, & Fredrikson, 2005). PTSD is unique due to the diagnostic stipulation that the etiological agent is outside the individual (i.e., a trauma) rather than an inherent individual quality (i.e. neurosis or anxiety) (Hafstad, Dyb, Jensen, & Steinberg, 2014). Historically, PTSD was codified in the late 1970s in an effort to understand the psychopathology presented by a significant number of Vietnam veterans (Friedman, Resick, &

Keane, 2007). Since 1980, the American Psychiatric Association has expanded the definition of traumatic stressors to include combat among a wide range of traumas including rape and sexual assault, natural disasters, physical assault, and the like (Breslaud, 2009). In 2013 the American Psychiatric Association revised the criteria for PTSD in the fifth edition of the Diagnostic and Statistical Manual of Mental Health Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013) to more accurately reflect the constellation of symptoms and etiology of the disease. According to the DSM-5, a diagnosis of PTSD must include the following criteria:

- A. *Stressor*: The individual was exposed to actual or threatened: death, serious injury, or sexual violence via direct exposure, witnessing in person or indirectly through close association with the victim, or repeated exposure to aversive details of the event(s).
- B. *Intrusion*: The individual re-experiences the event(s) in one or more of the following ways:
 - a. Recurrent, involuntary, and intrusive memories, which in children older than six may be present in repetitive play.
 - b. Recurrent distressing dreams, which may or may not exhibit content related to the traumatic event.
 - c. Flashbacks or other dissociative experiences that may range from short episodes to complete loss of consciousness to reenactment of traumatic events during play.
 - d. Psychological distress following exposure to reminders of the event(s).
 - e. Physiological reactivity following exposure to reminders of the event(s).
- C. *Avoidance*: Persistent avoidance of thoughts and feelings related to the event(s) or external reminders of the event(s).

- D. *Negative cognitions and mood*: Decline in cognitions and mood that started or increased following the event(s) evidenced by two or more of the following:
- a. Memory loss related to important details of the event(s) not due to physical injury or substances
 - b. Persistent and distorted negative worldview and expectations
 - c. Persistent and distorted sense of responsibility (self or others) regarding the event(s)
 - d. Persistent negative emotions
 - e. Significantly decreased interest in activities as compared to prior to the event(s)
 - f. Feelings of detachment or estrangement
 - g. Persistent inability to experience positive emotions
- E. *Changes in arousal/reactivity*: Alterations in arousal/reactivity that started or increased following the event(s) as evidenced by two or more of the following:
- a. Aggressive or irritable behavior
 - b. Reckless or self-destructive behavior
 - c. Hypervigilance
 - d. Exaggerated startle response
 - e. Difficulty concentrating
 - f. Difficulty falling or staying asleep
- F. *Duration*: Symptoms in Criteria B-E persist for longer than one month.
- G. *Functional impairment*: Individual experiences significant symptom-related distress or impairment in social, occupational, or other important domains of functioning.

Prior to 2013, PTSD was considered an anxiety-related disorder, and was reflected as such in the 3rd and 4th editions and the revised editions in the Diagnostic and Statistical Manual (American Psychiatric Association, 1980; American Psychiatric Association, 2000). It is important to note that much of the research related to PTSD reflects the criteria of earlier generations of the Diagnostic and Statistical Manual for Mental Health Disorders. Based on the DSM-IV-TR (American Psychiatric Association, 2000), PTSD is diagnosed when there has been a traumatic event and clinically significant distress reflected in three cluster areas:

- A. Re-experiencing the traumatic event in at least one of the following ways:
 - a. Recurrent and intrusive disturbing recollections of the event
 - b. Recurrent, upsetting dreams about the event
 - c. Feelings of reliving the event
 - d. Psychological distress when exposed to internal or external reminders of the event
 - e. Physiological distress when exposed to internal or external reminders of the event
- B. Persistent avoidance of stimuli associated with the traumatic event and a general numbing of responsiveness through at least three of the following:
 - a. Avoidance of thoughts, feelings, and conversations pertaining to the event
 - b. Avoidance of people, places, or activities that remind the person of the trauma
 - c. Inability to remember important parts of the event
 - d. Diminished participation or interest in previously enjoyed activities
 - e. Feelings of detachment and estrangement from others
 - f. Restricted range of affect
 - g. Sense of a foreshortened future
- C. Persistent symptoms of hyperarousal involving at least two of the following:

- a. Difficulty falling or staying asleep
- b. Irritability or anger outbursts
- c. Difficulty concentrating
- d. Hypervigilance
- e. Exaggerated startle response

PTSD and Comorbidity

PTSD is a challenging diagnosis for clinicians to identify and diagnose due to the constellation of symptoms among those suffering after a given experience of trauma. There is considerable debate over the threshold by which posttraumatic stress is deemed pathological versus normative (Broman-Fulks, Ruggiero, Green, Smith, Hanson, Kilpatrick, and Saunders, 2009). It is true that many people experience trauma, and subsequently experience symptoms that may or may not meet clinical significance. Many people who are diagnosed with PTSD also meet diagnostic criteria for other mental health disorders (Kessler, Sonnega, Bromet, Hughs, & Nelson, 1995; Brady, Killeen, Brewerton, & Lucerini, 2000). For example, among a sample of Vietnam-era veterans, researchers found that those diagnosed with PTSD also met criteria for other mental health disorders such as major depression, anxiety disorders, and substance use disorders (Breslau, 2009). Other research indicates that the possibility of a causal pathway between PTSD and major depression following traumatic exposure. That is, a preexisting condition of major depression may render individuals more vulnerable to PTSD in the aftermath of trauma, and conversely the presence of PTSD may increase the risk for the onset of major depression (Breslau, Davis, Peterson, & Schultz, 1997). O'Donnell, Creamer, & Pattison (2014) reported that in regards to PTSD, comorbidity is the norm rather than the exception. To that end, in one study 83% of a sample of individuals diagnosed with PTSD met criteria for at least one

other psychiatric disorder, compared with 44% of those without PTSD (Breslau, Davis, Andreski, & Peterson, 1991).

Trauma Exposure and PTSD Across the Lifespan

Many people experience trauma in their lifetime. Yet specific types of trauma most commonly associated with PTSD are not yet fully understood (Frans et al, 2005). Frans and colleagues (2005) identify traumatic experiences to be experiences like combat, rape, natural disasters, and serious motor vehicle accidents, among other experiences. The researchers estimate that approximately 80.8% of the sample experienced one traumatic event in their lifetime, yet few individuals developed symptoms of PTSD as a result, and that more men than women had experienced trauma across a lifetime. According to the National Comorbidity Survey in 2005, however, the lifetime prevalence of PTSD has been estimated around 9.7% for women and 3.6% for men (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). This incongruence between experience of trauma and development of symptoms of PTSD highlights the differential experience of trauma distress across variables like gender, age, socioeconomic status, residency status, etc. (Frans et al 2005).

Trauma Exposure in Youth

The experience of trauma is not rare in the lives of children and adolescents (Costello, Erkanli, Fairbank, & Angold, 2002). Researchers estimate that approximately 80% of children and youth report at least one lifetime experience of victimization (Finkelhor, Ormrod, & Turner, 2009). Traumatic events include child abuse and neglect, exposure to domestic violence, community violence, and experiencing the violent death of a loved one, among other events (Dorsey, Burns, Southerland, Cox, Wagner, & Farmer, 2012). Much of the literature on childhood trauma captures the experience of children who have experienced a given trauma

rather than numerous traumas. In one study, Finkelhor and colleagues (2007) estimated that in a sample of youth ages 2-17, approximately 71% had one or more traumatic experiences in the last year alone. According to another study by Finkelhor and colleagues (2013), adolescents ages 12-17 are victims of or witness traumatic events at twice the rate of other age groups, including young children and the elderly. To that end, nearly 60% of youth have experienced a traumatic event prior to the age of 17, and 50% have witnessed or been victims of two or more traumatic events prior to the age of 18 (Finkelhor, Turner, Shattuck, & Hamby, 2013).

Certain populations of children and adolescents experience a greater likelihood of experiencing trauma than other populations. For example, teens from low socioeconomic backgrounds are at greater risk for experiencing trauma than their middle and upper class counterparts (Goodman, Miller, & West-Olatunji, 2012). Brown and Bzostek (2003) found that African-American adolescents are at a greater risk of experiencing traumas like child abuse, neglect, and witnessing homicide, than Caucasian or Latino/Latina adolescents. In terms of type of trauma, it was found that girls were more likely to experience sexual abuse, whereas boys were more likely to experience physical abuse (Finkelhor, Ormrod, & Turner, 2008). Overall, approximately 5% -8% of children and adolescents in the United States report sexual assault; 22%-61% report physical assault; 16% report abuse; 10% report family violence or abuse; and 8% report a murder of a family member or friend (Ford, Chapman, Connor, & Cruise, 2012). Finally, traumatized children who experience things like child maltreatment or family violence appear to be at greater risk of experiencing subsequent trauma later in life (Duncan, 1999).

Research indicates that children and adolescents who are exposed to trauma during childhood pose a risk for developing numerous psychological, behavioral, and emotional issues, maladjustment, and educational issues (Afifi, Asmundson, Taylor, & Jang, 2010; Terr, 1985).

Children who experience trauma are at risk to develop maladaptive coping behaviors, such as substance use, aggression, and others, which often leads to further problems, such as involvement in the juvenile justice system (Kerig & Becker, 2012; Ford, Hartman, Hawke, & Chapman, 2008).

Youth Experiencing Intersecting Adversities

Trauma and traumatic experience rarely exist within a vacuum. Mounting evidence suggests that children who experience one traumatic event often experience numerous circumstances that place them at a higher risk for developing PTSD, major depression, anxiety, and other diagnosable mental health disorders as a result of their experience of trauma (Felitti, Anda, & Nordenberg, 1998). Considerable research exists on the effects of childhood adversity, trauma, and problematic family context on both the present well-being and long-term health of children (Turner, Finkelhor, Ormrod, Hamby, Leeb, Mercy, & Holt, 2012). Earlier trauma literature focused on the single forms of adversity, such as child abuse or maltreatment, to inform common understanding of demographics and traumatized versus non-traumatized youth. More recent advancement in the childhood trauma literature is beginning to emphasize the broader context of the child, and the intersecting effect of multiple adversities, such as poverty, racism, family violence, parental substance abuse, interparental conflict, community violence, among others, on child well-being and health (Appleyard, Egeland, van Duleman, & Sroufe, 2005). Of particular interest in this context is that of the family environment. Numerous researchers indicate that exposure to adversity and trauma in childhood is often related to the family environment as it often serves as the context for both personal and community safety. In one study Finkelhor, Turner, Ormrod, and Hamby (2012) found substantial intercorrelations across

most forms of family-perpetrated victimization, such as family adversity, victimization by siblings, poor supervision, and hostile parenting.

Etiology of Trauma

Experiences of trauma impact individuals differently. Epidemiological studies affirm that the personal interpretation of a given experience of trauma has the most profound effect on whether or not an individual will develop symptoms of PTSD related to the traumatic event (Breslau, 2009). In terms of etiology, Yehuda and McFarlane (1995) argue that the categorical model of assessing symptomology for whether or not Posttraumatic Stress Disorder is present or absent supports the prevalence, course, and neurobiology of PTSD. In contrast, other researchers argue that in order to fully conceptualize the nature of PTSD, a continuous etiological model of symptomology is more accurate and reflects the development of the individual, the time-course of symptoms, and the bio-psycho-social factors that contribute to the development of the mental health disorder (Broman-Fulks et al, 2009). In general, the more severe the experience of trauma, the more likely one is to develop PTSD (Pynoos, Frederick, Nader, Arroyo, Steinberg, Spencer, & Fairbanks, 1987). Finally, results from the National Comorbidity Survey Replication-Adolescent Supplement, which sampled of over 10,000 adolescents ages 13-18, found that the prevalence of PTSD was higher for girls (8%) than boys (2.3%) (Merikangas, He, Burstein, Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen, 2010).

Types of Trauma

The American Psychiatric Association (2000) identified *traumatic stressors* as “events that involve a threat, or the actual occurrence, of an untimely death or severe physical injury that could be life threatening, or a violation of bodily integrity” (Ford, Chapman, Connor, & Cruise, 2012). The severity of trauma is difficult to quantify. Finkelhor and colleagues (2007) affirmed

that child traumatization is more of a condition than an event. The literature emphasizes that any traumatic experience ranging in severity can have a profound effect on mental health functioning in both childhood and adulthood. Terr (1991) developed a system by which traumatic experiences were labeled as “Type I” or “Type II” (p. 15). Terr states that Type I traumatic events are unanticipated single events that have occurred during childhood. Children who experience a Type I traumatic event often experience symptoms such as avoidance and hyperarousal. Children who experience Type I traumas have few difficulties remembering specific memories related to the trauma, due to the isolated nature of the Type I event. In contrast, Terr (1991) identifies Type II traumas as repeated and long-standing exposure to a traumatic event, such as repeated victimization. Children who experience Type II traumas experience denial, numbing, rage, and dissociation due to repeated trauma exposure. Children who experience Type II traumas are often diagnosed with other mental health disorders, such as Attention Deficit/Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder, among others, throughout childhood and into adulthood.

Instances of victimizations are not randomly distributed but tend to cumulate for certain individuals and in certain environments (Tseloni and Pease, 2003). Shaw and Shaw (2004) classify trauma experiences as either “event” trauma or “process” trauma. Event traumas are random, isolated experiences of trauma that do not necessarily have an interpersonal or relational component, such as an automobile accident. In contrast, process traumas are traumas that are cumulative and personal, such as prolonged child maltreatment and neglect. Other definitions of trauma exist, as well. Nilsson, Gustafsson, and Svedin (2012) emphasize both the interpersonal and non-interpersonal types of trauma, indicating a relative difference in the experience of a natural disaster (non-interpersonal trauma) versus sexual abuse (interpersonal trauma). Lastly,

Shmotkin and Litwin (2009) differentiate between “self-oriented” and “other-oriented” traumas. Self-oriented traumatic events, such as abuse, are associated with greater symptoms of depression and PTSD, compared to other-oriented events, such as learning about a trauma experienced by a family member. These categorizations speak to the complex nature of trauma as experienced by the victim.

The literature of cumulative experiences of trauma suggests long-lasting and severe effects into adulthood (Rutter, 1983). It is estimated that many children who experience trauma actually experience multiple types of trauma. This is referred to in the literature as poly-victimization and poly-traumatization (Finkelhor, Turner, Hamby, & Ormrod, 2011). Finkelhor and colleagues (2008) estimate that 22% of youth ages 2-17 years old experienced four or more types of trauma in a single year, and 10% experienced seven or more traumas in a given year. Poly-victims experience a diverse array of trauma throughout their lifespan. Poly-traumatization is a unique experience in that poly-victims often go on to experience adversity such as poverty, chronic disease, substance abuse, and the like, throughout their lifespan (Finkelhor et al, 2011).

Complex PTSD and Developmental Trauma Disorder

The earliest studies on noncombat-related trauma began by investigating the experience of rape victims who suffered both immediate and long-term distress (Burgess and Holmstrom, 1975). The study revealed that the prototypical experiences of trauma as commonly depicted as combat-related, may not capture the full picture of traumatic experience. Complex posttraumatic stress disorder (CPTSD) was first proposed by Herman (1992) to describe symptoms observed in victims of prolonged, repeated trauma. Herman (1992) indicates that complex trauma occurs when an individual is captured in a state of captivity, unable to escape from captors, and under the control of the violent perpetrator. Examples of such conditions may include concentration

camp and prisons, among other environments. Herman (1992) emphasizes that the experiences of childhood abuse serve as a significant risk factor for developing complex PTSD. Those with complex PTSD present with a host of symptoms, including standard PTSD symptoms, coupled with symptoms including somatization, dissociation, affective changes, pathological changes in relationships, and pathological changes in identity. Ford (2005) identifies complex trauma as trauma that compromises the development of core self-regulatory competences, including attention and learning, sensorimotor function, short-term processing, verbal and autobiographical memory, emotional regulation, and social relatedness. Resick and colleagues (2012) states that the unique qualities of complex PTSD can be described as a compromise “in the individual’s self-development, which occurs during a critical window of development in childhood, when self-definition and self-regulation are being formed” (Resick, Bovin, Calloway, Dick, King, Mitchell, Suvak, Wells, Stirman, & Wolf, 2012).

van der Kolk and colleagues (2009) proposed the creation of a Developmental Trauma Disorder for inclusion in the DSM-V in an attempt to adequately describe the broad domains of impairment and distress that characterize children and adolescents who have experienced severe and repeated exposure to a traumatic stimulus, or complex trauma. Criteria proposed for Developmental Trauma Disorder include exposure to a traumatic event, affective and physiological dysregulation, attentional and behavioral dysregulation, self and relational dysregulation, functional impairment, and PTSD symptoms including re-experiencing, intrusive thoughts, irritability, hyperarousal, and the like. The symptoms described in both the criteria for Complex PTSD and Developmental Trauma Disorder capture symptoms of mental health disabilities that are often comorbid with PTSD, such as depression, anxiety, substance abuse, oppositional defiant disorder, and borderline personality disorder (Sar, 2011). Thus far, the

American Psychiatric Association has not included Complex Trauma or Developmental Trauma Disorder as a classification in any of the iterations of the Diagnostic and Statistical Manual for Mental Health Disorders.

Trauma and Juvenile Offenders

Youth in the juvenile justice system present with a host of mental health needs, particularly as they relates to early experiences of trauma. According to Ford and colleagues (2012), adjudicated youth often have histories that include multiple types of traumatic events, such as life-threatening accidents or disasters, interpersonal losses, and victimization in their families and communities. Fairbank (2008) reports that approximately 84% of adjudicated youth have witnessed or been have been victims of multiple traumatic experiences. In a study by Abram, Teplin, Charles, Longworth, McClelland, & Dulcan (2004), findings indicate that in large urban youth detention center, more than 90% of the sample of youth reported a history of at least one potentially traumatic experience. This figure is in stark contrast to the 25% prevalence of traumatic exposure within a community youth sample not involved in the juvenile justice system. Other research indicates that for youth involved in the juvenile justice system, prevalence rates of PTSD are as high as 50% among girls and 30% among boys (Kerig & Becker, 2010, 2011). Ford and colleagues (2010) indicate that among youth in a given juvenile justice facility, 20% experienced a combination of sexual or physical abuse or family violence, and 15% had experienced emotional abuse and family violence but not physical or sexual abuse.

Trauma and Mental Health of Juvenile Offenders

Juvenile offenders often suffer consequences related to mental health as a result of experiencing trauma. Adjudicated youth with complex trauma histories present with a host of mental health symptoms including hostility, oppositionality and impulsivity in childhood and

adolescence (Ford, Fraleigh, & Connor, 2010; Farrington, 1993). Certain externalizing disorders are commonly diagnosed among youth who are involved in the juvenile justice system, such as Attention Deficit/Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder, Conduct Disorder, and various personality disorders (Ford et al, 2012). Nearly 66% of males and 75% of females that enter the juvenile justice system meet criteria for one or more mental health disorders, not accounting for the common diagnosis of Conduct Disorder. When considering Conduct Disorder, even more adjudicated youth meet criteria for a mental health diagnosis (Shufelt & Coccozza, 2006; Teplin, Abram, McClelland, Mericle, Dulcan, & Washburn 2006). While both male and female youth in the juvenile justice system experience high rates of mental health problems, females experience higher rates than males, particularly with internalizing disorders (i.e. depression). Kapp and colleagues (2013) report that approximately 80% of adjudicated girls and 67% of boys meet criteria for mental health disorders. Ford and colleagues (2012) hypothesize that while many juvenile offenders likely fit diagnostic criteria for the above disorders, it is also quite likely that the trauma profiles of these often emotionally dysregulated youth present a fuller picture of problems experienced by justice-involved youth. Youth who have significant trauma histories but who do not meet criteria for PTSD often meet criteria for other diagnoses such as suicidality and substance abuse.

According to Abram and colleagues (2004), 10% of detained juveniles meet criteria for PTSD, most often due to witnessing violence or life-threatening accidents. Ruchkin, Henrich, Jones, Vermeiren, and Schwab-Stone (2007) report that posttraumatic stress mediates the relationship between trauma in childhood and problem behavior in adolescence and adulthood. Many adjudicated youth who experience trauma may suffer from sleep dysregulation, paranoia, irritability, anger, and learning problems (Gospodarevskaya & Segel, 2012). Generally, PTSD

prevalence rates are four to eight times as high in juvenile justice population as those reported in studies of community samples of youth (Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 2001). Lifetime prevalence rates of PTSD among adjudicated youth range from 25-50% (Arroyo, 2001). Ford and colleagues (2012) indicate that exposure to complex trauma during childhood puts adolescents at risk for PTSD, depression, suicidality, substance use, legal problems, and incarceration.

Mental Health Disorders and Recidivism among Juvenile Offenders

Researchers have long established the link between mental health disorders and persistent delinquent behavior. One study indicates that substance abuse among traumatized youth implicated a differential path between delinquency persistence and desistance (D'Amico, Edelen, Miles, & Morral, 2008). In regards to substance use, Lederman, Dakof, Larrea, & Li (2004) report that girls who had been previously detained reported more substance use than girls who were detained for the first time at assessment. Wierson and Forehand (1995) indicate that a history of substance abuse and conduct disorder predicted recidivism among Caucasian boys, whereas a diagnosis of ADHD, younger age at first conviction, offense severity, and the absence of major depressive disorder predicted recidivism among African American boys. Above all else, minority youth with mental health diagnoses were identified as the most at risk for both initial and longstanding juvenile justice involvement (Becker, Kerig, Lim, & Ezechukwu, 2012). Such data indicate that mental health problems often play some role in juvenile offender recidivism.

Trauma as a Risk Factor for Delinquency among Juveniles

The relationship between trauma and delinquency is evident in concurrent and longitudinal research (Ford, 2002; Greenwald, 2002; Kerig & Becker 2010; Becker, Moeddel, & Kerig, 2011). Danielson, Begle, Ayer, & Hanson (2012) report that the relationship between

trauma and delinquency appears to be bidirectional, meaning that trauma leads to delinquency and delinquency leads to trauma. The literature indicates that exposure to early childhood trauma predicts engagement antisocial behavior that can lead to involvement in the juvenile justice system (Becker et al, 2011). Putnam (2006) suggests that trauma has a significant effect on both neuropsychological and psychosocial development that can lead to difficulties in emotional, cognitive, and interpersonal functioning, thereby increasing the risk of delinquency. One study by Begle and colleagues (2011) indicates that individuals who experience interpersonal trauma engage in delinquent behavior one year later. Children who have experienced physical abuse pose a great risk in that these children are up to nine times more likely to engage in criminal behaviors (Widom & Maxfield, 2001). Holding both race and gender constant, youth with a history of victimization through various means of abuse are more likely to be arrested as adults (Widom et al, 2001).

Not all traumatic experiences are the same. Becker and Kerig (2011) found that the severity of trauma symptoms positively related to arrest frequency and delinquency severity among a sample of male juvenile offenders. In this study, the effect remained after controlling for the total number of traumatic events reported, indicating that a history of trauma is more profound in predicting delinquent behavior than the frequency of or number of traumatic events experiences. Furthermore, Becker and colleagues (2012) examined the relationship between PTSD, age, ethnicity, gender, and recidivism in a sample of juvenile offenders. They found that African American youth with PTSD had a greater tendency to reoffend than any other demographic in the study.

Trauma as a Risk Factor for Delinquency among Juveniles

Several theories exist to support the nature of the relationship between delinquency and trauma. To begin, one such theory posits that the link between trauma and juvenile delinquency occurs when traumatized adolescents attempt to regain control through their behavior after an experience of trauma. A traumatic experience often gives one a sense of loss of control, heightened state of arousal, and subsequent challenges with both emotional and cognitive regulation. In a state of emotional and cognitive dysregulation, Ford et al. (2006) suggests that such youth engage in risk-taking behavior in order to assuage the unfairness of their victimization through defiance and acting-out. Other researchers articulate the nature of the traumatic stress theory to explain the relationship between juvenile delinquency and trauma. Cuevas, Finkelhor, Turner, & Ormrod (2007) indicate that children who experience trauma experience a heightened sensitivity to threat, which can often lead to significant hostile attribution bias, impaired social competence, and aggression. As a result, youth are more likely to engage in delinquent behavior due to such emotional dysregulation. Finally, Kerig, Bennett, Thompson, & Becker (2012) hypothesize that emotional numbing is a typical coping mechanism among youth who have been traumatized so that they may protect themselves from further distress. As a result of emotional numbing, juvenile offenders may engage in repeated problem behavior unconscious of both their behavior and the consequences of their behavior.

Challenges to Trauma Assessment in Children and Adolescents

Assessing for trauma in children and adolescents represents significant challenges for both mental health and medical health professionals due in part to the development of children and adolescents. The nature of PTSD often disrupts emotional development, and therefore impacts the nature and extent to which a child may or may not disclose symptoms of trauma (Terr, 1991). The nature of the traumatic event and the child's subjective experience of the

trauma are influential in the expression of the symptoms of PTSD, and are in large part developmentally dependent (Drake, Bush, van Gorp, 2001). To that end, many youth experience significant emotional numbing as a coping strategy and to protect against other adverse circumstances. Such emotional numbing often diminishes the child's awareness of symptomology, and may inhibit disclosure or help-seeking behaviors (Kerig & Bennett, 2013). Youth who experience certain traumatic events, such as sexual abuse, may feel less comfortable reporting a potentially stigmatizing experience of trauma (Kerig et al, 2011). In a study that compared documented incident of abuse and self-report of the youth, researchers found that both male and female youth were more likely to self-report physical abuse than sexual abuse, further indicating the need for thorough clinical assessment (Dembo, Shmeidler, & Childs, 2007).

Cohen and Mannarino (1998) offer significant recommendations for the assessment of PTSD in children and adolescents, particularly as it relates to assessing children under the age of 14. To begin, clinicians should use clinical interviewing with specific focus on PTSD symptoms. Such a recommendation offers the child and opportunity to report their experience without endorsing potentially traumatizing measurement language (Ford, Chapman, Pearson, Borum, & Wolpaw, 2008). Many self-report measures use clinical or scientific language to describe certain events, such as rape, molestation, and other experiences. Given the context of the development of the child and the shame often experienced by individuals who have had traumatic experiences, it is not unusual for a child to underreport experience (Cohen et al, 1998). Clinicians should therefore recognize trauma assessment in light of the development of the child, and utilize developmentally appropriate language to assess symptoms of trauma exposure in children and adolescents.

Categories of Juvenile Offense

The Office of Juvenile Justice and Delinquency Prevention (Stahl, 1999) posits types of offenders in terms of categories of degree of violence and severity of the crime. Many social scientists have also used this approach to categorize types of juvenile offenders when trying to understand certain characteristics across types of offenders (Bagley and Pritchard, 1998; Sankey and Huon, 1999; Glaser et al, 2002). Such a ranking system organizes individual offenders by their offense type: 1 (crime against person), 2 (crime against property), 3 (drug and alcohol crime) 4 (crime against public order), 5 (status crime). This categorical system of differentiating offenders aids in discriminating serious and non-serious offenses, as well as assists in reporting national statistics regarding juvenile crime (Stahl, 1999; Sankey et al, 1999).

Serious, Violent, and Chronic Offenders

The relationship between mental health and delinquency has been indicated throughout the juvenile justice literature. Among juvenile offenders, those who commit the greatest number and the most violent crimes are considered in the juvenile justice literature to be serious, violent, and chronic offenders (SVC; Fox, Perez, Cass, Baglivio, & Epps, 2015). Serious, violent, and chronic offenders are typically identified by the juvenile justice system after they have accrued felonies which were a result of particularly violent behavior (e.g. aggravated rape). According to Fox and colleagues (2014), serious, violent, and chronic offenders are disproportionately victims of trauma, abuse, neglect, and maltreatment during childhood, as compared to less severe or non-offending juveniles. In a study of 22,757 delinquent youth referred to the Florida Department of Juvenile Justice, Fox and colleagues (2015) found that a history of adverse experiences, including childhood trauma, abuse, and neglect, increased the risk of becoming a serious, violent, and chronic juvenile offender. This data indicates that a history of trauma impacts the degree to which a child engages in delinquent behavior.

Trauma Symptom Checklist

The Trauma Symptom Checklist for Children (TSCC; Briere, 1996) assesses for symptomatology related to posttraumatic distress in children and adolescents. The TSCC is comprised of six clinical scales associated with trauma exposure (1) Anxiety, (2) Depression, (3) Anger, (4) Posttraumatic Stress, (5) Dissociation, and (6) Sexual Concerns; and four clinical subscales (1) Overt Dissociation, (2) Fantasy Dissociation, (3) Sexual Preoccupation, and (4) Sexual Distress (Briere, 1996). Numerous researchers have indicated that clinical utility of the TSCC within the population of adjudicated youth due to the breadth of trauma symptomology is captures (Briere, 1996; Ford et al, 2008).

The norms for the TSCC were based on a sample of 3,008 male and female youths from three nonclinical populations that varied in gender, age, racial/ethnic, and socioeconomic status. The TSCC has been shown to have appropriate reliability and validity. The TSCC shows good convergent and discriminant validity, as well as construct validity (Briere, 1996; Nilsson, Wadsby, & Svedin, 2008). The TSCC has been used in a number of studies to measure trauma symptomatology and treatment outcomes in adolescents (Bal, Crombez, Van Oost, & Debourdeaudhuij, 2003; Bray & Caraway, 2002; Nilsson & Wadsby, 2010).

Scores on the TSCC are translated into T-scores. Scores that are 1.5 standard deviations above the mean (T=65) on all scales except Sexual Concerns, Sexual Preoccupation, and Sexual Distress are clinically significant. Scores between 60 and 65 (T=60 and T=65) on all scales except Sexual Concerns, Sexual Preoccupation, and Sexual Distress are subclinically significant, or at-risk. Scores that are two standard deviations above the mean (T=70) on the Sexual Concerns, Sexual Preoccupation, and Sexual Distress scales are clinically significant.

CROPS

The Child Report of Post-traumatic Symptoms (CROPS; Greenwald & Rubin, 1999) is a 26-item measure that has demonstrated validity and reliability in assessing a broad range of post-traumatic symptoms in children ages 7-17 in a variety of settings. This measure is particularly useful in clinical settings as it is intended to screen for posttraumatic symptoms with or without an identified trauma. This measure assesses a broad range of symptoms indicated in Fletcher's meta-analysis of the literature on childhood trauma (1993). The response format for the measure is a 3-point Likert scale (0=None, 1=Some, 2=Lots) and youth are asked to report the severity of their symptoms within the last week. The total score is calculated by summing the responses. CROPS scores of greater than 19 suggest clinical concern (Greenwald & Rubin, 1999).

Greenwald and Rubin's (1999) validation study of the CROPS found support for a three-factor structure. The first factor consists of items that describe an array of dysphoric symptoms, such as guilt, self-alienation, and a damaged sense of self. The second factor contains items pertaining to somatization, while items loading on the third factor pertain mostly to intrusive thoughts and avoidance. These findings suggest that the posttraumatic reactions are comparatively different as seen in youth and adults.

Several studies have demonstrated validity and reliability of the CROPS in various settings and languages, with a Cronbach's alpha of .9 (Greenwald & Rubin, 1999; Greenwald, 2008; Bocknek, Sanderson, & Britner, 2009). Internal consistency was found for the CROPS with juveniles in a detention setting (Greenwald, 2002). Concurrent validity was found between the CROPS and the Lifetime Incidence of Traumatic Events Scale (Greenwald & Rubin, 1999). CROPS scores have also been found to correlate with the Trauma Symptom Checklist for Children (TSCC; Briere, 1996) ($r=.7$; Greenwald, et al, 2001). The CROPS has been shown to be

responsive to changes in symptoms across settings giving it great clinical utility (Greenwald, 2002).

Summary

To summarize, research indicates that traumatic exposure is quite common among children and adolescents. Exposure to trauma and its effects on the mental health of juveniles is critical for understanding the juvenile offender population, pathways to delinquency, and likelihood for recidivism. This study extends previous research by exploring the utility of the CROPS and the TSCC within the juvenile offender population to assess for the presence of trauma and traumatic stress (Perkins, Calhoun, & Glaser, 2013; Greenwald, 2002; Reynolds & Kamphaus, 2004; Briere, 1996)

CHAPTER THREE

Research Method

Procedure

The data used in this study was collected by the Juvenile Counseling and Assessment Program (JCAP). The Juvenile Counseling and Assessment Program is comprised of both MEd students in Professional Counseling and PhD students in Counseling Psychology at the University of Georgia. The JCAP program offers therapeutic intervention services to adjudicated youth in both community and detention settings. Data for this study was collected from both female and male adolescents involved in the juvenile justice system in Northeast Georgia, United States of America. Adolescents were assessed as a part of the intake process for clinical services, including therapeutic intervention and psychological evaluation.

Participants

Study participants consisted of adjudicated youth referred for mental health services by the juvenile justice system. As part of the intake process for services, doctoral-level and masters-level students collected data from participants in both the community and detention settings. All validity scores on the CROPS and TSCC were reviewed for each participant. All scores that were deemed invalid were discarded prior to analysis.

A total of 86 subjects participated in this study. Of that number 10 were eliminated due to possible invalidity. The ages of participants in this study ranged from 13 to 17 ($M = 15.17$; $SD = 1.025$). There were 46 males and 30 females in this study. There were 76 participants in the sample. Demographic characteristics are shown in Table 1. The racial composition of

participants was 67.1% African American, 17.1% White, 11.8% Latino/a, and 3.9% Multiracial.

Demographic information for all participants was collected via a structured clinical interview during the intake process and juvenile court records.

Table 1*Demographic Characteristics of Participants**(N=76)*

| Characteristics | N | % |
|------------------|----|------|
| Gender | | |
| Male | 46 | 60.5 |
| Female | 30 | 39.5 |
| Race | | |
| African American | 51 | 67.1 |
| Caucasian | 13 | 17.1 |
| Latino/a | 9 | 11.8 |
| Asian American | 0 | 0 |
| Multiracial | 3 | 3.9 |

Instruments

Trauma Symptom Checklist for Children (TSCC)

The TSCC was developed to assess for symptomatology related to posttraumatic distress in children and adolescents, ages 8 to 16 (Briere, 1996). The TSCC is comprised of two validity scales: (1) Underresponse, which measures a youth's tendency to deny trauma symptomatology and (2) Hyperresponse, which evaluates a youth's tendency to over-endorse trauma symptomatology, as well as six clinical scales (1) Anxiety, (2) Depression, (3) Anger, (4) Posttraumatic Stress, (5) Dissociation, and (6) Sexual Concerns, and four clinical subscales (1) Overt Dissociation, (2) Fantasy Dissociation, (3) Sexual Preoccupation, and (4) Sexual Distress. A description of each clinical scale and subscale's item content can be found in Table 1. The TSCC also contains eight critical items, which examine a youth's potential for self-harm, desire to harm others, fear of men and/or women, concern related to sexual maltreatment, fear of being harmed or killed, and tendency to fight often (Briere, 1996).

The norms for the TSCC were based on a sample of 3,008 male and female youth from three nonclinical populations. The sample is representative across various gender, age, racial/ethnic, and socioeconomic backgrounds. The TSCC has been shown to have appropriate reliability and validity. Cronbach's alpha ranges from .77 to .89 across the clinical scales and from .58 to .81 across the clinical subscales, indicating moderate to high internal consistency. The TSCC shows good convergent and discriminant validity, as well as construct validity (Briere, 1996; Nilsson, Wadsby, & Svedin, 2008).

The TSCC is a self-report instrument where youth are asked to read each item and indicate on a scale from 0-3 how often each statement occurs (Briere, 1996). Youth are instructed to respond by marking 0 = *never*, 1 = *sometimes*, 2 = *lots of times*, or 3 = *almost all of*

the time. Scores on the TSCC are translated into T-scores, where the mean is 50 and the standard deviation is 10. Scores that are 1.5 standard deviations above the mean (T=65) on all scales except Sexual Concerns, Sexual Preoccupation, and Sexual Distress are clinically significant. Scores between 60 and 65 (T=60 and T=65) on all scales except Sexual Concerns, Sexual Preoccupation, and Sexual Distress are subclinically significant, or at-risk. Scores that are two standard deviations above the mean (T=70) on the Sexual Concerns, Sexual Preoccupation, and Sexual Distress scales are clinically significant.

Table 2*A Description of the TSCC Clinical and Subclinical Scales*

| Scale | Item Content |
|----------------------|---|
| Anxiety | Generalized anxiety; hyperarousal; specific fears (i.e. of men or women; the dark; being killed); and a sense of impending danger. |
| Depression | Sadness, unhappiness, loneliness, and tearfulness; depressive thoughts; and self-harm behaviors. |
| Anger | Angry thoughts, feelings, and behaviors (i.e. feeling mad, hating others, wanting to hurt others, frequent arguing or fighting). |
| Posttraumatic Stress | Intrusive thoughts, sensations, and memories of traumatic experiences; nightmares; fears; and cognitive avoidance. |
| Dissociation | Dissociation symptoms (i.e. derealization, mind going blank, emotional numbing, pretending to be someone else or somewhere else, daydreaming, and memory issues). |
| Overt Dissociation | Reduced response to the environment, emotional detachment, and avoidance of negative affect. |
| Fantasy Dissociation | Dissociation symptoms that emphasize daydreaming, role-playing, and/or pretending to be someone else or somewhere else. |
| Sexual Concerns | Atypical sexual thoughts or feelings; sexual conflicts; negative responses to sexual stimuli; and fear of being sexually exploited. |
| Sexual Preoccupation | Preoccupation with sexual behaviors that is unusual or unexpected (i.e. compulsive sexual behavior in inappropriate settings). |
| Sexual Distress | Distress related to sexual experiences (i.e. sexual fears and unwanted sexual feelings or behaviors). |

Table 2 Adapted from Briere, 1996

The Child Report of Post-traumatic Symptoms (CROPS)

The CROPS is a 26-item self-report questionnaire that screens for symptoms of child trauma (Greenwald & Rubin, 1999) and post-traumatic symptoms found in the DSM-IV (American Psychiatric Association, 1994). In filling out the CROPS, children and adolescents are required to report symptoms experienced in the past week on a likert scale (0 = *none*, 1 = *some*, 2 = *lots*). Total possible scores range from 0 to 52. Scores of 19 and higher indicate symptoms of clinical concern. The CROPS has demonstrated good validity and reliability across settings and populations, as well as sensitivity (Greenwald & Rubin, 1999).

Procedure

This study is exploratory in nature as no published studies assessing the utility of the TSCC and CROPS were found. To begin, the means and standard deviations for the TSCC and CROPS were computed. In order to answer the first question (Is there a more sensitive clinical measure to capture symptoms of trauma within the sample of adolescents who endorsed an experience of trauma within the clinical interview?) a discriminant analysis and a logistic regression were performed. To answer question 2 (Is there a difference in CROPS scores among juvenile offenders who endorsed trauma across the five main categories of offense as defined by OJJDP?) a series of one-way ANOVAs and Post-hoc were performed. Finally, to answer the last question (Are there differences in TSCC profiles among different types of offenders as defined by OJJDP?) a series of one-way ANOVAs and Post-hoc were performed (Peng & So, 2002).

Research Questions

Research Question 1

Is there a difference between the sensitivity of the CROPS versus the TSCC in assessing symptoms of trauma among youth who endorsed experiences of trauma?

Research Question 2

Is there a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP?

Research Question 3

Are there differences in TSCC profiles among different types of offenders as defined by OJJDP?

Limitations of the Study

1. A limitation of this study is studies reliance on self-report data on both the CROPS and TSCC. Research indicates that multiple informants of adolescents' trauma exposure produce more reliable data.
2. A second limitation in the study is the N size. A larger N size enhances the statistical significance of the results.
3. A final limitation to the study is the limited geographic diversity of the sample. All participants in this student were adjudicated youth in the state of Georgia.

Assumptions of the Study

1. It is assumed that all participants in the study answered their self-report measures truthfully. It is also assumed that all assessment instruments were valid.
2. It is assumed that all invalid assessment measures were removed from the sample prior to analysis.
3. It is assumed that documentation, including offense type and other variables, provided by the juvenile justice system in Georgia reflects accuracy.

CHAPTER FOUR

Findings

Descriptive Statistics

The means and standard deviations of the TSCC and CROPS are shown in Table 3. None of the mean TSCC subscale scores fell within the Clinically Significant category (65 or greater) for Anxiety, Depression, Anger, Posttraumatic Stress, Dissociation, Dissociation Overt, or Dissociation Fantasy. None of the mean TSCC subscale scores fell within the Clinically Significant category of (70 or greater) for Sexual Concerns Total, Sexual Concerns Preoccupation, or Sexual Concerns Dissociation. Gender accounted for significant difference across numerous subscales. In regards to Anger, there was a significant difference in the scores for Males ($M = 47.63$, $SD = 8.67$) and Females ($M = 51.37$, $SD = 11.70$); $t(74) = -1.597$, $p = .022$. In regards to Sexual Concerns Total, there was a significant difference in the scores for Males ($M = 50.78$, $SD = 12.06$) and Females ($M = 55.77$, $SD = 20.84$); $t(74) = -1.321$, $p = .035$. In regards to Sexual Concerns Dissociation, there was a significant difference in the scores for Males ($M = 49.61$, $SD = 9.871$) and Females ($M = 58.37$, $SD = 22.423$); $t(74) = -2.331$, $p = .00$. All other subscales fell within the average range.

As for the CROPS, results indicate that 38.2% ($N = 29$) of juvenile offenders' CROPS scores fell within the clinically significant range (19 or greater). The overall mean CROPS score was 17.77 ($SD = 10.58$). There was a significant difference in the scores for Females ($M = 21.33$, $SD = 11.94$) and Males ($M = 15.53$, $SD = 9.07$); $t(68) = -2.302$, $p = .024$.

Cronbach's alpha was computed to assess for the reliability of the CROPS scale. The alpha for the 26 items was .92, indicating adequate internal consistency and reliability for the measure. Cronbach's alpha was computed to assess for the reliability of the TSCC. The alpha for the clinical scales was .88. The alpha for the clinical subscales was .79. Both alphas indicate adequate internal consistency.

Table 3.*Means and standard deviations for TSCC and CROPS Total Score**(N=76)*

| | <i>Mean</i> | <i>SD</i> |
|----------------------|-------------|-----------|
| CROPS Total | 17.77 | 10.58 |
| Anxiety | 45.29 | 9.17 |
| Depression | 48.34 | 10.56 |
| Anger | 49.11 | 10.07 |
| Posttraumatic Stress | 47.37 | 9.59 |
| Dissociation | 47.09 | 8.73 |
| Dissociation Overt | 47.70 | 9.19 |
| Dissociation Fantasy | 46.13 | 7.76 |
| Sexual Concerns | 52.75 | 16.16 |
| Total | | |
| Sexual Concerns | 52.74 | 15.83 |
| Preoccupation | | |
| Sexual Concerns | 53.07 | 16.48 |
| Dissociation | | |

Research Question 1:

Is there a difference between the sensitivity of the CROPS versus the TSCC in assessing symptoms of trauma among youth who endorsed experiences of trauma?

First, to assess the strongest predictor variable for the TSCC, a discriminant analysis was utilized. This step was critical to effectively compare the utility of the CROPS and the TSCC given the nature of the two instruments. The structure of the discriminant function revealed that the Anxiety Scale had the greatest impact on the loading structure of the TSCC. The structure of the discriminant function is displayed in Table 4.

Utilizing the results of the structure of the discriminant function, a logistic regression analysis was conducted to predict trauma or no-trauma groups using the CROPS Total Score and the TSCC Anxiety Scale for the participants (Pedhauzer, 1997). A test of the full model against a constant only model was statistically significant, indicating that the predictors reliably distinguished between trauma and no-trauma ($X^2(2) = 14.050, p = .001, \text{ with } df = 2$). Nagelkerke's R^2 of .279 indicated a moderate relationship between prediction and grouping. Based on the Hosmer-Lemeshow Goodness-of-Fit Test, the model is significant, $X^2(8) = 7.922, p = .441$. Prediction success overall, displayed in Table 5, was 71.7% (75.0 % for no trauma and 68.8% for trauma). The Wald criterion demonstrated that only the TSCC Anxiety Scale made a significant contribution to prediction ($p = .007$) of trauma or no-trauma groups. The CROPS Total Score was not a significant predictor ($p = .139$) of trauma or no-trauma groups. The logistic regression for CROPS Total Score and TSCC Anxiety Scale Score predicting trauma or no-trauma group membership is shown in Table 6. Holding the TSCC constant, there is a 6.5% decrease in odds of the qualitative endorsement of trauma for every unit increase in the CROPS

Total Score. Holding the CROPS constant, there is a 24.3% increase in the odds of the qualitative endorsement of trauma for every one unit increase in the TSCC score.

Null Hypothesis 1: There will be no difference between the sensitivity of the CROPS versus the TSCC in assessment symptoms of trauma among youth who qualitatively endorsed experiences of trauma. The results indicate that the TSCC Anxiety Scale is a more significant predictor than the CROPS Total Score in predicting group membership to trauma or no-trauma groups, thus, Null Hypothesis 1 is rejected.

Table 4.*Structure of the Discriminant Function**(N=76)*

| <i>Variable</i> | <i>Loading</i> |
|-------------------------------|----------------|
| Anxiety | .736 |
| Posttraumatic Stress | .610 |
| Sexual Concerns Dissociation | .523 |
| Sexual Concerns Total | .466 |
| Sexual Concerns Preoccupation | .410 |
| Depression | .391 |
| Dissociation | .321 |
| Dissociation Overt | .310 |
| Anger | .272 |
| Dissociation | .036 |

Table 5.*CROPS Total Score and TSCC Anxiety Scale Predictor of Trauma/No-Trauma Groups*

| <i>Observed</i> | <i>Predicted</i> | | <i>% Correct</i> |
|--------------------|------------------|-----------|------------------|
| | <i>Yes</i> | <i>No</i> | |
| Yes | 22 | 10 | 68.8 |
| No | 7 | 21 | 75.0 |
| Overall Percentage | | | 71.7 |

Table 6.*Logistic Regression for CROPS Total Score and TSCC Anxiety Scale Score Predicting Trauma/No-Trauma Group Membership*

| | <i>B</i> | <i>SE</i> | <i>Odds Ratio</i> | <i>p</i> |
|--------------------|----------|-----------|-------------------|----------|
| CROPS Total Score | -.067 | .045 | .935 | .139 |
| TSCC Anxiety Scale | .218 | 2.956 | 1.243 | .007 |

**p*<.05

Research Question 2:

Is there a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP?

To assess whether there is a difference in CROPS scores among different types of juvenile offenders, juveniles were placed into one of three groups as determined by the most serious offense at the time of intake with the Juvenile Counseling and Assessment Program. The Office of Juvenile Justice and Delinquency Prevention determines offense categories to be crimes against person, crimes against property, drug and alcohol crimes, crimes against public order, and status crimes (Puzzanchera & Robson, 2014). For the purposes of this study, the five category system of offense was utilized by classifying the participants into categories of crime against person, crime against property, and a combined category to include drug and alcohol crime, crime against public order, and status crimes (Stahl, 1999).

An Analysis of Variance (ANOVA) was utilized to determine whether or not there was a significant difference among CROPS Total Scores for the different types of offenders in the study. A significant CROPS Total Score is a score greater than or equal to 19. The significance of the ANOVA was examined at the $p < .05$ level: CROPS Total Score [$F(2, 67) = .570, p = .568$]. Given that the omnibus test statistic was not significant, it is not necessary to complete post-hoc tests to measure significant differences between each of the groups. Means and Standard Deviations for each group are displayed in Table 7.

Null Hypothesis II: There is not a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP. The results of the Analysis of Variance indicated nonsignificant results and as a result Null Hypothesis II cannot be rejected.

Table 7*Means and Standard Deviations for CROPS Total Score across Offense Type*

| Offense Type | Mean | Standard Deviation |
|--|-------|--------------------|
| Crime against person | 19.54 | 10.362 |
| Crime against property | 16.73 | 11.280 |
| Drug/Alcohol, Public Order, and Status Crimes | 16.71 | 9.659 |
| Total | 17.77 | 10.575 |

Research Question 3

Are there differences in TSCC profiles among different types of offenders as defined by OJJDP?

To determine differences in TSCC profiles across different types of offenders, participants were classified into categories of crime against person, crime against property, and a combined category to include drug and alcohol crime, crime against public order, and status crimes (Stahl, 1999). Means and Standard Deviations for each TSCC Subscale across each category of offense are noted in Table 8.

In order to determine differences across specific subscales, a series of One-Way ANOVAs were conducted in order to determine significant difference. The significance of these ANOVAs was examined at the $p < .05$ level: Anxiety [$F(2, 72) = 1.067, p = .349$], Depression [$F(2, 72) = .222, p = .801$], Anger [$F(2, 72) = .906, p = .409$], Posttraumatic Stress [$F(2, 72) = 1.090, p = .342$], Dissociation [$F(2, 72) = .134, p = .875$], Dissociation Overt [$F(2, 72) = .031, p = .970$], Dissociation Fantasy [$F(2, 72) = 3.401, p = .039$], Sexual Concerns Total [$F(2, 72) = 1.471, p = .236$], Sexual Concerns Preoccupation [$F(2, 72) = 1.632, p = .203$], and Sexual Concerns Dissociation [$F(2, 72) = .451, p = .639$].

Post hoc comparisons using the Tukey HSD test indicated that for the Dissociation Fantasy subscale on the TSCC the mean score for Crime Against Person offenders ($M=48.66, SD=7.208$) was significantly different than the mean score for Drug/Alcohol, Public Order, and Status offenders ($M=42.69, SD=6.954$). However, Crime Against Property offenders ($M=45.55, SD=8.066$) did not significantly differ from the offenders who committed crimes against people or drug/alcohol, public order, and status offenses.

TSCC profiles across groups of offenders as defined by OJJDP are shown in Graph 1.

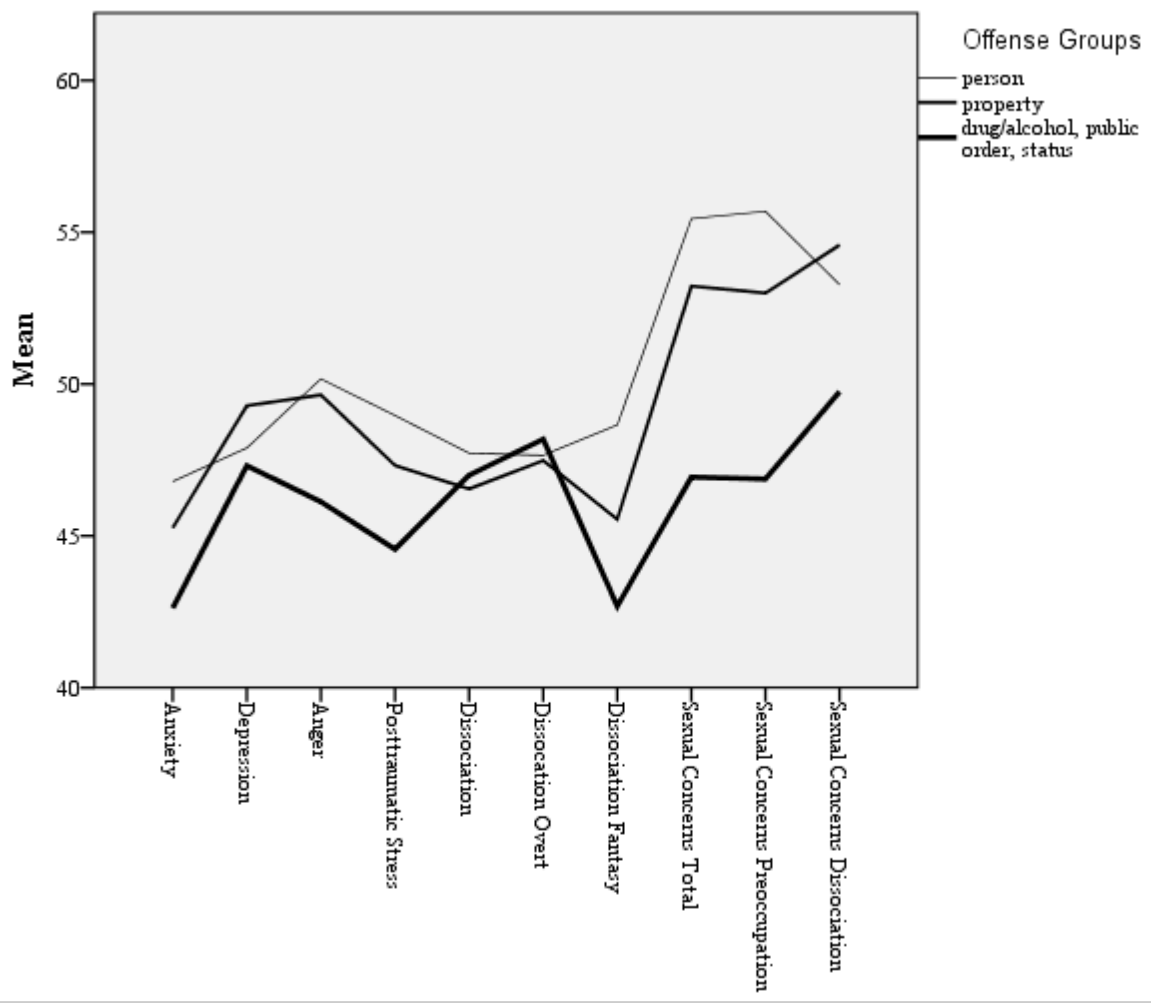
Null Hypothesis III: There are not differences in TSCC profiles among different types of offenders as defined by OJJDP. The results indicated a significant difference related to the Dissociation Fantasy scale on the TSCC across the different groups of offenders, thus Null Hypothesis III is rejected.

Table 8*Means and Standard Deviations for TSCC Subscales across Offense Type*

| | <u>Crime Against Person</u> | | <u>Crime Against Property</u> | | <u>Drug/Alcohol, Public Order, and Status</u> | |
|----------------------------------|-----------------------------|-----------|-------------------------------|-----------|---|-----------|
| | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |
| Anxiety | 46.79 | 9.567 | 45.27 | 9.450 | 42.63 | 7.702 |
| Depression | 47.90 | 10.728 | 49.29 | 10.628 | 47.31 | 10.657 |
| Anger | 50.17 | 9.758 | 49.65 | 10.828 | 46.13 | 9.084 |
| Posttraumatic Stress | 48.97 | 8.914 | 47.32 | 10.796 | 44.56 | 8.058 |
| Dissociation | 47.72 | 7.855 | 46.55 | 9.539 | 47.00 | 9.070 |
| Dissociation Overt | 47.66 | 8.050 | 47.48 | 9.933 | 48.19 | 10.160 |
| Dissociation Fantasy | 48.66 | 7.208 | 45.55 | 8.066 | 42.69 | 6.954 |
| Sexual Concerns Total | 55.45 | 18.240 | 53.23 | 16.492 | 46.94 | 9.504 |
| Sexual Concerns Preoccupation | 55.69 | 18.012 | 53.00 | 16.375 | 46.88 | 7.623 |
| Sexual Concerns Dissociation | 53.28 | 18.919 | 54.58 | 15.690 | 49.75 | 13.424 |

Figure 1

TSCC Profiles Across Offense Type



CHAPTER FIVE

Discussion

The relationship between posttraumatic stress and involvement in the juvenile justice system is well documented in the literature on the mental health of youth offenders (Abram, Teplin, Charles, Longworth, McClelland, & Dulcan, 2004; Cauffman, Feldman, Waterman, & Steiner, 1998). Juvenile offenders represent a unique group with a unique set of strengths and needs. In an effort to reduce rates of recidivism in the juvenile offender population and to greater meet the needs of juvenile offenders and their families, a thorough assessment of trauma history of symptomology is imperative. While numerous child and adolescent trauma assessments exist, very few are validated within the juvenile offender population. To that end, populations of juvenile offenders vary across offense type and gender, to name a few variables, in terms of specified treatment needs. The Trauma Symptom Checklist (TSCC), a widely used measure of trauma symptoms in children, needs further validation within the juvenile offender population. The Child Report of Posttraumatic Symptoms (CROPS) is similarly popular and requires of further validation within populations of youth offenders.

The purpose of this study was to examine the utility of each clinical measure within the juvenile offender population in order to support mental health services for youth offenders to aid in efforts towards treatment and rehabilitation and to hopefully reduce rates of recidivism within this population. This study had several research questions:

1. Is there a difference between the sensitivity of the CROPS versus the TSCC in assessing symptoms of trauma among youth who qualitatively endorsed experiences of trauma?

2. Is there a difference in CROPS scores among juvenile offenders who endorsed trauma across the categories of offense as defined by OJJDP?
3. Are there differences in TSCC profiles among different types of offenders as defined by OJJDP?

Discussion of the Findings

This study contributes to the literature documenting trauma symptomology among the youth offender population. For the TSCC, none of the mean subscale scores fell within the Clinically Significant category (65 or greater) for Anxiety, Depression, Anger, Posttraumatic Stress, Dissociation, Dissociation Overt, or Dissociation Fantasy. None of the mean TSCC subscale scores fell within the Clinically Significant category of (70 or greater) for Sexual Concerns Total, Sexual Concerns Preoccupation, or Sexual Concerns Dissociation. However, gender accounted for significant difference across numerous subscales on the TSCC, including Anger, Sexual Concerns Total, and Sexual Concerns Dissociation. These findings are consistent with previous findings regarding childhood trauma and gender differences (Grande, Hallman, Underwood, Warren, & Rehfuss, 2012).

As for the CROPS, results indicate that 38.2% ($N = 29$) of juvenile offenders' CROPS scores fell within the clinically significant range. Consistent with the literature on the CROPS and the results of the analysis of the TSCC administered to the same group, there was a significant difference in the CROPS Total Score for females and males (Grande et al, 2012).

Overall, the preliminary data is consistent with previous research highlighting the complexity of assessing trauma symptomology among youth. The nature of the traumatic event and the child's subjective experience of the trauma are influential in the expression of the symptoms of PTSD, and are in large part developmentally dependent (Drake, Bush, van Gorp,

2001). Similarly, gender differences across scales on the TSCC and the Total Score on the CROPS highlight the need for gender-differentiated treatment for trauma symptoms. Females in particular scored higher on Anger, Sexual Concerns Total, and Sexual Concerns Dissociation subscales on the TSCC. Females also scored higher than males on the CROPS Total Score. This is an important finding for mental health clinicians working in a clinical context with female juvenile offenders. Women and girls often experience trauma and the effects of trauma in unique and different ways than men and boys. Studies have shown that adolescent women report greater symptoms of PTSD as compared to adolescent men (Brosky & Lally, 2004). A continual and intentional effort to meet the needs of female offenders is critical in the context of mental health programming and services for offenders both in detention and in the community.

Overview of Discriminant Analysis and Logistic Regression

The current study explored the clinical utility of both the CROPS and the TSCC by comparing the sensitivity of each measure. To assess the strongest predictor variable for the TSCC, a discriminant analysis was utilized. The structure of the discriminant function revealed that the Anxiety Scale had the greatest impact on the loading structure of the TSCC. Utilizing the results of the structure of the discriminant function, a logistic regression analysis was conducted to predict trauma or no-trauma groups using the CROPS Total Score and the TSCC Anxiety Scale for the participants. A test of the full model against a constant only model was statistically significant, indicating that the predictors reliably distinguished between trauma and no-trauma groups. The model was similarly able to predict who would report significant trauma symptoms and those who would not, indicating good sensitivity and specificity. These findings suggest that both groups of youth responded in a relatively consistent way, making it easy to classify cases into each group. The Wald criterion demonstrated that only the TSCC Anxiety Scale made a

significant contribution to predicting trauma or no-trauma groups. The CROPS Total Score was not a significant predictor of trauma or no-trauma groups. Holding the TSCC constant, there is a 6.5% decrease in odds of the qualitative endorsement of trauma for every unit increase in the CROPS Total Score. Holding the CROPS constant, there is a 24.3% increase in the odds of the qualitative endorsement of trauma for every one unit increase in the TSCC score.

The findings suggest that within this study, the TSCC Anxiety Scale proved to be a stronger measure of a qualitative report of trauma symptoms than the CROPS. This could be in part due to the construction of the TSCC as compared to the CROPS. Given the challenges of youth self-report of trauma symptoms, these results can assist clinicians in identifying assessments that are effective in measuring the complex nature of trauma symptoms within an individual.

Overview of Analysis of Variance

To assess whether there is a difference in CROPS scores among different types of juvenile offenders, juveniles were placed into one of three groups as determined by the most serious offense at the time of intake with the Juvenile Counseling and Assessment Program. An Analysis of Variance (ANOVA) was utilized to determine whether or not there was a significant difference among CROPS Total Scores for the different types of offenders in the study. The significance of the ANOVA was examined at the $p < .05$ level. Results of the omnibus test statistic were not significant, so therefore it was not necessary to complete post-hoc tests to measure significant differences between each of the groups. To summarize, there was not a significant difference in CROPS scores across different types of juvenile offenders in the sample.

Becker and Kerig (2011) posit that severity of PTSD symptoms is strongly related to the frequency of arrest and offense severity among a sample of detained adolescent males, holding

constant the number of traumatic events reported by the youth. The youth in this sample were categorized by their offense status at the time of their intake. For the purposes of this study categorization of offense-type did not take into account the participants history of arrest or offense frequency. These limitations likely contributed to the limited findings for this question. Future research should categorize offenders taking into account arrest history and frequency of offense.

Overview of Analysis of Variance and TSCC Profiles

The current study also explored the relationship between different types of offenders and their TSCC profiles. The results supported that different types of offenders presented with significantly different elevations on the TSCC. The significance of the ANOVA was examined at the $p < .05$ level. Results indicated that groups of offenders differ significantly on the Dissociation Fantasy subscale scale on the TSCC. Closer comparisons indicated that for the Dissociation Fantasy subscale the mean score for Crime Against Person was significantly different than the mean score for Drug/Alcohol, Public Order, and Status offenders. However, Crime Against Property offenders did not significantly differ from the Crimes Against Person offenders or Drug/Alcohol, Public Order, and Status Offenders. No other subscales on the TSCC were significant across groups of juvenile offenders in this study.

It is likely that more serious offenders may present with more significant histories of trauma and trauma exposure. The literature on dissociation indicates that youth with significant trauma histories often experience significant dissociation, which often leads to significant behavioral misconduct that the child or adolescent may not be cognizant of in the moment (Carrion & Steiner, 2000). These results also indicate the greater general mental health needs more serious child and adolescent offenders may have as compared to their less-serious

offending peers. The type of offense a child or adolescent commits remains ever relevant to treatment considerations.

Clinical Implications

The results of this study have several clinical implications. Given the findings in the current study, the literature supporting the prevalence of trauma among adjudicated youth (Becker & Kerig, 2011), and the relationship between posttraumatic stress and recidivism (Kerig, Bennett, Thompson, & Becker, 2012), clinical practice must discern the most useful and most descriptive measure of trauma for assessing youth within the juvenile justice system. Properly assessing for trauma symptoms within the population of juvenile offenders can support proper clinical mental health treatment, and also inform the practice of juvenile justice professionals who make decisions regarding placement for those juveniles whose lives intersect with the justice system. For this study in particular, the TSCC was found to have greater clinical utility in discerning trauma symptoms than the CROPS. Given the results of this study and the challenges of utilizing self-report measures to gather information on children and adolescents in particular, thoughtfully selecting clinical assessments is critical as not all assessments are equal (Dembo, Schmeidler, & Childs, 2007).

The results of this study offer further support for the validity of the TSCC for use with adjudicated youth. While the CROPS has been validated to be an effective measure within the adjudicated youth population, in this study the TSCC proved to be a more sensitive measure for capturing symptoms of trauma. It is possible that this is due to the fact that the TSCC captures trauma symptomology differentiated across numerous subscales, whereas the CROPS utilizes one cut-off score to evaluate traumatic symptoms. With that said, the TSCC provides excellent clinical utility as it is relatively to administer and is relatively low-cost. The TSCC also provides

clinicians with a host of clinical scales and subscales, which aids in differential diagnosis and treatment planning (Briere, 1996).

Trauma-informed treatment is critical within populations of adjudicated youth. This study found differences across gender in both the CROPS Total Score and the TSCC, specifically on the Anger, Sexual Concerns, and Sexual Concerns Dissociation Subscales. Across both clinical measures, girls indicated greater trauma symptoms than boys. Related to girls specifically, Dixon, Howie, and Starling (2004) found mental health status to be a leading factor related to female juvenile offending. The bidirectional nature of female juvenile offending and mental health is a strong indicator of the clinical needs of young female offenders. Unfortunately, the specific needs of girls are often ignored by the juvenile justice system as it has largely catered to male youth offenders throughout its history (Kerig & Becker, 2012; Chesney-Lind, 1989). Due to the growing incidence of female offending, and the mental health symptoms that young women present with, trauma-informed treatments specifically geared towards young women and girls is critical. Gender-specific treatments often include a specific focus on interpersonal and relationship and sexual traumas (Agnew, Fishbein, Miller, Winn, Dakoff, Kruttschnitt, Giordano, Gottfredson, Payne, & Field, 2010; Kerig & Becker, 2012). Interventions that promote interpersonal and emotion regulation skills may be beneficial for young women as well (Calhoun, Bartolomucci, & McLean, 2005; Martin, Martin, Dell, Davis, and Guerrieri, 2008).

This study also found differences across types of offenders on the TSCC, particularly as it relates to the Dissociation Fantasy subscale. The data indicated that more serious youth offenders who committed more serious crimes differed significant from those offenders who are considered to be less serious offenders on the Dissociation Fantasy subscale. It is becoming increasingly important to understand the characteristics of juvenile offenders in order to decrease

and prevent juvenile delinquency (Jenson, Potter, & Howard, 2001; Snyder & Sickmund, 2006). Research supports the link between early experiences of trauma and dissociation (Carrion & Steiner, 2000) as well as trauma and offending (Baer & Maschi, 2003). The most serious offenders who commit crimes against other people enter the juvenile justice system with histories that include physical and sexual abuse, witnessing violent acts, parental substance abuse and neglect, and numerous mental health, developmental, and emotional issues (Dixon, Howie, & Starling, 2005; Jenson et al., 2001). Therefore, treatment interventions with serious juvenile offenders should aim to assess and treat dissociative symptoms. Moreover, in the context of trauma assessment, special attention should be paid to more serious offenders by mental health clinicians and the juvenile courts in their mental health treatment.

Limitations of the Study

Several limitations to the current study should be noted. First and foremost, the sample in this study was smaller than optimal for significant conclusions to be drawn from the data. One of the challenges of community-based research inquiry is access to and full participation from prospective participants, and this study was not an exception (Wallerstein & Duran, 2010). The sample in this study was also court referred and represents a small city in a southeastern US city. Additionally, the study relied heavily on youth self-report, which may introduce error in the data collection process. Invalid profiles were identified and eliminated with the TSCC, yet there is not identifying qualifier for the CROPS, thereby potentially inviting invalid data. Despite these limitations, some significant results were found.

Recommendations for Further Research

Most generally, the results of this study highlight the importance of trauma assessment and trauma-informed treatment within the juvenile justice system. These interventions must be

tailored to meet the needs of both young men and women and different types of offenders based on seriousness of the history of offenses. There are many limitations to this study, which further studies should address. To begin, the sample in this study was court referred and limited to a small region in the southeastern United States. Future studies should expand both the sample size and the demographic regions included. In a larger sample other variables could be examined, such as race and ethnicity across offenders, and even greater exploration of gender variables and age. With a larger sample size, greater conclusions could be drawn from the data.

In regards to the statistical analysis of the data, and specifically in regards to the logistic regression utilized to answer Research Question I, it is possible that a prediction equation may overestimate the relationship between the variables examined in the data. Cross-validation in a future study is necessary to ensure that the model utilized is not overfitting the data (Hosmer & Lemeshow, 2000). Moreover, future studies should compare similarly-structured assessments; in this study we were only able to compare the CROPS and the TSCC Anxiety Scale due to the structural nature of CROPS and the need to fit an appropriate model to compare the two measures. While we attempted to account for such structural difference in each assessment by first running a discriminant analysis to obtain the most impactful loading factor, future studies should compare the TSCC and the CROPS to other assessments with a similar structure to gain further data on each assessment tool.

The literature on trauma assessment in children strongly emphasizes the need for accurate clinical assessment through both a pencil-paper assessment and also a clinical interview (Terr, 1991). Researchers have found that the proper assessment of PTSD requires a face-to-face interview with a child or adolescent where they are directly asked about PTSD symptoms (Terr, 1979). Our study relied on the self-report of each adolescent within a general intake for clinical

services within the Juvenile Counseling and Assessment Program. The JCAP clinical intake is not trauma-specific but rather generalized to gather a comprehensive picture of the respondent's history and present needs. Two reliable and valid clinical interviews to assess for symptoms of trauma include the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version, PTSD Scale (Kauffman, Birmaher, Brent, Rao, Flynn, Moreci, Williamson & Ryan, 1997), and the Childhood PTSD Interview- Child Form (Fletcher, 1997). Further studies should incorporate a trauma-specific clinical interview to gather the most accurate and reliable qualitative data to support quantitative data gathered (Alisic, Zalta, Van Wessel, Larsen, Hafstad, Hassanpour, & Smid, 2014; Perrin, Smith, & Yule, 2000).

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