

POSITIVE PSYCHOLOGY INTERVENTION FOR GIRLS WITH CONDUCT PROBLEMS:
A SINGLE-CASE TIME-SERIES DESIGN

by

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ABSTRACT

Background: Juvenile offenders with psychopathic traits are more likely to have problems in institutional settings and commit more violent and damaging offenses following release, as well as be faced with problems (e.g., lost educational opportunities, drug use) that impede their functioning as young adults. There has been a paucity of interventions focusing on treating youth offenders with psychopathic traits. The Positive Psychology Intervention (PPI; Salekin, 2010) was designed to fulfil this purpose. The current study aimed to examine the effectiveness of PPI in reducing psychopathic traits in a sample of female juvenile offenders. **Method:** The participants were eight 15-18-year-old adolescent girls with conduct problems placed in a secure residential facility. The PPI was implemented and outcome measures were assessed pre and post-intervention, as well as weekly during the baseline and treatment phases. Group effects and single-case data were examined. **Results:** As predicted, there was a group reduction in psychopathic traits and increase in positive affect post-intervention. Examining the single-case data found that the PPI demonstrated significant effects for participants with certain characteristics (e.g., having stayed longer in the facility). **Conclusions:** The PPI appears promising in reducing psychopathic traits and enhancing positive affect in this sample of adolescent girls with conduct problems. The effects for the single case data were not as strong as that of the group level findings. Potential methodological reasons for this are discussed. In addition, ways to adapt sessions of the PPI to further enhance the effectiveness of treatment for

adolescent girls with psychopathic traits are outlined. **Keywords:** psychopathy, positive affect, intervention, adolescence

LIST OF ABBREVIATIONS AND SYMBOLS

<i>M</i>	Mean: the sum of a set of measurements divided by the number of measurements in the set
<i>Md</i>	Median: the middle score of a set of ordered observations
<i>N</i>	Sample size of group
<i>p</i>	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
<i>r</i>	Pearson correlation coefficient: a standardized measure of the strength of relationship between two variables
<i>SD</i>	Standard Deviation: value of variation from the mean
<i>Z</i>	The value of an observation expressed in standard deviation units
<	Less than
>	Greater than
=	Equal to

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CHAPTER 1 - INTRODUCTION

Child psychopathy is a severe personality disorder that is characterized by interpersonal, affective, and behavioral features including superficial charm, grandiosity, low levels of empathy and guilt as well as proneness to boredom and sensation seeking behavior. Factor analytic research has consistently indicated that child psychopathy is underpinned by three factors comprising an interpersonal factor (e.g., glibness/superficial charm, grandiose sense of self-worth, conning/manipulative), an affective factor (e.g., lack of remorse, shallow affect), a lifestyle factor (e.g., need for stimulation, parasitic lifestyle, impulsivity) as well as, potentially, an antisocial factor (e.g., poor behavioral controls, early behavioral problems; Hare, 2003; Hare & Neumann, 2008). Although there has been debate as to whether the fourth factor should be considered a component of child psychopathy or a consequence of the syndrome, three and four factor models have been replicated numerous times in referred, non-referred, and forensic samples, as well as across gender (Hawes, Mulvey, Schubert & Pardini, 2014; Jones, Cauffman, Miller, Mulvey, 2006; Kosson et al., 2013; Salekin, Brannen, Zalot, Leistico, & Neumann, 2006; Vitacco, Rogers & Neumann, 2003). Youth with this constellation of traits have been found to engage in more institutional misconduct in detention and residential facilities, as well as more frequent and versatile offending than youth who do not have this constellation of traits (e.g., Campbell, Porter, & Santor, 2004; Leistico, Salekin, DeCoster, & Rogers, 2008). Thus, child psychopathic traits are especially problematic in youth and predict a number of adverse outcomes

Considering the greater likelihood of juvenile offenders with psychopathic traits to have problems in institutional settings and commit more violent and damaging offenses following release, as well as the potential harm they can do to themselves in terms of lost educational opportunities, drug use, and future incarceration, studies to evaluate the efficacy of interventions for youth with psychopathic traits are very much needed. Fortunately, studies have been initiated that pertain to the treatment of child psychopathy. The results of several studies have suggested that interventions can reduce the behavioral problems of youth with psychopathic traits if they are tailored to their unique cognitive, emotional, and motivational profiles (Frick, Ray, Thornton, & Kahn, 2014; Salekin, in press). Specifically, Hawes and Dadds (2005) found that children with callous-unemotional traits responded better to parental use of positive reinforcement to encourage prosocial behavior than disciplinary strategies alone. Caldwell, Skeem, Salekin, and Van Rybroek (2006) further discovered that adolescent offenders with psychopathic traits who went through an intensive treatment program that taught empathy skills, utilized reward-oriented approaches and targeted the self-interests of the adolescent were less likely to recidivate in a two-year follow up period compared to offenders with psychopathic traits who underwent a standard treatment program.

Besides reducing conduct problems, there have also been intervention studies that demonstrated reductions in psychopathic traits (e.g., Butler, Baruch, Hickey, & Fonagy, 2011; McDonald, Dodson, Rosenfield, & Jouriles, 2011; Somech & Elizur, 2012). However, all these interventions involved the parents in treatment. While involving the parents in treatment is an excellent strategy to ameliorate the risk factors the youth face in the community, this option is unfortunately, not always available in the context of the juvenile justice setting or it can be difficult to initiate and maintain. Thus, it is important for at least a component of treatment to

more extensively focus on the youth themselves in juvenile justice settings even if parents are eventually brought into the treatment process at a later point in time.

Salekin, Tippey, and Allen (2012) examined the effectiveness of a Mental Models Positive Psychology Intervention (PPI; Salekin, 2010) designed to reduce interpersonal, callousness, and impulsive traits associated with psychopathy, in a residential facility for adolescent boys. The PPI was designed to decrease psychopathic traits by providing psychoeducation regarding the brain and emotions and enhancing goal planning capabilities in different domains (e.g., relationships, education), through the building of positive emotions and personality strengths. Salekin and colleagues found that the PPI enhanced positive emotion and treatment amenability, and reduced psychopathic traits across a ten-week implementation. The rationale for the positive psychology focus of the intervention stemmed from findings of low levels of positive affect in conduct problem youth with elevated psychopathic traits (Salekin, Neumann, Leistico, Zalot, & Duros, 2004; Washburn et al., 2007). Moreover, Suldo and Huebner (2004) found that adolescents with lower life satisfaction were later more likely to develop externalizing problems (i.e., delinquent and aggressive behavior) in the face of stressful events. These research findings are also mirrored by the findings in the study conducted by Hicks and Patrick (2006), who found a significant positive relationship between psychopathy and negative affect in adults. Although some have argued that this relationship may pertain mostly to the Lifestyle and Antisocial factors of psychopathy, negative affect (e.g., anger, resentment, depression, low levels of compassion and kindness) likely applies to the broader syndrome of psychopathy as well (Hicks & Patrick, 2006; Price, Salekin, & Klinger, 2013).

To elaborate on this point, through various research studies, positive emotion has been found to broaden people's experiences, consequently leading to benefits at the personal level.

Positive emotion has also been found to widen the repertoire of one's possible actions, resulting in creativity and broadened networks of thought (Fredrickson, 2001; Isen, Daubman & Nowicki, 1987). In addition, positive emotions are thought to increase closeness (Hejmadi, Waugh, Otake, & Fredrickson, 2008), facilitate trust (Dunn & Schweitzer, 2005; Reynolds, 1983) and prosocial reciprocity through the enhancement of gratitude (McCullough, Emmons & Tsang, 2002). Further, positive emotions have been found to enhance one's openness to new experience (Kahn & Isen, 1993) and receptivity to critical feedback (Raghunathan & Trope, 2002). Notably, studies have indicated a relationship between positive emotion and the ability to experience empathy (Eisenberg et al., 1994; Robinson, Emde, & Corley, 2001). Further, Light and colleagues (2009) discovered that frontopolar brain asymmetry is related to both empathic emotion and the positive emotion of contentment. These researchers proposed that being in a positive emotional state may well enhance a person's ability to tap into, and utilize, the positive emotion in an empathic manner (e.g., experience goodwill for another person). Given the potential for positive emotion to enhance problem solving ability, increase empathy for others, facilitate and strengthen relationships, as well as reduce conduct problems, it is proposed that the PPI will reduce psychopathic traits and aggressive behavior in a group of youth with disruptive behavior.

To date, the PPI has demonstrated promise in a study implemented with boys with conduct problems, but no studies have been implemented to investigate the effectiveness of the PPI with girls in a residential facility. Although the PPI was not specifically designed for girls in residential facilities, the components of the intervention appear to be applicable and thus potentially effective for this group. Girls with conduct problems have a higher risk for experiencing comorbid anxiety and depressive symptoms (McMahon & Frick, 2007), frequently

have a history of trauma (e.g., Hennessey et al., 2004; McCabe et al., 2002; Snyder, 2000), and frequently show difficulties in emotion regulation (Eppright, Kashani, Robison, & Reid, 1993; South & Reppucci, 2007). Positive psychology interventions have been found in a number of studies (e.g., Gillham & Reivich, 1999; Sin & Lyubomirsky, 2009) to be effective at transforming depressive symptoms to more positive and hopeful thoughts and beliefs in both adults and children (Seligman et al., 2006).

There are additional reasons for which the ingredients of a positive psychology intervention would be effective for girls. For instance, girls have been reported to engage more often in relational aggression (e.g., spreading rumors and lies, excluding peers from group activities) as compared to overt, physical aggression, which is reported to more often occur in boys (Crick et al., 1999; Leschied et al., 2001). Moreover, girls with psychopathic features, such as grandiose and manipulative traits, have been found in some studies to exhibit more relational than overt aggression compared to boys (e.g., Marsee, Silverthorn & Frick, 2005). Positive psychology interventions stress the importance of genuine and respectful relations with others. For example, one of the activities of the PPI involves coaching girls to respond in a lively and constructive way to others' sharing of positive events. This can potentially develop a positive climate for the girls in the juvenile justice setting, enhance their relationships and connectedness with one another with the support and validation they receive, and in turn, reduce the relational aggression as well as enhance the prosocial behavior they engage in. Overall, the PPI, through its use of positive emotion building and educating adolescents to make plans on reaching both short and long term goals, will likely facilitate positive relationships and alleviate psychological symptoms such as low positive affect, conduct problems, as well as interpersonal, callous, and impulsive traits associated with psychopathy.

CHAPTER 2 - THE CURRENT STUDY

The current study aims to examine if the delivery of the PPI, in a group therapy format, will be effective in reducing the conduct problems, psychopathic traits, as well as comorbid symptoms of girls placed in a secure residential facility, using a single-case time-series design. The single-case time-series design stands in contrast to the more commonly used group designs such as the randomized controlled trials (RCTs). Even though conducting a RCT is the design of choice when examining aggregate effect and may offer greater casual clarity, they are time-intensive and require significant external funding (Barlow & Nock, 2009). In contrast, a time-series design is less time-intensive and is useful in examining if there is an effect of phase (e.g., whether the change in the patient's symptoms from pretreatment baseline condition (Phase A) to the treatment condition (Phase B) is meaningful) and how change unfolds over the course of treatment and under what circumstances. In these ways, a time-series design can be useful for determining if a new innovative therapy warrants a closer look, or is promising enough to conduct a RCT (Borckardt et al., 2008). APA's Division 12 Task Force on Promotion and Dissemination of Psychological Procedures has recognized time-series designs as methodological approaches that can fairly test treatment efficacy and/or effectiveness (Chambless & Ollendick, 2001).

The current study consists of a single-case A-B phase-design. Phase A refers to the pretreatment baseline period while phase B refers to the treatment phase. The outcome variables psychopathic traits, positive affect, relational aggression and prosocial behavior were assessed

each week during the baseline and treatment phases. For each single case data, it was hypothesized that the PPI would result in:

1. A significant decrease in clinician-rated psychopathic traits
2. A significant increase in clinician-rated positive affect
3. A significant decrease in teacher-reported relational aggression
4. A significant increase in teacher-reported prosocial behavior

Supplemental hypotheses were proposed. Specifically, positive affect was hypothesized to increase at a faster rate after the implementation of session five of the PPI. Sessions one to four focus on engaging the youth in treatment and enhancing their self-efficacy and expectation for change. Thus, during this period of time, positive affect was hypothesized to begin to increase. With the implementation of positive psychology activities from session five onward, it is believed that putting the skills in practice would spur a greater increase in positive affect. Thus, it was proposed that positive affect would increase at a faster rate from session five onward compared to the positive change made from sessions one to four.

At the same time, the increase in positive affect over the course of the intervention can be argued to be related to changes in psychopathic traits. Thus, similarly, it was proposed that psychopathic traits would start to decrease from session one to four, but decrease at a faster rate from session five onward after positive psychology activities aimed to enhance positive affect were put into place.

The study also aimed to examine if the PPI would contribute to group level changes in psychopathic traits, positive affect, as well as relational aggression and depressive symptoms. Psychopathic traits were assessed by the Psychopathic Checklist-Youth Version (PCL-YV; Forth, Kosson, & Hare, 2003) twice, at the pre-treatment and post-treatment stages. Positive affect was

assessed by clinicians based on the ratings endorsed in the first week of the baseline pre-treatment stage and during the week following the last treatment session. Relational aggression, similar to the weekly ratings, was assessed by the teachers. Depressive symptoms, on the other hand, were assessed by the youth. Self-report measures have been found to be useful for assessing internal experiences, such as feelings of sadness and low self-worth. Adolescents, having the cognitive and verbal abilities to reflect on their experiences, can provide information on subjective experiences that may not be easily observed by their parents or teachers (Jensen et. al., 1999; Rudolph & Lambert, 2007). Overall, PPI was hypothesized to result in the following group level changes:

5. A significant decrease in clinician-rated psychopathic traits
6. A significant increase in clinician-rated positive affect
7. A significant decrease in teacher-reported relational aggression
8. A significant decrease in self-reported depressive symptoms

Further, as a way to check that the PPI would not be associated with changes in unrelated psychological symptoms, it was hypothesized that the PPI would not result in a significant change in symptoms associated with attention-deficit/hyperactivity disorder (ADHD).

CHAPTER 3 - METHOD

Participants

Participants included eight adolescent girls enrolled in a secure residential facility. The age of the participants ranged from 15 to 18 years old ($M=16.25$, $SD=1.04$). The sample consisted predominantly of African Americans ($n=6$) and the remaining sample included one Caucasian and one American Indian. All participants had a history of delinquent behavior (common offenses committed included domestic violence and assault) and mental health-related issues. The majority of the participants had a history of trauma and diagnoses including conduct disorder and a mood disorder. Participant assent was collected prior to conducting the study. Seven of the eight participants completed the nine-session treatment. One of the eight participants completed seven sessions as she was discharged from the facility before the nine sessions could be completed. Table 1 provides demographic information for each participant.

The Intervention: Components of the Positive Psychology Intervention (PPI)

The PPI consists of nine sessions and includes an educational/motivational component that aims to enhance the youth's knowledge of the brain and motivation to participate in treatment. This educational/motivational component involves discussion about brain development and new neural connections that can in turn lead to positive changes in decision making.

Table 1. Characteristics of Participants

ID	Age	Race	Length of Stay (days) <i>[when first baseline data point was collected]</i>	Most Recent Charge/s	Diagnosis
1	15	African American	148	Assault, 2 nd degree; Criminal Mischief, 2 nd degree	Oppositional Defiant Disorder; Unspecified Depressive Disorder
2	17	African American	97	Domestic Violence, 3 rd degree; 3 counts of Violation of Probation	Attention-Deficit/Hyperactivity Disorder; Conduct Disorder
3	17	African American	97	Theft of property, 3 rd degree, Resisting Arrest	Oppositional Defiant Disorder; Unspecified Depressive Disorder, with anxious distress
4	18	African American	15	Criminal Mischief, 2 nd degree; Domestic Violence, 3 rd degree, Resisting Arrest;	Unspecified Depressive Disorder; Unspecified Disruptive, Impulse-Control and Conduct Disorder; Borderline Intellectual Functioning
5	15	African American	120	Assault, 2 nd degree	Unspecified Bipolar Disorder; Conduct Disorder
6	16	American-Indian	1	Domestic Violence, 3 rd degree; Harassment; Violation of Probation	Major Depressive Disorder; Generalized Anxiety Disorder; Oppositional Defiant Disorder; Attention-Deficit/Hyperactivity Disorder
7	16	African American	36	Disorderly Conduct; Violation of Probation and Aftercare recommendations (e.g., drug abuse) after being discharged from a previous placement where aggressive behaviors toward others were exhibited	Conduct Disorder; Attention-Deficit/Hyperactivity Disorder
8	16	Caucasian	55	Sodomy, 1 st degree; Sexual Abuse, 1 st degree; Sexual Misconduct	V codes: Child Sexual Abuse; Encounter for mental health services for victim of non-parental child sexual abuse

The emphasis on the youth's developing brain and one's potential to make positive changes aims to teach youth about the structure and function of the brain and to motivate the youth to engage in treatment by instilling optimism and strategies toward changing negative behavior.

Assisting the youth to have an explanatory style for negative events that is temporary (e.g., "I flunked the test because I didn't study hard enough. I will study harder next time") rather than permanent (e.g., "I flunked the test because I am not smart.") facilitates the development of confidence and optimism (Seligman, 1998), which has been linked to better school performance and fewer social problems (Peterson, 2000). The positive emotion component of the PPI aims to enhance positive affect, thoughts and ways of interacting with others. Activities to achieve that include: thinking of three good things that the youth experiences, writing a letter of appreciation to a significant person in his or her life, thinking about one's strengths and applying them, as well as responding in a lively and constructive way toward others.

Lastly, PPI consists of a mental simulation component which has the youth plan, set goals and think about ways that they can accomplish the weekly goals they establish for themselves in the areas of relationships, education/career, recreations/interests, sports/hobbies and daily responsibilities. These sections are geared toward training in emotion regulation and planning abilities. The last session of the PPI further has the youth consider his or her life trajectories, the goals for adulthood and plans for the future. This component is designed to help the youth learn about prospection and also can further develop planning abilities and consequent confidence and self-efficacy (i.e., perceived capability to exercise control over one's level of functioning and over events that affect one's life; Bandura, 1991).

Design and Procedure

Figure 1 provides an overview of the procedure of the study. The youth, their teachers and clinicians in the residential facility provided ratings retrospectively on the youth's functioning over the past week for the baseline sessions (i.e., Phase A; $n = 5$ sessions) as well as for the intervention sessions (i.e., Phase B; $n = 9$ sessions).

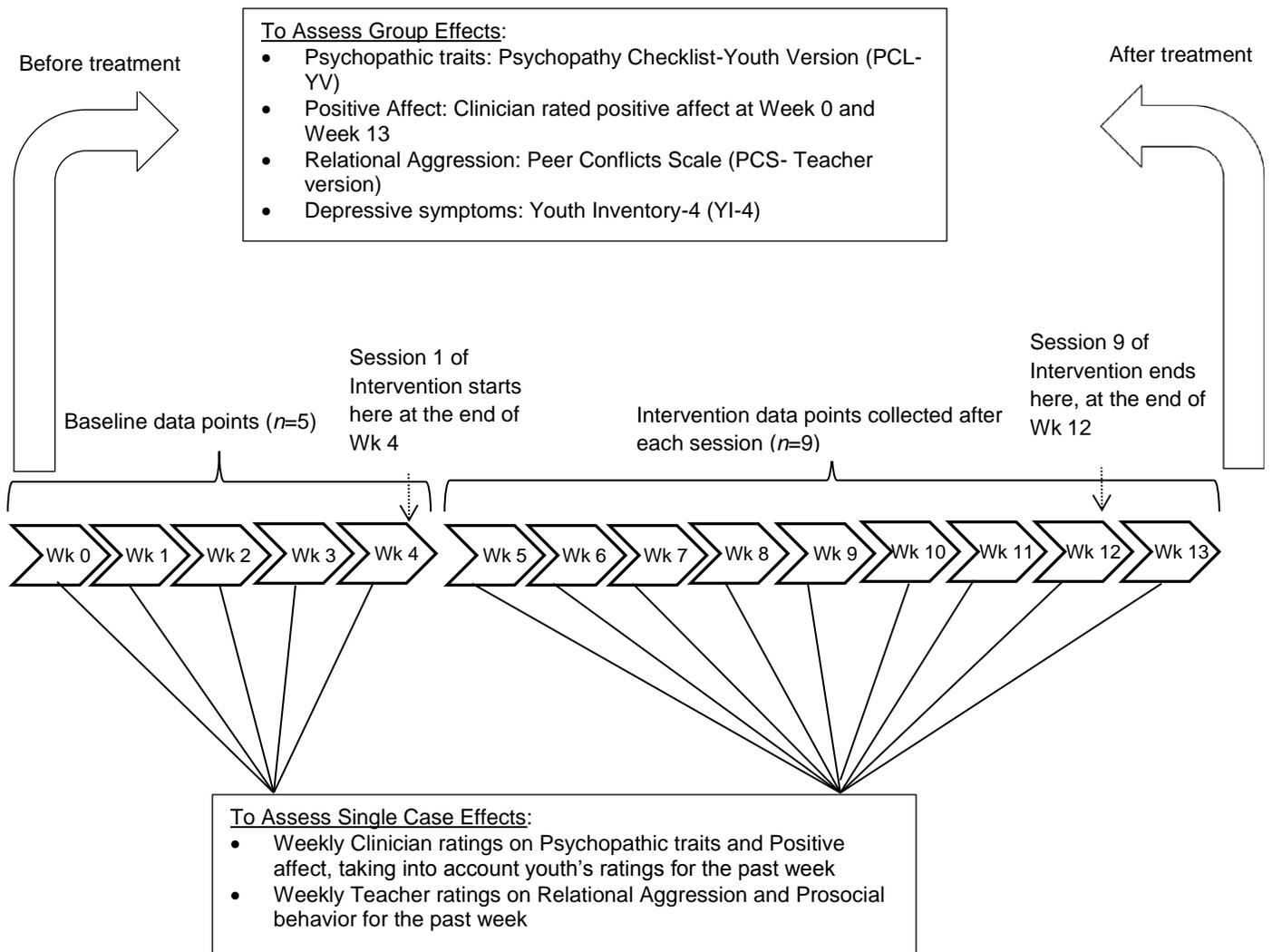


Figure 1. Overview of Study Procedure.

An issue that can arise in the assessment of symptoms for adolescents with conduct problems is the difficulty in obtaining accurate information from the youth, especially because of

their engagement in delinquent activities (Sommers-Flanagan & Sommers-Flanagan, 1998). Adolescent informants may minimize or deny negative behaviors perhaps due to the lack of insight (Edens, Hart, Johnson, Johnson & Olver, 2000), or because they do not see their behaviors as problematic or requiring treatment (De Los Reyes & Kazdin, 2005). Yet, some have argued about the importance of administering self-report measures in the assessment of conduct disorder because of the potential of the youth to report problematic behaviors in settings to which adults are not privy (Cantwell, Lewinsohn, Rohde, & Seeley, 1997; Jensen et al., 1999; Thornberry & Krohn, 2000). The preferred method of obtaining outcome data in youth research is not yet clear and needs further study. However, given the potential for self-report measures to provide invaluable information on the youth's perception of her functioning (Frick, Barry & Kamphaus, 2010) and the importance of using multiple assessment methods to have an accurate representation of the youth's conduct problems (McMahon & Frick, 2007), it was decided that the current study would gather information from the youth and consider their perspectives before having the clinician make judgments on the youth's degree of psychopathic traits and positive affect from week to week.

Specifically, weekly fifteen-minute interviews were conducted with the participants by the two PPI interventionists, who were the author of this study as well as a staff member of the residential facility. This fifteen-minute interview consisted of items developed to capture the manifestation of psychopathic traits (e.g., How much did you use or "con" other people to get what you want?) and the experience of positive affect (i.e., How positive have you felt over the past week?). Participants were asked to state their responses on a 10-point scale for both psychopathic traits (e.g., 1= No manipulation; 6= Moderate, 10= Very manipulative) and positive affect (1= Not at all positive; 6= Somewhat positive; 10= Very positive). To assist the

youth to reflect on their level of positive affect for the past week, the *Happiness Measure* (Fordyce, 1988) was administered. The *Happiness Measure* has been found to be positively related to positive affect measures and negatively related to depression instrumentation (e.g., Beck Depression Inventory) (Fordyce, 1988). Test-retest reliability over a two-day period was also found to be high (.98) (Fordyce, 1987).

Subsequent to the weekly interviews, the two PPI interventionists participated in a weekly meeting with a third clinician who worked at the residential facility, but did not implement the treatment. The weekly clinician ratings on positive affect and psychopathic traits were derived from the two clinicians who were also staff members of the residential facility. Prior to the meeting, these two clinicians made independent ratings on each girl. During the meeting, the report of events for the past week, information reported by the girls during the interview, as well as the two clinicians' perceptions of each girl's functioning for the past week were discussed and integrated before making consensus ratings on each girl's level of positive affect and psychopathic traits for the past week. Similar to the participants' ratings, clinician ratings were indicated on a 10-point scale for both psychopathic traits (e.g., 1= No manipulation; 6= Moderate, 10= Very manipulative) and positive affect (1= Not at all positive; 6= somewhat positive; 10= Very positive). The author of this study assisted in facilitating the discussion between the two clinicians as well as recording significant events that could have impacted the ratings on the participants. The change in positive affect for the group from the pre-treatment to post-treatment phase was derived from the clinician ratings endorsed in the first week of the baseline pre-treatment stage and during the last week following the treatment stage.

Relational aggression and prosocial behavior were assessed weekly by the education coordinator of the facility, after taking into account the input provided by the girls' teachers and

other staff members of the facility during a weekly meeting. As the girls spend several hours a day in school, the teachers had ample opportunities to observe how the girls behaved in response to the challenges in the school setting (e.g., staying seated, following instructions of authority figures, interactions with classmates) and provided important information on their extent of engagement in aggressive and prosocial behavior. The teacher measure administered each week consisted of items developed to assess relational aggression and prosocial behavior. Responses to the items were provided on a 10-point scale (1= Not at all; 6= Moderate; 10= A lot). These items were adapted from the *Children's Social Behavior Scale* (CSBS; Crick, 1996). The CSBS demonstrated good internal consistencies with alpha values ranging from .93 to .94. The construct validity of the CSBS has also been demonstrated. Relational aggression as assessed by CSBS was found to be negatively correlated with prosocial behavior. Further, relational aggression predicted future peer rejection while prosocial behavior was found to predict future peer acceptance (Crick, 1996).

During the pre-treatment and post-treatment stages, each youth went through a semi-structured interview assessing psychopathic traits (i.e., PCL-YV) and completed a measure to assess for depressive symptoms. Teachers were asked to complete a measure to provide ratings of the youth's degree of engagement in relational aggression in the pre-treatment and post-treatment stages. A clinical psychologist trained in the PCL-YV conducted the semi-structured interview and reviewed the files of the participants to assess for psychopathic traits in the pre-treatment stage. This clinician was not involved in the delivery of treatment. During the post-treatment stage, psychology doctoral students (n=5) trained on the Psychopathy Checklist-Revised (PCL-R) and the PCL-YV completed the ratings on the post-treatment PCL-YVs. The post-treatment raters were not involved in the pre-intervention assessment or the intervention and

blind to the treatment stage. The clinical doctoral students independently rated a sample interview transcript and compared their ratings to the clinical psychologist to assess for interrater reliability before conducting the interview and completing the ratings. Intraclass correlations measuring absolute agreement for each PCL-YV item for this five pair of interviewers demonstrated good interrater reliability (mean ICC = .60; Cicchetti & Sparrow, 1981; Fleiss, 1981). Differences in scoring between each student and the clinical psychologist were processed and an agreement was reached as to how items would be rated before the doctoral students proceeded to conduct the post-treatment ratings.

Each PPI session was conducted by two interventionists who have been trained in the administration of the PPI. A treatment adherence checklist for each session was also developed (ratings indicated on a 3-point scale; 0 = *absent*, 1 = *partial*, 2 = *full*) to ensure that interventionists implement the various components of the intervention according to the treatment manual. Treatment adherence was assessed to be adequate.

Pre- and Post-Intervention Measures for Assessment of Group Treatment Effect

Psychopathy Checklist-Youth Version (PCL-YV; Forth et al., 2003). The PCL-YV is a 20-item rating scale that assesses psychopathic traits in youth. The rating scale assesses psychopathic traits categorized into four factors. Specifically, the four factors are: interpersonal (e.g., superficial charm), affective (e.g., lack of empathy), lifestyle (e.g., irresponsible) and antisocial (e.g., serious criminal behavior). The items are scored on a 3-point scale (0 indicating that the characteristic is *consistently absent*, 1 indicating that it is *inconsistently present*, and 2 indicating that it is *consistently present*) by clinicians on the basis of information from a semi-structured interview and file review. The PCL: YV has demonstrated internal consistency for total scores (.79 to .94) (Forth et al., 2003; Vitacco, Neumann, & Caldwell, 2010) and for factor

scores (.68 to .77) (Forth et al., 2003). Good to excellent inter-rater reliabilities (i.e., intraclass correlations (ICCs) ranging from .82 to .98) have also been achieved (Andershed et al., 2007; Cauffman, Kimonis, Dmitrieva, & Monahan, 2009; Das, de Ruiter, Doreleijers, & Hillege, 2009; Forth et al., 2003). The validity of the PCL: YV has also been established as scores have been found to relate to indices of externalizing psychopathology, instrumental violence, and criminal activity (Flight & Forth, 2007; Kubak & Salekin, 2009; Salekin et al., 2004). The PCL: YV is commonly referred to as the “gold standard” for assessing psychopathy.

Peer Conflict Scale (PCS; Marsee & Frick, 2007). The PCS is a 40-item measure that assesses overt aggression (e.g., getting into a fight) and relational aggression (e.g., gossiping about others) in youth. Besides assessing for overt and relational aggression, the measure further assesses if the aggressive behavior is demonstrated based on reactive or proactive motivations. Overall, there are 10 reactive overt items (e.g., “When someone hurts me, I end up getting into a fight.”) 10 reactive relational items (e.g., “If others make me mad, I tell their secrets”), 10 proactive overt items (e.g., “I start fights to get what I want,”) and 10 proactive relational items (e.g., “I gossip about others to become popular”). Items are rated on a 4-point scale (0 indicating *not at all true*, 1 indicating *somewhat true*, 2 indicating *very true*, and 3 indicating *definitely true*). The four aggression scales demonstrated good internal consistencies, with alphas ranging from .79 to .89 (Marsee et al., 2011). The PCS has demonstrated convergent validity by, for example, showing positive correlations with narcissism and delinquency (Barry, Grafeman, Adler, & Pickard, 2007), arrest history and callous-unemotional traits (Marsee et al., 2011) as well as meaningful correlations with laboratory measures of aggression and psychophysiological indices (Munoz, Frick, Kimonis, & Aucoin, 2008). Three versions of the scale exist for different

informants (i.e., youth self-report, parent report and teacher report). The teacher report version of the scale was used for the current study.

Youth Inventory-4 (YI-4; Gadow & Sprafkin, 1999). YI-4 is a 128-item self-report scale that yields dimensional scores and diagnostic cutoffs for several psychological disorders, including attention deficit hyperactivity disorder, oppositional defiant disorder, conduct disorder, generalized anxiety, separation anxiety, schizophrenia, major depression, bipolar disorder, and eating problems. Each item is rated on a 4-point scale (0 = never, 1 = sometimes, 2 = often, and 3 = very often). The YI-4 demonstrated satisfactory internal consistency (values = .66—.87) and test-retest reliability (r values = 0.54–0.92). Convergent validity has also been demonstrated for this measure, where most YI-4 scales have been highly correlated with their corresponding scales on the Youth Self-Report (YSR; Achenbach, 1991) (Gadow et al., 2002). The current study used the YI-4 to assess for symptoms of major depressive disorder and attention deficit hyperactivity disorder.

Data Analysis

Simulation Modeling Analysis (SMA; Borckardt, 2006) was used to analyze single case data. Specifically, the data points collected in the baseline and treatment phases were compared to determine if the onset of treatment resulted in changes in clinician-rated psychopathic traits and positive affect as well as teacher-reported relational aggression and prosocial behavior. SMA is thought to be appropriate for the data analysis in the current study because it is frequently used with case-based data and has been found to be a reliable method for analyzing data with short streams (i.e., $n < 30$ per phase). Another strength of SMA is that it corrects for autocorrelation (i.e., the non-independence of sequential observations), thus reducing the risk of making Type I errors (Borckardt et al., 2008).

Pearson's r is the default statistic and recommended approach for analyzing effect sizes in SMA. Specifically, SMA was used to examine changes in the level of symptoms and the slope of symptom change (in terms of the correlation between the data stream and a specified slope vector) and the significance of the effect was evaluated by using bootstrapping methods to create simulations that take into account the phase lengths and autocorrelation of the data stream. The degree to which positive affect and psychopathic traits change over time was also tested using SMA. Specifically, the data's fit with a custom model (e.g., rate of increase in positive affect being larger after the implementation of session five compared to the change from sessions one to four) was tested, and the magnitude and significance of the Pearson's r statistic derived from the analysis indicated the degree of fit between the data and the specified pattern of the custom model. Finally, to assess differences between the pre- treatment and post-treatment phases for the group of participants on clinician-rated psychopathic traits and positive affect, teacher-reported relational aggression as well as self-reported depressive symptoms, non-parametric Wilcoxon tests were conducted.

CHAPTER 4 - RESULTS

Figures 2 and 3 depict the different slopes of the outcome variables that were tested through SMA. Table 2 presents the level change, difference scores and best-fitting slope of the outcome variables for each participant. For each case, the correlation coefficient for the test of level change and the strongest correlation for the best-fitting slope are reported, in addition to whether the correlation coefficients are significant. Figure 4 presents the participants' change in the level of psychopathic traits across the baseline and treatment phases. Identification numbers (IDs) 1 and 5 showed a significant decrease in psychopathic traits from the baseline to the treatment phase. ID 1 showed a consistent linear decline in psychopathic traits over time throughout the baseline and treatment stages, while ID 5 showed a consistent linear decline in psychopathic traits during the baseline phase and subsequently maintained this lower level of psychopathic traits for the entire treatment phase. In addition, ID 4 showed a decrease in psychopathic traits from the baseline to treatment phase that approached significance, $p < .10$. Overall, five out of the eight participants displayed a decreasing pattern of psychopathic traits from the baseline to the treatment phase.

Although all participants demonstrated an increasing trend in positive affect from the baseline to the treatment phase, none of the changes in positive affect for the participants is significant. IDs 5, 7, 8 however, demonstrated an increase in positive affect that approached significance, $p < .10$.

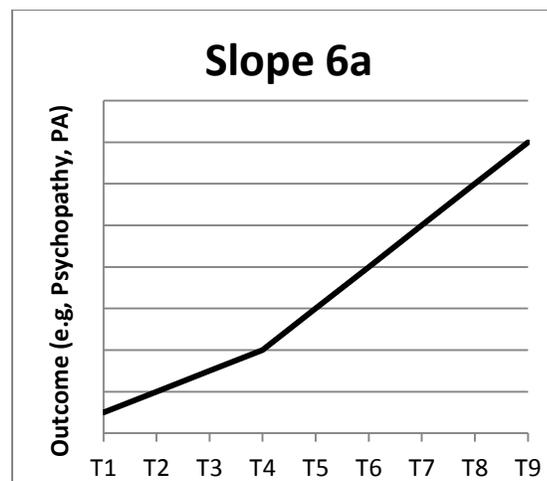
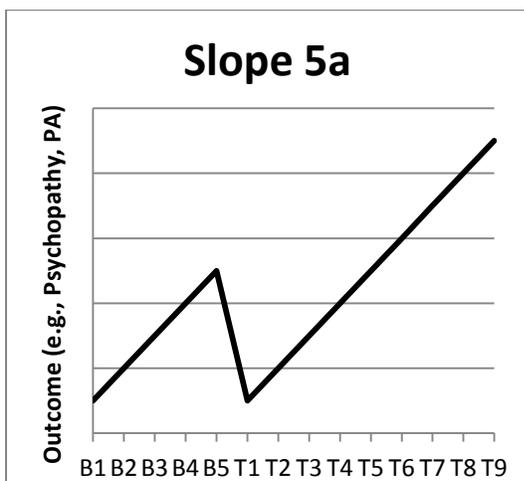
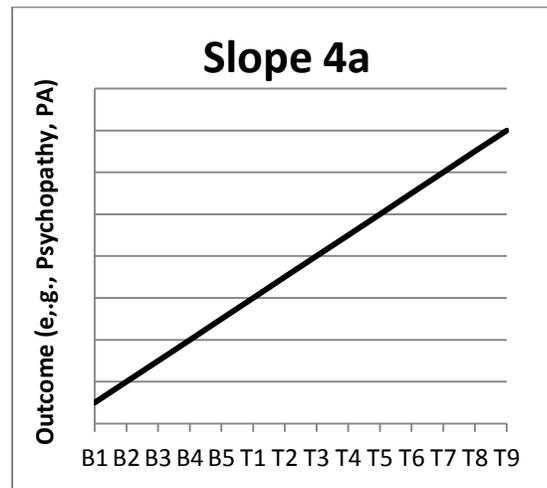
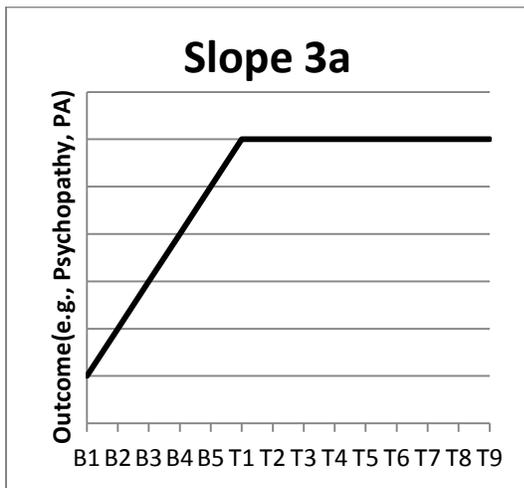
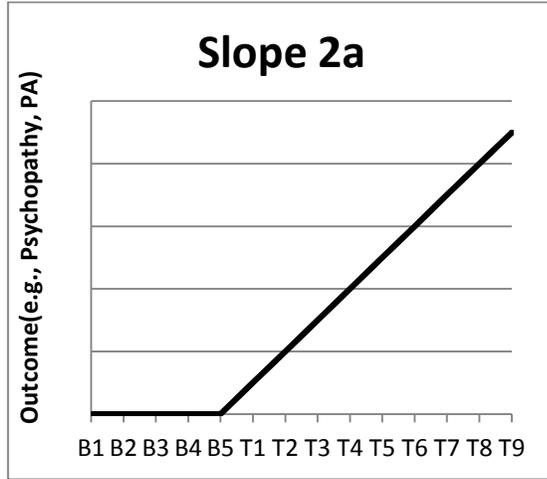
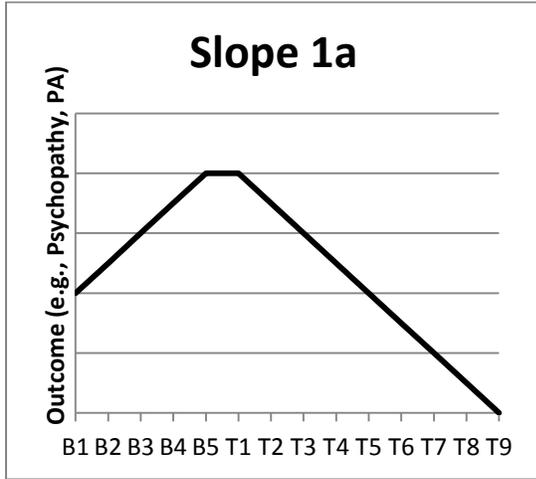


Figure 2. Simulation modeling analysis slopes (Positive Correlations). “B” denotes the baseline sessions while “T” denotes the treatment sessions; Slope 6 is a custom slope that is only tested for change in positive affect and psychopathic traits as hypothesized and depicts only the treatment data; Positive correlations correspond to the slopes presented here; “Outcome” refers the treatment outcomes of Positive Affect, Psychopathic Traits, Relational Aggression and Prosocial Behavior.

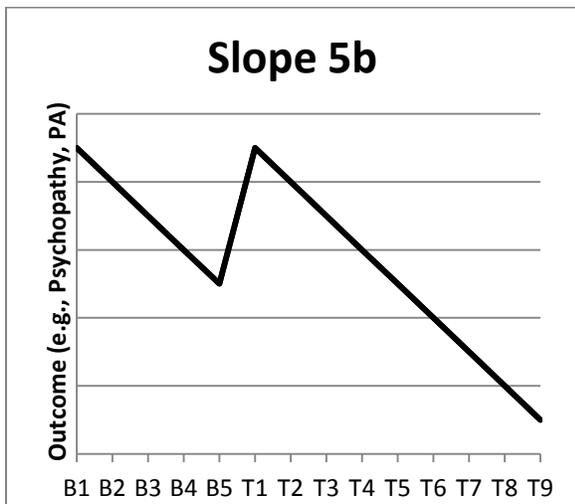
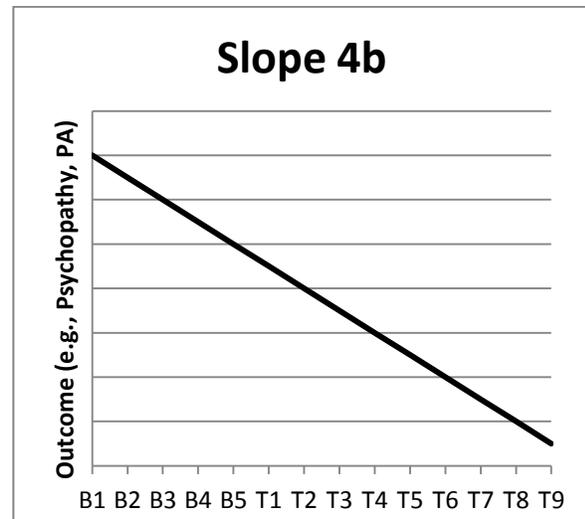
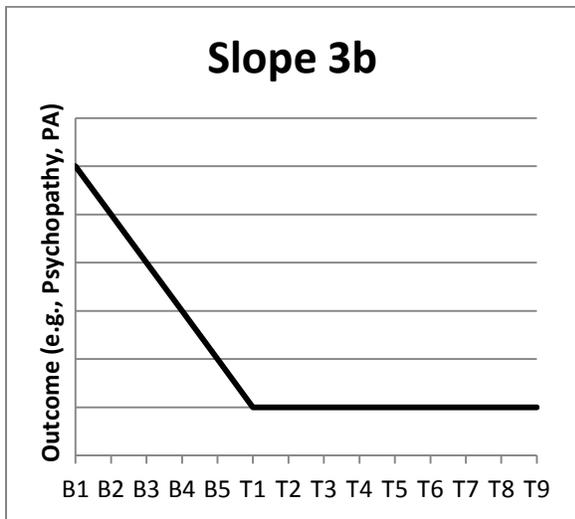
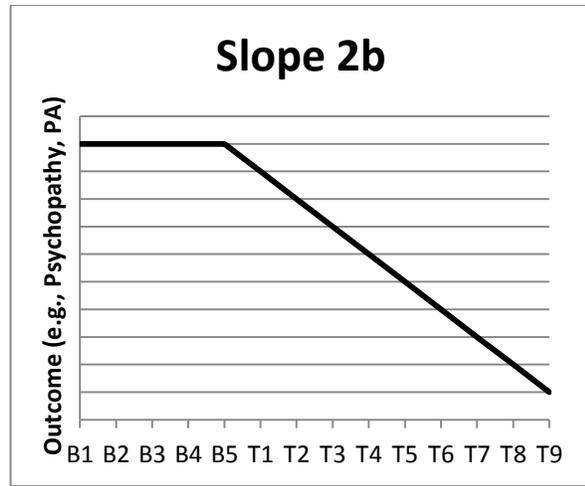
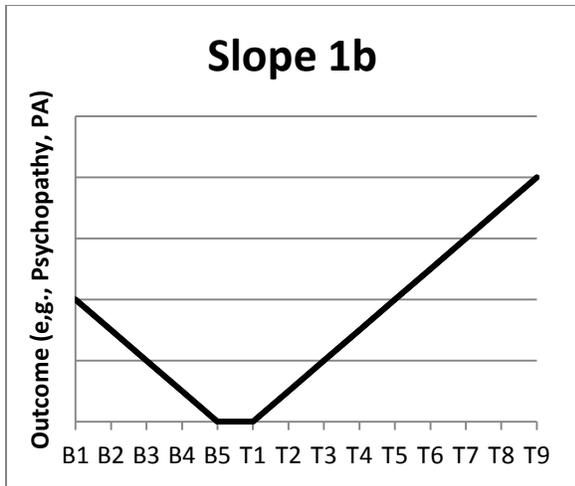


Figure 3. Simulation modeling analysis slopes (Negative Correlations). “Outcome” refers the treatment outcomes of Positive Affect, Psychopathic Traits, Relational Aggression and Prosocial Behavior.

Table 2. Level Change, Difference Scores and Best Fitting Slopes for Outcome Variables

ID	Positive Affect			Psychopathic Traits			Relational Aggression			Prosocial Behavior		
	Level change	D Score	Slope	Level change	D Score	Slope	Level change	D Score	Slope	Level change	D Score	Slope
1	.41	4.00	.74(5a)*	-.66*	-1.33	-.72(4b)*	-.12	.67	-.45(1b) [†]	-.66	-1.00	-.70(4b)
2	.48	1.00	.46(4a)	.06	.17	-.48(6b)	.25	-2.67	-.36(5b)	-.52	-4.50	-.70(4b)*
3	.14	2.00	-.47(1b)*	-.18	-3.33	-.24(3b)	-.30	-2.00	-.23(2b)	-.60*	0.50	-.57(2b) [†]
4	.49	5.00	.80(6a)*	-.67 [†]	-3.17	-.91(6b)*	.09	-1.33	-.29(1b)	.06	0.00	.17(3a)
5	.65 [†]	3.00	.70(2a) [†]	-.79*	-5.67	-.92(3b)*	.14	1.00	.37(1a)	-.31	-1.00	-.37(4b)
6	.39	7.00	.69(3a)*	.19	-0.33	-.48(6b)	.61*	1.00	.50(3a) [†]	-.44	-6.50	-.47(4b) [†]
7	.42 [†]	3.00	.48(3a)*	.18	-3.00	-.56(3b) [†]	.10	.67	.27(1a)	-.17	-2.50	.81(1a)*
8	.59 [†]	2.00	.68(3a)*	-.34	-.67	.57(6a)	.19	-1.00	-.42(1b)	.00	2.50	.37(1a)

Note. D Score= Difference between scores reported one week post-intervention and at the first week of the baseline phase (i.e., T₉- B₁); Numbers not in parentheses are correlation coefficients; Numbers in parentheses indicate number of the best fitting slope; ID= Identification number; Slope 6 was not tested for Relational Aggression and Prosocial Behavior.

[†] $p < .10$; * $p < .05$.

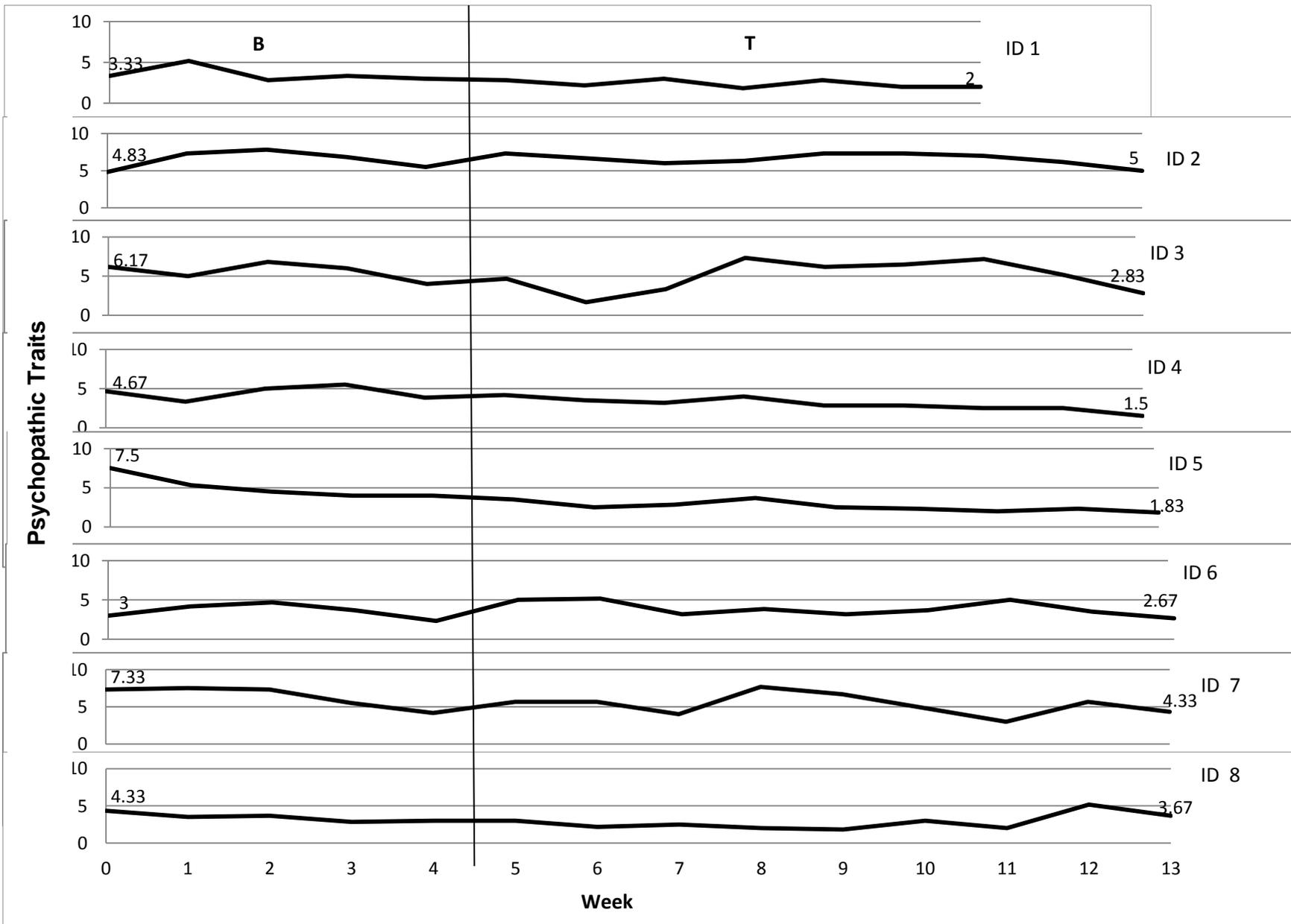


Figure 4. Psychopathic Traits Level for the eight participants across weeks; B= Baseline Phase; T= Treatment Phase.

It was further tested if the rate of change in psychopathic traits and positive affect were larger after the implementation of session five compared to the change from sessions one to four. Only ID 4 demonstrated a significant decrease in psychopathic traits in accordance with the hypothesized slope (i.e., slope 6b as shown in Figure 3). ID 4 was also the only participant to show a significant increase in positive affect during the treatment phase in accordance with the hypothesized slope 6a (as indicated in Figure 2). Overall, most participants demonstrated a decreasing trend in psychopathic traits from the baseline phase to the intervention phase that were in line with the slope 6b or slope 3b. Most participants also demonstrated an increased pattern in positive affect that was in line with slope 3a.

Contrary to the hypothesis, none of the participants showed a decrease in relational aggression in the treatment phase as compared to the baseline phase. In addition, none of the participants displayed an increase in prosocial behavior in the treatment phase as compared to the baseline phase, which again runs counter to the hypothesis. Rather, most participants demonstrated a pattern of decreasing prosocial behavior from the baseline phase to the treatment phase.

Wilcoxon Signed Rank tests were carried out to examine if PPI contributed to a significant change in treatment outcomes for the group. Notably, there was a significant reduction in clinician-rated psychopathic traits following the intervention, $z = -2.39$, $p < .05$, with a large effect size ($r = .60$). The median score decreased from pre-intervention ($Md = 27.00$) to post-intervention ($Md = 18.50$). Moreover, a significant increase in clinician-rated positive affect following intervention was also found, $z = -2.53$, $p < .05$, with a large effect size ($r = .63$), where median score increased from pre-intervention ($Md = 5.50$) to post-intervention ($Md = 9.00$).

In addition to these positive findings, there was a decrease in teacher-reported relational aggression following the treatment that approached significance, $z = -1.96$, $p = .05$, with a moderate effect size ($r = .49$), where ratings decrease from pre-intervention ($Md = 1.33$) to post-intervention ($Md = .43$). Contrary to what was hypothesized, self-reported depressive symptoms did not decrease post intervention, $z = -.76$, $p > .05$. In line with what was hypothesized, no significant change was found for unrelated psychological symptoms. Specifically, ADHD symptoms did not change significantly post-intervention, $z = -1.54$, $p > .05$.

CHAPTER 5 - DISCUSSION

The current study examined the effectiveness of the PPI in contributing to positive outcomes (e.g., a reduction of psychopathic traits) in girls in a high security residential facility. Research inquiries were delineated in the hypotheses for testing both single-case and group-based effects. I begin by outlining the findings of the single-case analyses followed by group-based analyses.

Single-Case Findings

The single-case findings based on SMA indicated a pattern of decline in psychopathic traits in most participants from the pre-intervention to the post-intervention phase; however, these findings were not always significant. One interesting finding was that youth who stayed in the facility for a longer time (IDs 1 and 5; mean number of days= 134 days) compared to participants who stayed in the facility for a shorter period of time (mean number of days =50.17 days) when baseline assessment was initiated, demonstrated significant declines in psychopathic traits post-intervention. Staying for a longer period of time in the residential facility could indicate better adjustment to the climate of the facility, thus enabling youth to reap the most benefits from the interventions implemented. Indeed, length of stay has been found to be negatively related to adjustment difficulties (Pinchover & Attar-Schwartz, 2014). The loss of freedom, homesickness, isolation and exposure to intimidation while restricted to a residential facility can be significant stressors (Brown & Ireland, 2006; Greve, 2001) and could result in feelings of instability, depressive symptoms, as well as impulsive and aggressive behavior in juvenile offenders (Ryan & Redding, 2004; Shulman & Cauffman, 2011). Thus, participants who

remained in the facility for a shorter period of time at the point when the intervention was initiated may well have been reacting to stressors while adjusting to the new environment by engaging in disruptive and aggressive behaviors during this difficult transition.

Similarly, although there was an observable increase in positive affect across the intervention, SMA did not detect a significant increase in clinician-rated positive affect post-intervention. However, examining the pattern of change in psychopathic traits found that most participants demonstrated a decreasing trend in psychopathic traits that are in line with either the slope 3b (i.e., a consistent linear decline in psychopathic traits during the baseline phase followed by a maintenance of this lower level of psychopathic traits for the entire treatment phase) or the hypothesized slope 6b (i.e., rate of decrease in psychopathic traits being larger after session five of the intervention as compared to the rate of decrease from sessions one to four). Most participants also demonstrated an increased pattern in positive affect that was in line with slope 3a (i.e., a consistent linear increase in positive affect during the baseline phase followed by a maintenance of this higher level of positive affect for the entire treatment phase).

While it is promising that some participants demonstrated a pattern of decrease in psychopathic traits that is in line with what was targeted (i.e., Slope 6b), it is also important to consider potential explanations for the common pattern observed in Slopes 3a and 3b. Specifically, the change in positive affect and psychopathic traits during the baseline phase as observed in slopes 3a and 3b may be attributed to positive outcome expectancies (i.e., expectations that therapy will lead to change and increased hope for improvement) prior to treatment in some participants, which have been associated with better treatment outcomes including symptom reduction (Dew & Bickman, 2005). Although the baseline phase was intended to be treatment-free, the very nature of being in a residential facility can result in

considerable discussion and communication regarding up-coming groups. In the enrollment phase of this treatment, the participants were introduced to information pertaining to group content (e.g., education about the brain, positive psychology activities). This information provided although minimal may have resulted in some infusing of the treatment into the baseline phase which may account for some of the improvement in outcomes during the baseline phase.

Some researchers (e.g., McCarney et al., 2007) have also attributed improvement in outcomes in the absence of treatment to the Hawthorne effect (i.e., where individuals modify or improve an aspect of their behavior in response to their awareness of being observed). Further, treatment could also contribute to maintenance of a lower level of symptoms during the intervention phase when symptoms could increase instead in the absence of treatment. In other words, the treatment could have maintained changes that have occurred at baseline that may revert to the initial (first) baseline estimate if treatment was withdrawn.

It is also possible that during the treatment phase, these same participants may be in the contemplation stage of change (McConaughy, Prochaska & Velicer, 1983) where they could recognize the problem but were not yet ready to commit to change by applying new coping strategies learned during treatment. This ambivalence regarding change could be due to the benefits (as well as the disadvantages) they associate with maintaining problem behavior. Notably, establishing a stable baseline before initiating an intervention has been indicated as important in single-case study research (Kazdin, 1982). The lack of a stable baseline in some participants thus limits the strength of the single-case findings. This establishment of baseline, however, may indicate that the intervention prevented youth from bouncing back to higher levels of psychopathic traits and also maintained the increases noted in positive affect across the intervention.

Contrary to expectations, a decline in relational aggression was not observed in single-case data. This may be attributed to the complex nature of relational aggression, where aggression can be used to build select friendships and enhance one's popularity and social dominance in a very difficult and insecure environment (Peters, Cillessen, Riksen-Walraven, & Haselager, 2010; Pronk, & Zimmer-Gembeck, 2010). Thus, the lack of change in relational aggression may be due to a survival-based strategy in an incredibly difficult environment where relational aggression is the norm.

Furthermore, no significant increase in prosocial behavior from the pre-intervention to post-intervention phase was observed. However, these findings may need some contextualization. Specifically, the current sample of participants consisted of female adolescent offenders with severe conduct problems. The girls in the present study had run the course of probation, detention center placements, and placement in many other treatment facilities before finally being placed in the current secure residential facility which is viewed as the "end-of-the-line" before transfer to adult court. In addition to the aforementioned factors, female juvenile offenders have been found to have higher levels of internalizing and externalizing problems as compared to male juvenile offenders, as well as demonstrating intense emotional reactivity and affective instability (Burnette et al., 2007; Cauffman, 2004; Espelage, Cauffman, Broidy, Piquero, Mazerolle & Steiner, 2003). Some researchers (e.g., Connor, Doerfler, Toscano, Volungis, & Steingard, 2004) have hypothesized that to be due to girls needing to have more psychopathology and behavioral problems than males to be considered by authorities for placement. Therefore, prosocial behavior in the current facility may involve being prosocial to those who are viewed as somewhat delinquent. As participants were improving in the treatment,

some may have engaged less frequently with other group members, instead focusing to a higher degree on their own progress in psychotherapy without risking the possibility of negative effects that can result from close contact with other highly delinquent youth.

Group-Based Findings

Although the single case analyses revealed hints of improvement in the girls enrolled in the intervention, an even more positive set of findings were revealed at the group level. Specifically, group based analyses showed significant changes in psychopathic traits and positive affect across the intervention, as well as a marginally significant decrease in relational aggression for the group. However, no changes were found in depressive symptoms. Notably, using the same clinician rating of positive affect as that used in the single-case analysis to examine the difference from the start point of the baseline phase to the end point at post-intervention, the Wilcoxon test found a significant increase in positive affect with a large effect size for the group of participants, although no significant effects were indicated with SMA. This could be due to the more conservative nature of SMA (as compared to the Wilcoxon tests) where autocorrelation is corrected for and the risk of making a Type I error is reduced.

The difference in group-based and single-case findings in psychopathic traits could also be related to different methods of assessment. Group-based analyses were conducted using data on psychopathic traits assessed via the PCL-YV, which is a gold standard measure of psychopathy that has been used extensively in descriptive, etiological, and treatment studies. In contrast, single-case analyses utilized data on psychopathic traits assessed via a new clinician rating system that involves consensus between two clinicians. This new clinician rating system is less well investigated and thus the findings stemming from this assessment format are less systematically clear. Moreover, the single-case ratings for psychopathic traits were limited to

five psychopathic traits as well as an antisocial behavior trait. As this represented only a quarter of what the PCL-YV ratings capture, the comprehensiveness of assessing a broad array of psychopathic traits may be limited when using the single-case ratings. An examination of the scores on psychopathic traits shows that this may have resulted in initially low baseline scores for some participants which are not typically common for youth who have reached the very end of the legal system.

Given the negative effects of psychopathic traits on the individual and more broadly the society, these group-level findings are very encouraging. Similarly, the increase in positive affect suggests one mechanism for change in decreasing psychopathic traits in youth. Although these findings are promising there were other findings that require further explanation. Notably, self-reported depressive symptoms remained unaltered through the intervention. It was observed that the median score for depressive symptoms for the current sample remained at the lower end of the 4-point scale both at pre and post-intervention (i.e., from $Md_{pre} = .70$ to $Md_{post} = .50$), despite most of the participants' diagnosis of a mood disorder. This could indicate a tendency of the participants to deny or minimize their symptoms, which is a characteristic that has been suggested in adolescent informants with conduct problems (Edens, Hart, Johnson, Johnson & Olver, 2000), or may also indicate a remittance in depressive symptoms as the participants were receiving treatment in the facility. Either way, the very low rate of depression that was reported makes it difficult for a significant reduction to be detected. Thus, although the single-case findings should be used to further understand the treatment of child psychopathy and other comorbid symptoms, they must also be understood in the context of these additional factors.

Interventionist Characteristics

Given that the two PPI interventionists of the current study consisted of a Singaporean Chinese and a Caucasian while the sample consisted of predominantly African Americans, the impact of the match of clients with therapists of the same race/ethnicity on treatment outcomes was also considered. The meta-analysis conducted by Cabral and Smith (2011) found “almost no benefit to treatment outcomes from racial/ethnic matching of clients with therapists.” However, it was also found through the meta-analysis that the outcomes in therapy for African American clients appeared to be mildly better when they were matched with African American therapists. Examining the current sample characteristics revealed that the two participants who demonstrated a significant decline in psychopathic traits post-intervention were African Americans. Thus, it appears that race/ethnicity matching of the client and the therapist in the current study is likely not a significant factor impacting the treatment outcomes.

Limitations and Future Directions

Both the group and single-case findings, but especially group-based findings, primarily revealed an increase in positive affect and a decrease in psychopathic traits through the PPI. Despite the promising findings, the results should be contextualized within the limitations of the current study design. First, the sample is very small. Also, the study was conducted with a group of female adolescent offenders with severe levels of psychopathology who have reached the end of the juvenile justice system. This is a population that has been highlighted to have more severe psychopathology as compared to male juvenile offenders and is difficult to treat. Baines and Alder (1996) have referred to this group as being “harder to work with.” Treatment dosage likely needs to be very high to treat the complex issues of female juvenile offenders. Replication of this study on a larger sample of participants can further help to assess the reliability of the results and

clarify factors contributing to the present findings. It is important to replicate this study on larger samples across different genders and in varying settings (e.g., juvenile justice settings, less restrictive residential facilities, outpatient clinics) to further test the generalizability of the PPI.

Second, treatment adherence for the current study was examined by utilizing ratings on a checklist of components of each session that should be implemented. It may be helpful for future studies to have raters provide ratings on treatment adherence through video recordings. This could further examine the details of treatment adherence for the intervention as well as target additional ways to enhance the intervention. Third, the intervention for the current study did not involve parents. Future studies could be helpful to examine if the PPI could be enhanced even further by involving parents in the implementation of the positive psychology activities. Fourth, this study although believed to be applicable to girls, was an intervention that was designed primarily for reducing psychopathic traits. Although intervention principles targeting an increase in positive affect should apply to both genders, other studies may wish to augment the PPI with gender-specific treatment interventions. Fifth, the system of using clinician-based consensus ratings to evaluate change is new and will require further testing. To examine the reliability and validity of these ratings, future research is needed to compare them to self-report ratings as well as standardized instruments for making clinician ratings across the intervention. It may be that a broader range of psychopathic traits should be rated. Lastly, the current study did not examine the impact of the intervention on the different factors of psychopathy. It will be very important to determine if the study had effects on one or more dimensions of psychopathy, as this may provide important differential information regarding the grandiose-manipulative, callous-unemotional, and daring-impulsive traits of psychopathy (Salekin, in press).

Examining the single-case design findings provided important clues for further enhancing the intervention. Specifically, additional activities can be implemented to further intensify the intervention. Such activities could involve sharing one's positive and negative emotions to the content delivered or to the interpersonal processes occurring in session, discussing the pros and cons of relational aggression, appreciating other group members or giving positive feedback to others in session, which all serve to reinforce the application of the content participants learn in each session. It may also be helpful for the teachers in the facility to further reinforce youth for completing their homework as well as continue to serve in the verification process to ensure that the youth engage in behaviors to reach the behavioral goals they set for themselves each week. This would further reinforce the application of skills learned in each session.

Most participants in the current study provided feedback that they enjoyed learning more about the brain. Although the intervention has a psychoeducational component of increasing knowledge regarding the operation of the brain, this emphasis lags around the 4th session of the intervention. It could thus be especially helpful to build on the youth's interest and educate them on how participation in various positive psychology activities (e.g., practicing their personality strengths, developing gratitude, responding in a constructive and lively way to others) would enhance positive affect and potentially build new neural networks and activate specific regions in the brain, facilitating them in better decision-making and problem-solving (Subramaniam, Kounios, Parrish, & Jung-Beeman, 2008). Moreover, the PPI might be extended by using motivational interviewing techniques to facilitate further discussion on relational aggression and alternative adaptive strategies to avoid relational aggression. For instance, displaying prosocial behavior to more aggressive peers could be difficult, but there may be avenues to further build these complex skills. One way in which to do this might be to set boundaries in adaptive ways

and limit contact with participants who are more aggressive. Additionally, it could be informative to use objective physiological measures (e.g., EEG) to assess for outcomes (e.g., positive or negative affect). The correspondence or discrepancies found between the self or clinician ratings and the physiological measures would illuminate the interpretation of the current findings and highlight additional areas for intervention.

The current study is the first study to examine the effectiveness of a positive psychology intervention targeted to reduce psychopathic traits, on a sample of adolescent girls with conduct problems. At the end of treatment, it was noted that most participants' psychopathy scores were lower and all of their positive affect scores were higher. Moreover, the group-level findings suggest the effectiveness of PPI in reducing psychopathic traits and enhancing positive affect in a sample of female juvenile offenders, which have significant implications for the individual as well as society. The findings also point to new avenues of inquiries that could further develop the PPI and enhance the effectiveness of treatment of psychopathic traits for adolescent girls with conduct problems. The hope is that such interventions will be able to increase positive emotion and reduce harmful behaviors and traits in youth, thereby improving their overall well-being.

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APPENDIX – UA IRB LETTER OF APPROVAL WITH INFORMED ASSENT



Randy Salekin, PhD
Department of Psychology
College of Arts and Sciences
Box 870348

Re: IRB# 14-008
"Treatment of Conduct Problem Girls"

Dear Dr. Salekin:

The University of Alabama IRB has received the revisions requested by the full board on 6/20/14. The board has reviewed the revisions and your protocol is now approved for a one-year period. Please be advised that your protocol will expire one year from the date of approval, 6/20/14.

If your research will continue beyond this date, complete the IRB Renewal Application by the 15th of the month prior to project expiration. If you need to modify the study, please submit the Modification of An Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Please use reproductions of the IRB approved stamped assent forms to obtain assent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,



Stuart Usdan, PhD.
Chair, Non- Medical Institutional Review Board
The University of Alabama

358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066

THE UNIVERSITY OF ALABAMA

Informed Assent for a Research Study

Dear DYS student:

A researcher, Dr. Randy Salekin, from the University of Alabama would like to ask to have permission to use information from the treatment you are about to take part in. This is because the researcher would like to know more about treatment here and how it works. The researcher would also like to know how much how youth change over time in treatment and whether kids think it helps to discuss their problems with treatment staff. This study will help psychologists and other mental health professionals understand what life is like for kids your age in detention facilities and what aspects might best help them gain a better life for themselves. Maybe we can learn some new ways to help kids make good choices about taking care of themselves in society and getting the best out of life.

A DYS legal representative gave the researcher your name in response to a request to examine the information that comes from treatment here at the WOW facility. The DYS legal representative and the DYS staff know we are asking you to be in this study. It is OK with them. I am asking approximately 150 other DYS youth in this facility to be in this study.

If you decide to be in the study, you will be providing us with the opportunity to examine the information that you will be routinely completing as part of your treatment here at WOW. The questions that you will be filling out ask about conduct problems, your mood, anxiety, and about how you feel that treatment is going. At the end of the treatment, you will be interviewed and researchers would also like to be at the interview to answer any questions you may have. Researchers would also like to use information from the interview to assess how youth at WOW (DYS) liked the treatment.

Researchers will not tell anyone outside the study what you or any other particular person said. We will write a report on the study that just talks about what the group said or didn't say, but no one will be able to recognize you (there are no names attached). We will not tell your parents or teachers about any of your responses on questions or interviews as this will be all examined as a group.

You are a volunteer. You are helping us, but, you do not have to unless you want to. This is your free choice. If you start the study and decide you do not want to continue, just let me know. No one will be mad at you. If you do not want to answer or discuss a certain topic, you do not have to.

The researchers of this study do not think there are any risks or harm to you in this study except for the potential loss of confidentiality. There is a very small possibility that your name could be connected to the study, although we work very hard to keep this from happening. You may find the treatment helpful and the interview at the end of the study helpful. It may feel good to know you are helping us to help other kids that may have

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Approval date: 8/14/14
Expiration date: 6/19/2015

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conduct problems and are having difficulties getting their life started. You will not be treated badly or differently if you decide not to participate in this study. Also, your decision to participate or not participate will have no effect on your time in detention. Although the treatment is part of your program, participation in this study is voluntary. Also, there is one measure that is being added for the purpose of this study and this is a validated interview and rating scale. We are also asking that we be able to collect file information on you for a short period after the study. There is a separate consent for this aspect of the study.

If you have any questions about this study, please ask me now. If you have questions later, you can ask one of the WOW (DYS) staff to contact me immediately at the University of Alabama. My telephone number is 205-348-6619 or I can be reached by email at rsalekin@as.ua.edu. You can also ask the legal representative at DYS questions if you wish by asking a staff member if you can speak with him. If you have questions or concerns about your rights in a research study, you can contact Ms. Tanta Myles at the University of Alabama. Her telephone numbers are (205) 348-8461 or toll free at 1-877-820-3066. Her email address is cmyles@fa.ua.edu. Her mailing address is:

*University of Alabama Office of Research
Attn: Ms. Tanta Myles -Participant Concern
Box 870104
Tuscaloosa, AL 35487-0104*

Also, you may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at

<http://osp.ua.edu/site/PRCO>Welcome.html> or email us at

participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 8701277, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

If you agree to be in this study, please sign your name on this letter below. You can have a copy of the letter to keep.

Thank you very much for your interest.

Sincerely,

Randy Salekin, PhD.

Name of Participant

Date

Person Obtaining Assent

Date

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Expiration date: 6/19/2015

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THE UNIVERSITY OF ALABAMA

Youth Assent to Collect Records

This study also would like to gather information about my contact with the police over the next 4 years. This information is from records at DYS, Juvenile Courts, and probation office. This portion of the study is voluntary and will not affect ongoing treatment. I agree that this information can be collected even if I choose not to take part over the next 4 years. If you decide you no longer want to be part of this aspect of the study just contact Randy Salekin at 205-348-6619 and we will not include you in further study assessments. Check either Agree, if you'd like to participate, or Disagree, if you would prefer not to participate), below.

Agree _____ Disagree _____

_____	_____	_____
Name	Signature	Date
_____		_____
Person Obtaining Assent		Date

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