Evaluating the Program Outcomes of the Cordick Education and Treatment Program

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&

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DEDICATION

This study is dedicated to the youth that have committed suicide due to Mental Health needs that had gone undiagnosed and untreated. For all the pain while living, and for the lives that they never got to finish.

M. L.–Always remembered and loved
ABSTRACT

Over 500,000 children in Ontario were diagnosed with a Mental Health disorder in 2010 (Children’s Mental Health Ontario, 2010) and many go untreated. Schmitz and Hilton (1996) write that an effective treatment for youth with mental health would be a day treatment which should incorporate education, treatment, and collaboration with mental health agencies, family involvement, and a safe and supportive environment. The Cordick Education and Treatment Program utilizes these components and this study evaluated the effectiveness of the program. Participants in this study were eight boys between the ages of 9 and 14 who attended the Cordick Education and Treatment Program in the 2010/2011 school year. Effectiveness of the program was evaluated by comparing two administrations of the Conners Comprehensive Behaviour Rating Scale—Teachers (CBRS-T) while the participants were attending the program and one administration at follow-up in the students’ current school. Differences between administrations were shown through T-tests. In general all areas decreased from the first administration to the second; however, at follow-up scores had increased to higher than original levels. Academic Difficulties in math and language were shown to be effectively reduced with statistical significance at follow-up. A major limitation to this study is that the data came from a review of the Conners CBRS-T instead of from direct observation and that the rater completing the follow-up was different from the rater who completed the first two administrations and there was no procedure for establishing inter-rater reliability.
I would like to acknowledge my onsite supervisor Dr. Carl Rubino and the staff at the Cordick Education and Treatment Program for the help and guidance that they gave me while developing this study and while completing it on placement. I would also like to acknowledge my thesis supervisor Elizabeth deGrace for all the hard work and dedication that she put towards helping me make this thesis great. Lastly I would like to thank my friends, family, and classmates for all of the support while writing this paper.
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Chapter I: Introduction

Overview

Currently, there are 500,000 children in Ontario (a prevalence of 6.09%) who are diagnosed with a mental disorder (Children’s Mental Health Ontario, 2010). These children come from a multitude of backgrounds and there are many factors that influence their behaviour and mental health. With such a high prevalence of childhood mental health problems in Ontario, it is crucial to look at the possible impact on these children’s schooling and future success.

Daily living, whether in school or larger community, has been shown to be negatively affected in 12-30% of the population of school aged children who have social, emotional, and/or behavioural problems (Institute of Medicine; Kazdin, Verhulst & Koot; Weist, as cited in Roeser, Eccles, & Strobel, 1998). Roeser et. al. conclude that school is the most imperative environment for stimulating advancement in intelligence and emotional wellbeing in children. However, mental health and emotional difficulties overwhelm teachers whose primary role is to advance the child academically; they are not trained to be mental health counsellors (Azzi-Lessing, 1999). Students with emotional and behavioural disorders often do not keep pace with their peers due to off-task, disruptive, and defiant behaviours (Gunter & Denny, Hinshaw, as cited in Lambros, Culver, Angulo, & Hosmer, 2007). Thurlow, Sinclair, and Johnson (as cited in Hogan, Bullock, & Fritsch, 2010) write that students with disabilities such as emotional and behavioural disorders, learning disorders, or developmental disorders are twice as likely to drop out of high school than their peers who do not have disabilities. Of those who do drop out, 36% have a learning disability and 59% have an emotional or behavioural disorder. Once children with mental illness become adults they are at risk for social problems such as unemployment, attempted suicide, child abuse, spousal abuse, drug and alcohol abuse, incarceration, and gambling (Bland, Stebelsky, Om, & Newman; Dyek, Bland, Newman, & Om; Bland & Om; Helzer, Canino, Eng-Kung, Bland, Lee, Hwu, et al.; Bland, Newman, Dyck, & Thompson; Bland, Newman, Om, & Siebeisky; Newman & Thompson; as cited in Thompson, 2005). Thompson and Blond (as cited in Thompson, 2005) showed a high level of correlation between mental disorders and social problems by looking at 64 pairings of disorders and social problems. Their results revealed that 57 pairings were significantly correlated with each other. Hogan et. al. (2010) also found that individuals who had disabilities are overrepresented in correctional facilities.

Cordick Education and Treatment Program

The Cordick Program is a section 23 program (program funded under the education act allowing school boards and mental health agencies to collaborate) which was developed in 1996 when the Dalhousie Lake Home for Youth and the local school board partnered to provide this specialized setting. This program is an intensive intervention for students who are removed from their current school and placed in an intensive therapeutic and specialized setting due to severe behavioural and mental health issues. The goal of this intervention is to enable the child to resume normal school attendance in the least intrusive manner. The programs mission statement is:

- to be dedicated to providing a spectrum of specialized quality mental health services to children and youth in partnership with their families, caregivers, and responsible Community Service Providers.

Cognitive Behaviour Modification and social skills training, based on a needs assessment, are the primary treatments delivered. An emphasis is placed on monitoring changes in behaviour on
several dimensions: interactions with peers and staff, on-task behaviour, and the number of restraints and time-outs. A belief of the program is that mental health may be affected negatively by repeated failures in school. By creating an environment in school in which children can succeed, such as one-one individualized instruction, self-esteem and efficacy will increase which will improve their mental health and increase their chance of future success.

The Cordick Education and Treatment Program is a specialized school focusing on the education of children who have mental health and behavioural issues. These children have been unsuccessful in their past schools and are selected by a team of professionals to be admitted based on selection criteria. These criteria include the presence of a significant mental health problem, previous involvement in other less intrusive measures within the current school, and involvement with an outside resource in the community, usually a local children’s mental health service. Furthermore the match of the mental health problem, the Cordick School, and the mix of students already in the classroom is considered. The age of children admitted can range from six to eighteen. There are three classrooms in this school: juniors, intermediate, and seniors. Each classroom contains a teacher, an educational assistant, and a child and youth worker. Class consists of group instruction, seat work which is tailored to each student’s individual ability, and may include behavioural programming. Receiving mental health treatment outside of the school is a key component in the success of these students.

Purpose
The purpose of this thesis is to provide information regarding the effectiveness of the Cordick Education and Treatment Program on long term re-integration outcomes of past students of the Program. The data will be collected from assessments and documentation by teachers, child and youth workers, educational assistants, and the clinical director of the program. This data analysis will contribute to research of effective programs for youth with mental health and behavioural issues. The data will also contribute to the ongoing evaluation of Program outcomes and improvement of the Cordick Education and Treatment Program.

Hypothesis
It is expected that the program will prove to be effective in decreasing behavioural incidents and mental health issues at post-intervention, and in re-integration of students into regular classrooms. It is also anticipated that in follow-up, behaviours and mental health problems will increase slightly but not to baseline levels.

Summary
The present chapter presented an overview of the Cordick Program, a treatment program for mentally disordered children and youth. Chapter II of this thesis is a literature review on causes of mental health problems, structure and setting of day treatment programs, effects of smaller class sizes, mental health treatment and collaboration, and outcomes of day treatment programs. In Chapter III the method of collecting data will be reviewed with results shown in Chapter IV. Lastly, a summary of the thesis and discussion of its limitations and implications for future studies will comprise Chapter V.
Chapter II: Literature Review

A review of the literature pertaining to the effectiveness of day treatment programs for youth with mental health and behavioural problems was conducted. The literature included effectiveness of the structure of the programs, overall effectiveness of day treatment programs at present, and programs’ post-treatment effectiveness.

Prevalence and Causes of Mental Health Problems

Poverty and mental illness have a relationship in which each has symptoms that affect the other (Mash & Wolfe, 2010). Although poverty itself is not a deciding factor as to whether a person will have mental health issues, factors such as poor neighborhood and lack of parental support are highly correlated with developing these mental health problems (Aber, Jones, & Raver, as cited in Mash & Wolfe 2010). It is estimated that 1 in 6 children in Canada and the United States live in poverty daily (U.S. Bureau of the Census, Statistics Canada, as cited in Mash & Wolfe 2010). Children living in these circumstances have lower rates of cognitive, social, and emotional development than their peers who do not (Campbell & von Stauffenberg, as cited in Bierman, Torres, Domitrovich, Welsh, & Gest, 2009).

Family history is another factor in predicting mental health issues (Mash & Wolfe, 2010). Results of a survey by Bassani, Padoin, and Velhuizen (2008) estimated that 570,000 children under the age of 12 in Canada are living with parents who have mood, anxiety or substance use disorders. This is significant because a strong relationship between parents with a psychological disorder and children developing mental health issues has been found (Mittendorfer-Rutz, Rasmussen, & Wasserman; Spiker, Larson, Lewis, Keller, & Gilchrist; Anonymous; Weil, Wade, Bauman, Lynn, Mitchell, & Lavigne, as cited in Bassani Padoin and Veldhuizen, 2008). Physical abuse, sexual abuse, and neglect are also linked to mental health (Boney-McCoy & Finkelhor, as cited in Mash & Wolfe, 2007). These issues can lead to the development of challenging behaviours such as aggression (Scheeringa & Zeanah; Web, as cited in Azzi-Lessing, 2010). Offord and Boyle as cited in Thompson (2005) found that if a child observed his or her parents experiencing a social problem, such as unemployment, divorce, or crime, then the child was more likely to have an emotional disorder.

Waddell, Offord, Shepherd, et al (as cited in Burges 2007) write that 14% of children in the general population are experiencing mental health issues. However, children who are in foster care have been shown to have a higher prevalence of mental health issues, a rate of 40% (Leslie, Landsverk, Ezzet-Loftstrom, et al. as cited in Burges). The significant positive correlation between children’s mental health needs and foster care is important to note as the number of children in Canada in foster care is steadily increasing (Vandermeulen as cited in Burges). The correlation between mental health problems and foster care could be related to a number of factors. These include biological, as the parents of these children may have had to give them up due to their own mental health problems, environmental, as their family homes and foster homes may not have the greatest living environment, and historical, as there are often multiple changes in regards to stability. A study by Burges (2007) determined that the rate of mental health issues in children who were permanent wards in the province of Ontario was 31.7%. Of the 31.7% who had a mental health issue, 49% had a comorbid condition, most commonly a learning disability. The author explains that learning disabilities and mental health issues may be related. This is because having a learning disability can cause behavioural and mental health issues, but having a behavioural and mental health problem can also result in poor academic outcomes.
Structure and Setting of Day Treatment Programs

An effective day treatment program should incorporate education, treatment, collaboration with mental health agencies, family involvement and a safe supportive environment (Schmitz & Hilton, 1996). The Ontario Government (as cited in Pazarat, 2001) supported and assisted school boards across Ontario in working together with treatment facilities for youth with mental health and behavioural issues by creating day treatment programs. The government’s intention was to create environments in which it was safe to learn, and where important life skills were fostered. Differential instruction and on-site counselling when necessary was also part of the vision. The conclusions of Cohen and Fish (as cited in Pazarat 2001) supported this theory. They wrote that tending to children’s mental health in schools should not be the only emphasis for successful rehabilitation. Offering the necessary skills, proper academic programming, and a different environment can promote social skill development and improved behaviour.

In 1999, Debra Srebnik surveyed the staff at a children’s day treatment centre about the goals of the program and what, in their view, made for a successful treatment. There were 73 direct service staff involved in this study and three different types of day treatment placements; hospital, school, and faculty based. She found that of the main goals of day treatment programs, providing a therapeutic environment and services ranked number one. Community re-integration and improving children’s daily living skills came in second and third respectively. Srebnik found that staff ranked themselves the most important factor in creating a successful program. Hughes and Adera (2006) concur that staff is an important factor. They write that the development, training, and support of staff are essential. Srebnik found that programming for behaviours and education was ranked second in importance. There was a three-way tie for third place between personalized treatments, a steady, safe, and accepting setting, and collaboration with other services. The conclusions raise important considerations for providing effective mental health services, however the research design limits the confidence that can be derived from this study.

Schmitz and Hilton (1996) write than an ideal treatment class size would be a maximum of 12 students with three staff. The staff should include a teacher and a person with experience in the mental health field such as child and youth work. These staff must be able to work well with a multitude of people on a team and have clear communication skills. They must have a background of working with troubled children and have some experience with mental health. Don Pazarat (1998) looked at the role of a child and youth worker in a specialized treatment classroom, specifically, a Section classroom. He wrote that their role is to counsel, to create a structured environment, and to discipline the students while maintaining a consistent expectation. At the same time, they are to build strong relationships with the child and maintain interest in his or her progress.

Smaller Class Sizes

Smaller classroom sizes are a characteristic of the Cordick Education and Treatment Program as no class is to have over 10 students. There are 3 adults in each class creating a small student to teacher ratio. Many studies have found that class size affects both learning and behavioural outcomes in children (Blatchford, Bassett, Goldstein, & Martin, 2003; Pedder, 2006; Wasley, 2002; Englehart, 2006; Finn & Pannozzo, 2004; NICHD Early Child Care Research Network, 2004). With respect to class size and academic progress, Blatchford, Bassett, Goldstein, and Martin (2003), measured the success of 5-7 year olds in a large number of classrooms from 1996-1998. They found that when there were more students in a classroom a
less effective learning environment resulted. They also found that there was a significant increase in math and literacy scores when the students were in a smaller setting. They concluded from their study that this may be due to the fact that if teachers have fewer students they can spend less time on whole class instruction and can invest time in developing an increased knowledge of each child and their needs. They also found that behavioural management and control of the students was increased when class sizes are smaller. Alternatively, Pedder (2006) found that smaller classes themselves did not directly affect learning outcomes of grade nine and ten students. Through semi-structured interviews with teachers of small and large classes at the beginning of the year, data was obtained on their effectiveness. They found that the ability of the students in their classroom, their resources, and their space had more of a direct effect on learning outcomes than the class size. There were benefits of smaller class sizes, such as, more time with students and more opportunities for students to ask questions; however, they also found that large classrooms also had benefits. They suggest that one reason for this could be that in smaller class settings tension and fighting can be more common. A smaller number of people end up spending large amounts of time with each other which can create problems. The Early Child Care Research Network (2004) concurred with the finding that students in a smaller class received a higher level of support and instruction from the teachers. However, they found that in larger classrooms, disruptive and undesirable behaviours were seen at a lower level than in smaller classrooms. One reason for this may be that the behaviours are noticed less frequently in a larger student body. Another reason could be that the teacher enforces rules more effectively with a large group than with a smaller group. The studies by Pedder (2006) and The Early Child Care Research Network (2004) both found that other characteristics of the classroom may be more important to the success of the children than the size. Although class size is not always important, tailoring the class size and staff support to the characteristics of these classrooms is important.

The research into smaller classrooms should be more effectively completed using a larger sample size. The study by Pedder (2006) had a small sample size and only relied on verbal recall data by interviewing the teacher. In order to obtain more reliable results, such as those by Blatchford, Bassett, Goldstein, and Martin (2003), more participants should be added and data should be recorded throughout the school year.

Mental Health Treatment and Collaboration

The Cordick Education and Treatment Program utilizes community mental health treatment rather than including it in the curriculum of the school. Schmitz and Hilton (1996) write that for an intervention to be most effective in reducing behavioural and mental health issues, a multidisciplinary approach must be utilized. This approach can include multiple workers from different agencies, and multiple approaches ranging from Cognitive Behavioural Therapy (CBT), to teaching of life skills. When a broad range of interventions are available, it is more likely that the family will also be included and learn. These families can be taught about socioemotional values, money and money management, safety, and education. This is important as resilience factors in children are directly related to parent functioning, family support, cohesiveness, discipline style, and family stresses such as money (Rutter, 1983; Werner, 1987; Werner & Smith, as cited in Schmitz and Hilton, 1996). In 2001, Carolyn Webster-Stratton evaluated a program called the Incredible Years Training Series. This program consisted of three different training sections: parent training, child training, and teacher training. The goal of the programs was to reduce aggressive behaviours and conduct problems while promoting social...
competence in children aged 3-10. These training sessions were shown to be effective in all areas of the program. Collaboration among the members of a multi-disciplinary team is essential in ensuring effectiveness of mental health treatment. Clear communication will let others know what is being worked on and what the target behaviours are like in different settings (Schmitz and Hilton 1996).

In the Cordick Education and Treatment Program collaboration is an important component. Each child attending the program has three treatment team meetings in which everyone involved in the child’s treatment comes together. Teachers, educational assistants, child and youth workers, and the clinical director from the program attend these meetings along with mental health workers, parents, foster parents, and workers from their previous school. In these meetings, the child’s progress, interventions being utilized, and next steps are discussed.

Outcomes of Day Treatment Programs

The outcomes of a day treatment program called the Acute Children’s Extended Services (ACES) program were evaluated by Kristen Robinson (2000). The ACES program admits children who have been referred due to severe behavioural issues at home and/or at school. A combined group of professionals work together in this program to reduce the child’s symptoms. These professionals include psychologists, social workers, and child psychiatrists. Behavioural interventions are most commonly used and there is a focus on learning the appropriate behaviours, reinforcing them, all the while reducing undesirable behaviours. The study included 215 students who attended between 1997 and 1999. The most common problems of children in the program were severe emotional disturbance (SED); Attention Deficit Disorder (ADD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD). Effectiveness was measured by administering a standardized questionnaire, with good reliability and validity, at admission, as well as at transition and discharge. A significant decrease in behavioural symptoms was noted by the author in nearly all children. Between the first administration of the questionnaire and the second, 19% of the children had a significant change of 13 points and these children were discharged. By the third administration another 18% of the children’s scores had changed significantly. Conclusions that can be made from this study are that the ACES program was effective in reducing behavioural symptoms regardless of diagnosis. This is an important study for developing day treatment programs for multiple populations as there was a large sample size with significant results.

Another study about the effectiveness of day treatment programs was done by Bennett, Macria, Creed, and Isom (2011) and looked at a day treatment program in Philadelphia. The program was run for six hours five days a week by teachers, educational assistants, recreation therapists, and social workers. A diverse range of treatments were used such as Cognitive Behavioural Therapy (CBT), Behavioural Programing, and Psychodynamic interventions. The purpose of the study was to predict day treatment success by researching aggression subtypes and acceptability. Aggression was broken into subtypes, proactive aggression and reactive aggression. Proactive aggression can be described as being unprovoked and related to obtaining reinforcement from outside. Reactive aggression can be described as a response to provocation. Acceptability of aggression is defined by the study as how accepted aggression is by the child’s environment and whether it is discouraged. The study included 54 children between the ages of five and thirteen who had behavioural problems. The majority of these students also had a low socio-economic status. Diagnoses of the children included; ADHD, ODD, Adjustment Disorder, CD, and Post Traumatic Stress Disorder (PTSD). Nearly half of the children were diagnosed
with more than one of these disorders. To evaluate results teachers filled out a questionnaire upon the student’s arrival and on discharge. The student, if over the age of eight, also completed a questionnaire at both stages. The main outcome from the study was that attention problems had significantly decreased by the end of the students’ treatment. Global adjustment was also shown to be significantly increased from pre-intervention to post-intervention. Furthermore, the study found that for students who were rated to be high proactive/ high reactive or high proactive/ low reactive the level of change from pre intervention to post intervention was low. The authors wrote that this may be due to the fact that children who are highly proactive can easily make friends and are usually the ones who instigate unsuitable behaviour. Because many of these children are highly proactive and are together in the day treatment setting five days a week, unsuitable behaviour may occur quite often resulting in unfavourable results. Although it was not a significant correlation, when aggression acceptability was high it was shown to increase problem behaviours. Even though this study shows promising results for the development of an effective day treatment program for children with mental health problems, as well as what types of children will benefit, it has a small sample size and should be replicated with more participants to validate the results.

After school day treatment programs were evaluated with regard to different factors influencing the behavioural and emotional development of children with ADHD (Scholte, van Berckelaer-Onnes, & van der Ploeg, 2007). The study found that total ADHD symptoms statistically declined from pre-intervention to post-intervention. Also, it found that 22% of the children deemed dysfunctional were, when compared to a norm reference group, in the normal range. Other findings were that if ADHD symptoms were high at the first assessment, then they would be high after the program which may be a result of the nature of ADHD. More males than females displayed increased follow-up symptoms of ADHD; however, ADHD symptoms were shown to decrease at a higher rate if behavioural control and affectionate support were major features of the intervention. The study, in fact, found that if only behavioural control was used, symptoms increased from baseline to follow-up. A conclusion that can be drawn from this study is that although ADHD, when at a high level, may be harder to treat than when at a low level, it is the way that treatment is delivered that makes the most impact.

Another study assessing the outcomes of students in day treatment programs was done by Renee Tissue and Alan Korz (1997) who evaluated the effectiveness of a treatment program vs. a school based treatment program on adjustments of children to regular classrooms. Each child in the study was between the ages of 5 and 13 and ranged from having moderate to severe emotional troubles. Each group received individual therapy, family therapy, and group therapy at least once a week while utilizing behavioural modification techniques. Twenty one participants were in the Transition group (TG), in which students received educational expectations, as well as treatment. Those children participating in the school based intervention were expected to attend a classroom setting, complete their work, and meet any other expectations found in a regular classroom. The 21 participants in the Comparison Group (CG) just received therapies and behavioural modification. Outcomes from this study were that TG had significantly positive scores on adjustment to the school, adjustment to the classroom, getting along with peers, changing classes, and overall adjustment at six weeks after transitioning. There was little to no difference between the two groups for homework completion and relationships with the teacher. This study led to the conclusion that by attending a day treatment program that includes the school structure and expectations, compared to just receiving treatment at a day treatment program, youth will be able to be more effectively reintroduced to regular classroom settings.
A follow-up study looking at the outcome of Disruptive Behaviour Disorder (DBD) in a group of adolescents who had been treated for DBD as children in a day treatment or an in-patient setting was completed by van Bokhoven, Matthys, van Goozen, & van Engeland (2006). The mean age of the participants at follow-up was 16.9; however, when they were admitted to the treatment programs their mean age had been 10.1. Each of the 47 participants was still receiving behavioural therapy and/or pharmacology. Data on the adolescents’ outcome was collected both by self-report and by parent report. Self-report consisted of the Youth Self Report (YSR), Sensation Seeking Scale (SSS), Beck Depression Inventory (BDI), and a structured interview. The parent report consisted of the Child Behaviour Checklist (CBCL) and the Diagnostic Interview Schedule for Children, Version IV. Each of these tests were compared to a norm reference group of 743 students. The authors found that in nearly half of the participants, the diagnosis of DBD had returned by follow-up. Compared to the norm group, the participants had higher tobacco usage, a higher rate of non-completion of high school, were more likely to use marijuana, and were more likely to have been in court. There was no difference between the groups for usage of hard drugs. This shows that although the interventions may have been effective, effects were not long lasting and the participants engaged in riskier behaviours than the norm group. This study shows some strength as there was a large norm reference group and the sample size was moderately low.

The results from the literature review indicate that evidence is mixed as to whether day treatment programs are effective in reducing mental health and behavioural issues in children. These studies show that in order for a treatment to be effective the attitudes of those working with clients need to be consistent and nurturing and that the setting should follow a classroom routine to ensure proper reintegration. The literature also shows that evidence again is mixed for the effectiveness of day-treatment programs when measured on long term success. Although the results are mixed each study has shown a small level of a positive effect from day treatment programs. A meta-analysis of day treatment outcomes would be beneficial in showing trends and providing a clearer picture regarding their effectiveness. The results of the literature review are relevant to the current thesis and support the hypothesis that the Cordick Education and Treatment Program will be effective in reducing behavioural incidents and mental health issues at post-intervention and re-integration. This is because the Cordick Education and Treatment Program utilizes many of the characteristics of an effective program such as smaller class sizes, collaboration, kind, caring, and nurturing but consistent staff, and a classroom structure where expectations are placed on these children preparing them for reintegration into a regular classroom.
Chapter III: Method

Participants

A total of eight participants (identified as P1 to P8) files were reviewed and included in the study. All of the participants were male and were between the ages of 9 and 14 (mean = 11.71, SD = 1.98) (Table 1). Two participants’ lived at home with both parents, three lived with a single biological parent, one lived with a foster family, and it is unknown what the living situation was for one participant. P7’s age, length of stay, and living situation was not available as his file was unavailable. Inclusion criteria for these participants were: admission because of a significant mental health problem and severe behaviour problems and discharge from the Cordick Education and Treatment Program in the 2010/2011 school year, (one child discharged in September 2011 was included in this study). A summary of admission and discharge information can be found in Table 2. A student was excluded if he or she attended a Dalhousie group home during admission to the Program. The average length of stay for these students was 17.36 months (SD 8.45). Symptom Scale data for participant eight (P8) was not available.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Age (mean)</th>
<th>Length of Stay (m)</th>
</tr>
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<tbody>
<tr>
<td>Mean</td>
<td>11.71</td>
<td>17.36</td>
</tr>
<tr>
<td>Mode</td>
<td>11</td>
<td>N/A</td>
</tr>
<tr>
<td>Median</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>SD</td>
<td>1.98</td>
<td>8.45</td>
</tr>
</tbody>
</table>

*Length of stay is recorded in months

Table 2

<table>
<thead>
<tr>
<th>Reason for Admission</th>
<th>Defiant</th>
<th>Aggressive</th>
<th>School Work</th>
<th>Emotions/mental health</th>
<th>Academic Skills</th>
<th>Behaviour Control</th>
<th>Medication</th>
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<td>70%</td>
<td>80%</td>
<td>40%</td>
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<td>70%</td>
<td>80%</td>
<td>20%</td>
<td>90%</td>
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</table>

Design

The data for this thesis was gathered from a file review and included results of the Connors Comprehensive Behaviour Rating Scale-Teacher (Conners CBRS-T) (Conners, 2008). The independent variables are participation in treatment/education in the Program and transition into a community school classroom, the dependent variable of mental health ratings will be measured by the Connors CBRS-T. Data will be analysed using visual and statistical analysis. Graphs and charts representing the data will contribute to the visual analysis. Whether or not a statistically significant change has occurred between administrations will be evaluated using the Reliable Change Index (RCI) which was calculated by the Conners CBRS software. The RCI is the difference between the test scores for two administrations of a scale, divided by the standard error of difference between them. T-tests were completed using Microsoft Excel 2010. For both
the T-tests and RCIs, a significance level of p<.10, or a 90% confidence interval, was used to identify either positive or negative changes.

Setting
The files from which the pre-test and post-test data were collected were located in the Cordick Education and Treatment Program. The follow-up data were collected in the child’s new school.

Measures
Conners CBRS-T. The Conners CBRS-T is an assessment of childhood symptoms and disorders (Conners, 2008). This test has excellent reliability and validity. It was standardized in 2000 on a sample of 3400 young Americans between the ages of 6-18, stratified for race, gender, and socioeconomic status. The Conners CBRS-T has been found to be an effective tool for planning, monitoring, and evaluating interventions. It has also been found to have a direct relationship to the DSM-IV-TR. It assesses behavioural, emotional, social, and academic behaviour and reports them in two different sections, Specific Content Scales which represent behaviours and Symptom Scales which are representative of the DSM-IV-TR. This test uses a likert-scale and has 204 questions. Teachers must rate the child on each question from a 0-3, zero being not true at all (never/seldom), one just a little true (occasionally), two pretty much true (often, quite a bit), and three being very much true (very often/frequently). Scoring yields T-scores (mean=50, SD=10) for age and sex. A T-score of 40-59 is average and a score of 60-69 is elevated and a score of 70 or above is clinically significant.

Procedures
Results of each Specific Content and Symptom scale on the Conners CBRS-T will be compared to evaluate the effectiveness of the Program in reducing each child’s emotional and behavioural difficulties. The Specific Content scales are; Emotional Distress, Upsetting Thoughts, Separation Fears, Social Anxiety, Defiant and Aggressive Behaviours, Academic Difficulties, Language, Math, Hyperactivity, Social Problems, Perfectionistic and Compulsive Behaviours, Violence Potential Indicator, and Physical Symptoms. Upsetting Thoughts, Separation Fears, and Social Anxiety are subscales of Emotional Distress and Language and Math are subscales of Academic Difficulties. The Symptom scales include; ADHD Inattentive, ADHD Hyperactive-Impulsive, Conduct Disorder, Oppositional Defiant Disorder, Major Depressive Episode, Manic Episode, Generalized Anxiety Disorder, Separation Anxiety Disorder, Social Phobia, Obsessive Compulsive disorder. The first administration of the Conners CBRS-T and the last administration while at the Cordick Education and treatment program will be compared to assess effectiveness of the program in reducing mental health symptoms and behavioural problems. The Conners CBRS-T that was completed by the regular school classroom teacher as a follow-up was compared to the last administration test scores to evaluate the effectiveness of treatment on long term reintegration.
Chapter IV: Results

Tables showing whether there were significant increases for each participant in each section follow. Table 3 shows whether there was a significant increase (+) or decrease (-) in the Specific Content Scales from administration one to two and Table 4 shows significant increases and decreases from administration two to follow-up. Table 5 and 6 are representing significant increases and decreases in Symptom Scales for each participant with Table 5 showing results from administrations one to two, and Table 6 showing results from administration two to follow-up. A written analysis of raw data can be found in Appendix D.

Table 3

*Significant Changes From Administrations One and Two for Specific Content Scales*

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Note: ED= Emotional Disorder, UT=Upsetting Thoughts, SF=Separation Fears, SA=Social Anxiety, DB= Defiant and Aggressive Behaviours, AD= Academic Difficulties, LA= Language Difficulties, MA= Math Difficulties, HY= Hyperactivity, SP= Social Problems, PC= Perfectionistic and Compulsive Behaviours, VP= Violence Potential, PS= Physical Symptoms
Table 4
**Significant Changes From Administrations Two and Follow-Up for Specific Content Scales**

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Note: ED = Emotional Disorder, UT = Upsetting Thoughts, SF = Separation Fears, SA = Social Anxiety, DB = Defiant and Aggressive Behaviours, AD = Academic Difficulties, LA = Language Difficulties, MA = Math Difficulties, HY = Hyperactivity, SP = Social Problems, PC = Perfectionistic and Compulsive Behaviours, VP = Violence Potential, PS = Physical Symptoms

Table 5
**Significant Changes From Administrations One and Two for Symptom Scales**

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Note: ADHDI = Attention Deficit Hyperactivity Disorder-Inattentive type, ADHDH/I = Attention Deficit Hyperactivity Disorder-Hyperactive Impulsive Type, CD = Conduct Disorder, ODD = Oppositional Defiant Disorder, MDE = Major Depressive Episode, ME = Manic Episode, GAD = Generalized Anxiety Disorder, SAD = Social Anxiety Disorder, SP = Social Phobia, OCD = Obsessive Compulsive Disorder
Table 6
Significant Changes From Administrations Two and Follow-up for Specific Content Scales

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Note: ADHDI= Attention Deficit Hyperactivity Disorder-Inattentive type, ADHDH/I= Attention Deficit Hyperactivity Disorder-Hyperactive Impulsive Type, CD= Conduct Disorder, ODD= Oppositional Defiant Disorder, MDE= Major Depressive Episode, ME= Manic Episode, GAD= Generalized Anxiety Disorder, SAD= Social Anxiety Disorder, SP= Social Phobia, OCD= Obsessive Compulsive Disorder

Group averages for Defiant and Aggressive behaviours were only clinically significant at the follow-up administration with a score of 79.38. A statistically significant change was not seen from administration one to two; however, administration two to follow-up was shown to have a significant increase with $p=0.055$. The Violence Potential Indicator did not show any group averages which were clinically significant however there was a significant increase from administration two to follow-up ($p=0.983$). The follow-up scores for Oppositional Defiant Disorder had an average of 87, well above the clinical significance level of 70. A significant increase of $p=0.029$ was shown from administration two to the follow-up administration.

Hyperactivity showed a significant increase in scores ($p=0.007$) from administration two to follow-up, although none of the three administrations showed clinical significance when the scores were averaged together. ADHD Inattentive had a significant increase in scores from administration two to follow-up ($p=0.002$). There were no clinically significant scores for any of the averaged administrations. ADHD Impulsive and Hyperactive also had no clinically significant scores for any of the administrations while averaged, and there was also a statistically significant increase from administration two to follow-up with $p=0.000$.

Although while averaged none of the participants’ scores together were clinically significant for Social Anxiety, there was a statistically significant increase from administration two to administration three ($p=0.025$). There was also no clinically significant averages for Social Problems however there was a significant increase ($p=0.045$) from administration two to follow-up.

The Major Depressive Episode scores grouped together resulted in a statistically significant increase from administration two to administration three ($p=0.007$). When the scores were averaged together there was no clinical significance for each administration. Manic Episodes had a significant increase of $p=0.007$ from administration two to follow-up.
also had an average score of 71.7 which shows clinical significance. Follow-up for Generalized Anxiety Disorder also had a clinically significant average of 75.9. A significant increase from administration two to follow-up was also shown with $p=0.025$.

When the participants scores for Academic Difficulties were grouped together a statistically significant decrease was seen from administration one to administration two with $p=0.094$, none of the three averages were clinically significant. All of the administration averages for Language were below clinical significance. A significant decrease from administration one to administration two with $p=0.081$ was observed.
Results show that the effectiveness of the Cordick Education and Treatment program, as determined by the Conners CBRS-T, is varied. Many of the mental health and behavioural issues that were studied were wide-ranging, therefore, conclusions on the effectiveness were difficult to formulate. Although the hypothesis was not confirmed, as there was no significant overall improvement shown from the first recording of the Conners CBRS-T to the second, and a slight drop from the second to the third, there were numerous specific areas of improvement, decline in challenging behaviours, and mental health issues. It is also difficult to determine whether there was an improvement in sections as the first measure was at least a month into treatment, therefore, the author is unaware of the level of problem prior to treatment.

The scales, Defiant and Aggressive Behaviours, and Violence Potential Indicator did not yield information confirming the hypothesis, as the scores remained at average level over the first two administrations and at follow-up increased significantly. The Symptom Scale, Oppositional Defiant disorder, at follow-up, also significantly increased into the clinically significant range from the first two administrations. While at the Cordick Education and Treatment program defiance and aggression are stable and low; however, on students’ return to regular classrooms these behaviours go up. This would seem to show effectiveness of the Program in supporting compliance and cooperative behaviour in the short term; however, the Program did not appear to support transfer of the skills used and learned into different situations. Another possibility for the high scores in these sections is that the teachers may not have been trained properly in managing such behaviours, for example how to handle power struggles. This in turn could result in an increase in behaviours once again.

Scores for Hyperactivity, one of the Specific Content Scales, also remained level across the first two administrations and had a significant increase at follow-up. Consistent with this pattern are ADHD-Inattentive and ADHD Hyperactive-Impulsive, showing again that the Cordick Education and Treatment Program is effective in reducing symptoms in the short-term but not in transferring change into different settings in the long term.

Effectiveness of the treatment Program on Social Difficulties shows that while participants were in the school they had few social difficulties; however, once transitioned into a new school their scores increased. Results for Social Anxiety and Social Problems, both specific content scales, showed a significant increase from administration two to follow-up, whereas in Symptom scales, Social Anxiety Disorder and Social Phobia, were not seen to increase significantly. This could be because even though the participants were having social difficulties at their new schools, the levels could not be at the DSM-IV-TR level. Also these students have recently, within the past year, been reintegrated back into their regular school or a new school which could be part of the reason for having symptoms of Social Anxiety and Social Problems.

Generalized Anxiety Disorder, Manic Episode, and Major Depressive Episode, all had significant changes from the second administration to the follow-up administration. Again this indicates little retention of any treatment effect upon entering a new school.

The scores that did improve and showed transference into regular schools had to do with academics. Academic Difficulties showed an improvement from administration one to two and a slight decline from two to three confirming the hypothesis; as did Language Difficulties. Although Math Difficulties scores did not have a statistically significant change it is important to note that they were consistent with the hypothesis, decreasing from administration one to two, and then slightly increasing from two to follow-up, but not reaching levels of the first administration. Adding weight to these findings is the fact the individuals completing the
questionnaires at follow-up have experience in rating academic achievement and are familiar with standardized benchmarks.

**Limitations**

A limitation to this study is that the person filling out the Conners CBRS-T from the first two administrations to the follow-up is different. This is a limitation because two different people may observe different things and report their extremes differently. For example a child and youth worker at the Cordick Education and Treatment Program may think that a child should be rated a one (just a little true, occasionally) for a question about aggression as they are satiated and see aggression on a more regular basis than a regular classroom teacher, whereas the regular classroom teacher may rate him as a three (very much true, often/frequent) because aggression does not occur as often and may appear more severe. This hypothesis could be tested by having the two scorers observe a child at the same time and have them rate the level of behaviour on the same type of rating scale in order to obtain inter-rater reliability.

Another limitation is interpretation of several of the Conners CBRS-T Symptom scales. Items on these scales are representative of the DSM-IV-TR criteria but are misleading because many symptoms of one disorder mimic those of another or are shared among several disorders. An example of this is that the symptoms of a Manic Episode and symptoms of ADHD include distractibility, pleasure seeking activities, racing thoughts, and distress (Baroni, Lunsford, Luckenbaugh, Towbin, & Leibenluft, 2009) which may cause a participant to score high in the Manic Episodes category when he actually has ADHD.

The study being a file review is another limitation. This is because relying solely on files may result in misplaced data unless recorders meticulously complete the data set.

Also a limitation of the present study is the timing of administrations of the questionnaires. These were not performed in the same time period for each of the participants which may mean that measures were done at different stages of the education and treatment process. There also was no administration of the Conners CBRS-T prior to admission to give a baseline level.

**Strengths**

A strength of this study is that it provides insight into which features of the program are most effective and suggests how the Program can be changed or improved. For example by including a follow-up in the study the Program is now able to consider the effectiveness of its generalization to other settings in the long term. Having different raters, although a weakness is also a strength, this is because these follow-up raters are unaware of previous ratings and so are free of their influence when completing the follow-up questionnaire. Also, an advantage of using a file review, regardless of the weaknesses mentioned above, is that those doing the recording do not know that the program is being evaluated. Also it makes the study economical in terms of both time and money.

**Multi-Level Challenges**

There are many challenges when working with children and youth with mental health and behavioural issues. These challenges can be seen at: the client level, the program level, the organization level, and the societal level.
Client Level. Clients in this setting have a wide range mental health and behaviour problems. These can affect how a client is effectively treated, i.e., one treatment may work for one person but it may not work for the next.

Program Level. A challenge in the Program is that clients’ behavioural difficulties may result in them being moved outside of the classroom or suspended making it difficult to make progress with them. Students may also fail to attend the program on a regular basis due to illness, school refusal, or appointments with their mental health workers and psychologists.

Organization Level. Although the Cordick Education and Treatment Program itself is not very large it works with multiple organisations. The treatment team of just one child can be extensive and include staff of any mental health centre involved, Children’s Aid, their past school, doctors, family members, etc. Although the team meets once every three months a lot can happen in this three month period. New developments are not always communicated causing barriers to change.

Societal Level. A challenge to providing service to these children and youth at the societal level is that the children's environments do not change. These environments can be their homes and the communities that their homes are located. This makes it less likely that they will benefit from treatment, such as that being offered by the Cordick Education and Treatment Program, due to it only being run six hours out of a whole day.

Implication for the Behavioural Psychology Field

This study may be beneficial to the behavioural psychology field as it specifically assessed the effectiveness of a specialized school. This contributes to the development of programs based on what works and also by using the data of what did not work. Not only will this data be useful to developing programs but also to improving the Cordick Education and Treatment Program. By having effective day treatment programs which will target problems at an early age, there may be less adult mental health problems and less crimes committed.

Future Program Recommendations

Recommendations for the Cordick Education and Treatment Program can be made based on this study. It is recommended that the program put more focus onto the reintegration of their students. It is shown that the small student to staff ratio is effective in reducing or maintaining average levels of mental health and behavioural issues. Thus when integrating students into regular schools, students should be integrated back slowly with support and into a smaller class at first if possible gradually increasing once the student is comfortable in the school. It is also shown that the academic areas of this program are working effectively however it is many of the other issues that have to do with behaviour and mental health that are evident. Thus behavioural programs should be developed specifically for each child to reduce any behavioural problem or symptom of a mental health issue which may be interfering with success.

Recommendations for Future Research

Future research should look not only at files but also undertake direct observation both in the specialized classroom and in the regular classroom once the student is reintegrated. This will give more data regarding the efficacy of the program in treating behavioural issues instead relying only on mental health scores. It is recommended that the person recording the data be the same across all settings to reduce observer bias and that if this is unavailable extensive training be given to each recorder and have inter-observer agreement calculated. In order to obtain a baseline this person doing the direct observation should also enter the regular school classroom.
before the child goes to the treatment program. Each participant’s diagnosis should also be reviewed so that it can be determined if the program was successful with participants with certain diagnosis but not others. Research looking into specific areas of treatment and of mental health diagnosis will contribute to a more comprehensive understanding of the effectiveness of day treatment programs.
References


Microsoft Excel (2010) Microsoft Office


Appendix A: Letter of Consent for Using Agency Name

St. Lawrence College

Date: Oct 19, 2011

CONSENT FOR USE OF AGENCY NAME

I, Dr. Carl Rubin, consent to the use of the name of the Cordick Education and Treatment Program in Becky Wagner’s applied thesis for the Bachelor of Applied Arts in Behavioural Psychology program at St. Lawrence College.

(Agency Staff Signature)  (Student Signature)

Dr. C. A. Rubin  Becky Wagner
(Printed Name)  (Printed Name)
Appendix B: Graphs of Each Participants Specific Content Scores

Figure 1

Participant 1's T-Scores of the Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Social Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Specific Content Scales

First Administration
Second Administration
Follow up
Figure 2

Participant 2's T-Scores of the Specific Content Scales

Specific Content Scales

Emotional Distress
Upsetting Thoughts
Separation Fears
Social Anxiety
Deficient Aggressive Behaviours
Academic Difficulties
Language
Math
Hyperactivity
Social Problems
Perfectionistic and Compulsive Behaviours
Violence Potential Indicator
Physical Symptoms

First Administration
Second Administration
Follow up
Figure 3

Participant 3’s T-Scores of the Specific Content Scales

Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Malt
- Hyperactivity
- Social Problems
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Administration One
Administration Two
Follow-Up
Figure 4

Participant 4's T-Scores of the Specific Content Scales

Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Administration One
Administration Two
Follow-Up
Figure 5

Participant 5's T-Scores of the Specific Content Scales

T-Scores

Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Disordered Eating
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Administration One
Administration Two
Follow-Up
Figure 6

Participant 6's T-Scores of the Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Specific Content Scales

Administration
One
Two
Follow-Up
Figure 7

Participant 7’s T-Scores of the Specific Content Scales

Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

- Administration One
- Administration Two
- Follow-Up
Figure 8

Participant 8's T-Scores of the Specific Content Scales

T-Scores

Specific Content Scales

- Emotional Distress
- Upsetting Thoughts
- Separation Fears
- Social Anxiety
- Defiant Aggressive Behaviours
- Academic Difficulties
- Language
- Math
- Hyperactivity
- Social Problems
- Perfectionistic and Compulsive Behaviours
- Violence Potential Indicator
- Physical Symptoms

Administration

One

Two

Follow-Up
Appendix C: Graphs of Each Participants Symptom Scale Score

Figure 9

Participant 1's T-Scores of the Symptom Scales

- ADHD Inattentive
- ADHD Hyperactive-Impulsive
- Oppositional Defiant Disorder
- Major Depressive Episode
- Manic Episode
- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Obsessive Compulsive Disorder

Symptom Scales

- First Administration
- Second Administration
- Follow up
Figure 10

Participant 2’s T-Scores of the Symptom Scales

Symptom Scales

- ADHD Inattentive
- ADHD Hyperactive-Impulsive
- Oppositional Defiant Disorder
- Major Depressive Episode
- Manic Episode
- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Obsessive Compulsive Disorder

T-Score

- First Administration
- Second Administration
- Follow up

0 10 20 30 40 50 60 70 80 90 100

T-Score
Figure 11

Participant 3’s T-Scores of the Symptom Scales

Symptom Scales

- ADHD Inattentive
- ADHD Hyperactive-Impulsive
- Conduct Disorder
- Oppositional Defiant Disorder
- Major Depressive Episode
- Manic Episode
- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Social Phobia
- Obsessive-Compulsive Disorder

Administration
One
Two
Follow-Up
Figure 12

Participant 4's T-Scores of the Symptom Scales

T-Scores

ADHD Inattentive
ADHD Hyperactive-Impulsive
Oppositional Defiant Disorder
Major Depressive Episode
Manic Episode
Generalized Anxiety Disorder
Social Anxiety Disorder
Obsessive Compulsive Disorder

Administration One
Administration Two
Follow-Up
Participant 5’s T-Scores of the Symptom Scales

Symptom Scale:
- ADHD Inattentive
- ADHD Hyperactive-Impulsive
- Oppositional Defiant Disorder
- Major Depressive Episode
- Manic Episode
- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Social Phobia
- Obsessive Compulsive Disorder

T-Score

Administration One
Administration Two
Follow-Up

Figure 13
Figure 14

Participant 6's T-Scores of the Symptom Scales

T-Scores

ADHD Inattentive  
ADHD Hyperactive-Impulsive  
Oppositional Defiant Disorder  
Major Depressive Episode  
Manic Episode  
Generalized Anxiety Disorder  
Social Anxiety Disorder  
Social Phobia  
Obsessive Compulsive Disorder

Administration
One
Two
Follow-Up
Figure 15

Participant 7's T-Scores of the Symptom Scales

Symptom Scales
- ADHD Inattentive
- ADHD Hyperactive-Impulsive
- Oppositional Defiant Disorder
- Major Depressive Episode
- Manic Episode
- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Social Phobia
- Obsessive Compulsive Disorder

Administration
One
Two
Follow-Up
Appendix D: Written Explanation of Raw Data

Specific Content Scales

**Emotional Distress.** Emotional Distress was seen as clinically significant in one of the three administrations for four out of eight students. P1’s T-scores were average during the first (51) and second (46) administrations; however, the T-scores during follow-up were very high (90). This is a statistically significant increase to follow-up. This pattern was evident in P6’s scores as well with an increase from a T-score of 46 at first administration, to 55 at the second administration, and then significant increase at follow-up to 73, a clinically significant level. P3’s scores of 51, 62, and 76 also follow this pattern of a clinically and statistically significant change at follow-up. P8’s emotional distress was clinically significant at first administration with a T-score of 74. This dropped at the second scoring to 69, below clinical significance. This drop was not statistically significant, nor was the increase at follow-up back into the clinically significant range (T=76). P2, P4, P5, and P7’s scores were not clinically significant at any of the test administrations for emotional distress.

**Upsetting Thoughts.** T-scores on the Upsetting Thoughts for P2, P4, P5, and P6 did not reach clinically significant levels. P8’s T-score was in the clinically significant range (73) at first administration. By the second test his score had decreased to 68 and at the follow-up administration Upsetting Thoughts had significantly decreased to 53, well within the normal range. For all the other participants, P1, P3, and P7, T-scores remained constant and low between administrations one and two. However, at the follow-up administrations, their T-scores had reached clinical significance with scores of 90, 79, and 70 respectively, all increases being statistically significant.

**Separation Fears.** The majority of T-scores for this symptom were not clinically significant (P1, P2, P4, P5, P6, and P7). Only P3 and P8 had significant scores. P3’s first score was 48 which increased to the clinically significant level of 87 (statistically significant) at second administration. At follow-up the scores had significantly decreased back into the normal range at 47. P8’s scores on Separation Fears started in the clinically significant range with a T-score of 78. This significantly decreased to 45 upon second administration; his score once again reached a high level, (T=87), at follow-up, both clinically and statistically significant changes.

**Social Anxiety.** Participants who had at least one score that reached clinical significance for Social Anxiety were P1, P6, and P8. P1’s Social Anxiety became clinically significant at follow-up with a T-score of 81, up from 58 and 47 at first and second administrations respectively. P6’s T-Scores of 52, 49, and 70 and P8’s scores of 53, 50, and 72 follow the same pattern as P1.

**Defiant and Aggressive Behaviours.** Of the Content scales, Defiant and Aggressive Behaviours was the only one for which every participant had a clinically significant score at one of the test administrations. P1 had clinically significant scores at all administrations with T-scores of 71, 80, and 90. The differences were also statistically significant from administration one to administration two, and from administration two to administration three. P2’s scores were not clinically significant and first administration (T=55) and follow-up (T=69); however, during the second administration his score increased to 84 into the clinically significant range. The differences between admission one and two, and between two and three, were statistically significant. P3, P5, and P7 had T-scores that remained at average levels during the first two administrations (P3: 65 to 53; P5: 57 to 51; and P7: 62 to 66); however, at the follow-up administration scores increased to clinical significance. P3’s score of 90 was a significant increase, as were P5’s score of 71 and P7’s score of 87. P4’s T-score at first administration was
clinically significant at 84; this decreased significantly to 57 at second administration and 61 at follow-up. P6’s score was clinically significant upon first administration at 81; it decreased significantly to an average level (60) at second administration, and at follow-up increased significantly to a clinically significant level (90). Lastly, P8’s score increased significantly to clinically significant levels from first administration to second with scores of 68 and 75. This participant’s score stayed in the clinically significant range (77) at follow-up.

**Academic Difficulties.** P2, P3, P4, P6, and P7 did not have clinically significant academic difficulties at any of the test administrations. P1 had a clinically significant T-score of 77 at the first administration. This participant’s score significantly decreased from administration one to administration two, to a level of 71, still clinically significant. At follow-up his scores dropped to an average level (60), a statistically significant decrease from test two to test three. P5 had a T-score of 75 upon first administration of the Conners CBRS-T. This score showed a decrease into the normal range (55) that was statistically significant at second administration. This score increased significantly from second administration to the third, but remained average at 61. The scores for P8 were 72 at first administration, 63 at second, and 58 at follow-up. These scores show that upon the first administration there was a clinically significant problem with Academic Difficulties, however, it decreased significantly to 63 in the average range. It once again decreased significantly at follow-up to 58.

**Language.** Upon first administration of the Conners CBRS-T P1’s score was clinically significant (T-Score 72). It decreased to 68 out of the clinical range. Upon follow-up the T-Score significantly decreased from the second administration to a level of 57, within the normal range. P3 had scores of 67, 71, and 63; these scores were normal upon first administration and at follow-up, but clinically significant at second administration. Although there was fluctuation with respect to clinical significance, there were no statistically significant changes. P8’s Language difficulty score at first administration was clinically significant at 78; however, it decreased significantly from first administration to second at 64, in the normal range. This participant remained in the average range at follow-up with a T-Score of 60. P2, P4, P5, P6, and P7’s t=scores fell in the normal range.

**Math.** Participants who did not reach clinical significance for math difficulty were P6 and P8. P1, P2, P3, and P5 all followed a pattern of decreasing from clinical significance in the first and/or second tests to having average scores in follow-up. P1’s T-scores were 83, 71, and 56. This is a statistically significant change from administration one to administration two, as well as from administration two to the follow-up with only the follow-up score in the average range. P2’s scores of 70, 55, and 46 show a statistically significant decrease from the first administration to the second (also a change clinically) and from test two to follow-up. P3 had scores of 70, 70, and 51. The first and second administration scores just reached clinical significance but at follow-up there was a statistically significant difference, a decrease into the average range. P5’s scores of 86, 60, and 48 showed a continuous significant decrease from administration one to two and from two to follow-up. Only at administration one was this participant in the clinically significant range for Math problems. Both participants P4 and P7 had scores that increased from average level to within the clinically significant range at follow-up. P4 had scores of 52, 52, and 75, a statistically significant increase from administration two to follow-up that entered the clinical range. P7’s scores of 46, 43, and 71 showed the exact same pattern with the first two scores being stable and a significant increase in scores from test two to follow-up.
**Hyperactivity.** P2 and P8 did not have clinically significant scores on any of the Hyperactivity subtests. P1, P3, P4, P6, and P7 all had scores that increased from the average to clinically significant level, and P5’s score decreased from clinically significant to average. P1’s scores were 53, 58, and 78 indicating a statistically significant increase from test two to follow-up. P3 also followed this pattern with scores of scores of 61, 58, and 77. P4’s scores were 58, 44, and 77; a significant decrease was seen from administration one to administration two and a clinically and statistically significant increase in T-score was seen from administration two to follow-up. The scores of P6 are 47, 53, and 86; and P7’s are 47, 44, 71; these once again following the same pattern in which there is a stable average score in the first two administrations and a clinical and statistical significant increase from the second administration to the follow-up. P5 shows a different pattern than those above. His scores of 74, 47, and 61 show that P5 started out as having clinically significant scores for Hyperactivity that decreased significantly into the average range from test one to test two. From test two to follow-up P5 remained at average level, although his T-Score increased significantly.

**Social Problems.** The T-scores of P3and P7 for Social Problems followed the same pattern. P3’s scores were 40, 40, and 73 and P7’s scores were 51, 47, and 71; the levels of Social Problems were average at test administration one and two but from test two to follow-up there was a statistically significant increase into the clinical range. P2’s scores of 79, 74, and 78 show clinical significance with Social Problems across all test administrations and relatively stable T-Scores. P1, P4, P5, P6, and P8 all had scores which were not clinically significant.

**Perfectionistic and Compulsive Behaviours.** P1, P2, P5, and P6 had scores at all tests that were below clinically significant levels. P3 and P7 had average T-Scores for the first two administrations of the test; however, they had statistically significant increases into clinical significance from the second administration to the follow-up with scores of 46, 46, and 90, and 51, 45, and 81, respectively. In contrast, P4 had scores of 85, 56, and 46, indicating a clinically significant level of problems with Perfectionistic and Compulsive behaviours at the first administration of the test while at second administration a statistically significant decrease in scores was shown placing the participant in the average range. Upon the follow-up administration a score of 46, another statistically significant decrease, remains in the average range. Lastly P8’s scores of 85, 75, and 68 indicate high levels of clinical significance at the first two administrations, however, a statistically significant decrease in score occurred from administration one to administration two. Upon the follow-up administration a score of 68, a statistically significant decrease, places the participant in the average range.

**Violence Potential Indicator.** There were three different patterns for the Violence Potential Indicator T-scores. First, P4, P5, and P8 had no scores of clinical significance on any test administration. The second pattern was shown by only P2. His scores were 50, 73, and 57, a clinically significant score at second administration. The increase from test one to test two, and decrease from test two to follow-up were both statistically significant. The third pattern was shown by P1, P3, P6, and P7. P1’s scores of 50, 59, and 83 show average scores on the Violence Potential Indicator at first and second administration; however, at follow-up his score is in the clinically significant range. Both changes were statistically significant. P3’s scores were 49, 44, and 83, however, only the increase from test two to follow-up was statistically significant. Similarly P6 had scores of 55, 48, and 90, and P7 had scores of 61, 58, and 70.

**Physical Symptoms.** P2, P4, P5, P6, and P7 all had scores which were not clinically significant. P8’s scores of 87, 55, and 46 show clinical significance of Physical Symptoms upon the first administration of the test and a decrease at test two into the average range. From the
second test to the follow-up test another statistically significant decrease occurs. P1 and P3 had scores of 45, 45, and 90, and 46, 46, and 72, respectively. These scores show average levels of Physical Symptoms at the first two administrations of the test and a significant increase, from test two to follow-up, into the clinically significant range.

Symptom Scales

**ADHD Inattentive.** Only one participant, P5, scored as clinically significant on this scale. His scores were 75, 50, and 59 decreasing from the clinically significant range at the first administration to the average range at both the second and follow-up tests. There was a statistically significant decrease from test one to test two and a statistically significant increase from test two to follow-up. P1, P2, P3, P4, P6, and P7 had no clinically significant scores.

**ADHD Hyperactive/Impulsive.** Participants who were clinically significant for this symptom scale were P1, P5, and P6. P1 had scores of 53, 61, and 82 indicating average hyperactivity/impulsivity for the first two administrations of the test although there was a statistically significant increase from test one to test two. P1’s T-score at follow-up indicates that he is in the clinically significant range, this change also being a statistically significant increase. P6’s scores of 49, 55, and 72 follow the same pattern as P1, however, only the increase from administration two to follow-up was statistically significant. The scores of P5 were 72, 45, and 65. At first he scored above the level of clinical significance but his scores for the second two administrations decreased to average level. From administration one to administration two the decrease was statistically significant, while a statistically significant increase occurred from administration two to follow-up.

**Conduct Disorder.** The T-scores of every participant except P5 and P7 were at clinically significant levels for at least one of the administrations. P1’s scores were 59, 59 and 83, showing a stable and average score during the first two administrations and a statistically significant increase into the clinical significant range from administration two to follow-up. P3’s scores of 52, 45, and 76 follow a similar pattern, as do P6’s scores of 62, 46, and 82, the only difference being a statistically significant decrease for P6 from administration one to two. P2’s scores were 45, 73, and 57. These scores show that this participant’s symptoms of Conduct Disorder were average in the first administration but increased significantly into the range of clinical significance upon the second administration. From second administration to follow-up the scores show that the participant’s Conduct Disorder symptoms returned to the average range, the decrease being statistically significant. P4’s scores of 70, 53, and 45 show a clinically significant level of Conduct Disorder symptoms upon first administration which becomes average at the second administration with a statistically significant decrease. From second administration to follow-up the results remained average with stable scores.

**Oppositional Defiant Disorder.** Oppositional Defiant disorder is the only symptom scale in which every participant was clinically significant at one point. P1 had clinically significant scores across all three tests with scores of 77, 90, and 90. There was a statistically significant increase from administration one to administration two with stable scores from administration two to follow-up. P2 had scores of 54, 90, and 82. These scores show that at first administration he was average and that there was a statistically significant increase from first administration to second into the clinical range. From administration two to follow-up the scores remained stable in the clinically significant range. P3 had scores of 73, 54, and 90 which indicate that he had a clinically significant level of symptoms with Oppositional Defiant Disorder at first administration and that upon second administration his T-scores had dropped significantly to
average. At follow-up P3’s score had significantly increased to clinical significance once again. P4 had the same pattern with scores of 90, 54, and 78, as did P6 with scores of 72, 63, and 90. P5 had scores of 56, 48, and 89 indicating that his Oppositional Defiant Disorder symptoms were in the average level across the first two administrations but that there was a statistically significant decrease in scores from administration one to two. At follow-up his score had again reached clinically significant level which was statistically significant increase. P7’s scores on the administrations were 64, 74, and 90 which showed an average score on test one which statistically significantly increased into the clinical range upon the second test. From test two to follow-up he had a statistically significant increase and remained in the clinically significant range.

**Major Depressive Episode.** Only three of the eight participants in this study showed as having clinically significant scores on any of the test administrations. Those who did not were P2, P4, P5, and P6. P1 had scores of 44, 44, and 76 showing a stable average level of depression in the first two administrations. When the follow-up is compared to the second administration there was a significant increase into the clinically significant range. P3 with scores of 47, 47, and 75 and P7 with scores of 49, 49, and 76 had the same pattern of results as P1.

**Manic Episode.** P1’s T-Scores on the Manic Episode Symptom Scale were 54, 62, and 77. These scores indicate an average, stable pattern across the first two test administrations; however, at the follow-up administration his score of 77 shows a statistically significant increase into the clinical range. With scores of 53, 62, and 77, P3 follows the same pattern as P1, as does P7 with scores of 43, 43, and 86. P4 had scores of 87, 44, and 58. The first score indicates clinical significance at the first administration of the test. There was a statistically significant decrease into the average range upon the second administration. A statistically significant increase from test two to the follow-up test was seen; however, the scores remain average. The scores of P6 for Manic Episode were 44, 74, and 80, showing an average level at first administration followed by a statistically significant increase from the first administration to the second into the clinically significant range where it remained at follow-up. P2 and P5 did not have clinically significant T-scores.

**Generalized Anxiety Disorder.** P2 and P5 did not have clinically significant scores on any of the test administrations for Generalized Anxiety Disorder. P1 had average scores on the first and second administrations, (56 and 53, respectively) and at the third administration his score rose significantly to a score of 90 in the clinical range. P3 had scores of 71, 67, and 90. From the first administration to the second his score decreased from clinical significance to average, however, the change was not statistically significant. From the second administration to the third his T-score returned to clinical significance, a statistically significant increase. P4’s scores of 75, 61, and 67 decreased with statistical significance from administration one to administration two and from clinical significance to average level. The score remained stable at an average level from the second administration to the third. Forty-five, 66, and 81 are P6’s T-scores for Generalized Anxiety Disorder. These scores indicate a statistically significant increase in scores from administration one to two; however, they remain at the average level. When comparing administration two to administration three, the participant had a statistically significant increase in scores entering the clinical range. Lastly P7 had scores of 60, 49, and 87. Both administration one and two were in the average range for this scale; however, there was a statistically significant decrease from administration one to administration two. When comparing administration two to administration three, there was a statistically significant increase in scores into the range of clinical significance.
**Social Anxiety Disorder.** The majority of the participants, P2, P4, P5, P6, and P7 did not have clinically significant scores on this scale. P1 had scores of 45, 45, and 73. These scores indicate stable and average level scores on the first two administrations and a statistically significant increase from administration two to the follow-up administration. At follow-up the participant was in the clinically significant range. P3’s scores were 48, 90, and 47, which show an average level of impairment with Social Anxiety Disorder symptoms at the first administration. By the second administration the T-scores increased significantly and fell in the clinically significant range. From administration two to the follow-up administration his score significant decreased, returning to average level.

**Social Phobia.** Only one of the participants in the study had clinically significant results on this scale. P1’s scores were 52, 43, and 90. His scores were average and stable across the first two administrations; however, upon the follow-up administration his score had significantly increased into the clinically significant range.

**Obsessive Compulsive Disorder.** P2, P4, P5, and P7 did not have clinically significant scores on any of the administrations of the scale. P1 had scores of 45, 45, and 90 indicating stable and average scores for the first two administrations and a statistically significant increase in score from administration two to follow-up into the clinically significant range. P6’s scores of 46, 57, and 70 followed a similar pattern except that there is a statistically significant increase from administration one to two. P4 had scores of 90, 47, and 47 indicating that this participant had a clinically significant level of symptomatic behaviour at first administration with a statistically significant decrease at administration two into the average range. From administration two to follow-up the scores remained average and stable.