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# EXAMNING THE IMPACT OF RESIDENTIAL TREATMENT: THE RELEVANCE OF FAMILY INVOLVEMENT, PARENTAL STRESS, AND THE HOME ENVIRONMENT

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# EXAMNING THE IMPACT OF RESIDENTIAL TREATMENT: THE RELEVANCE OF FAMILY INVOLVEMENT, PARENTAL STRESS, AND THE HOME ENVIRONMENT

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Abstract

Residential treatment is the most intensive and expensive form of treatment a youth can undergo. Hence the current study examined long-term treatment outcomes from a family systems perspective. Parental reports on family functioning indicators, and youths emotional and behavioural problems (n = 68) were collected at admission, 6-months and 2-years post-discharge. Parental stress was measured at admission and discharge. The frequency of youths' emotional and behavioural problems decreased from admission to 2-years post-discharge. Improvements were also reported in parental and family functioning indicators. Higher parental stress at admission was linked to youth experiencing more frequent emotional problems. Also, living in a positive home environment was related to fewer behavioural and emotional problems post-discharge. Clinical relevance, policy implications, limitations, and future directions are discussed. Overall, findings suggest the importance of providing residential treatment and after-care services that are family-focused.

Keywords: residential treatment, long-term outcomes, family systems factors

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## Objectives

Despite the fact that residential treatment is the most intensive and expensive form of treatment a child or adolescent can undergo, there is relatively little research on its long-term outcomes, or effectiveness. Within the limited amount of literature available on long-term outcomes of residential treatment, results are mixed and treatment gains are not maintained for all children (Frensch & Cameron, 2002). To date there is little known regarding who the children are that do not maintain treatment gains, and the potential impact of the context of the out-of-treatment environment to which they return. To aid in the progression of knowledge, the goals of the current research were to examine: (1) the short-and long-term outcomes of residential treatment, (2) if family system variables influence, or are linked to, whether residential treatment gains are maintained post-discharge, and (3) whether residential treatment produces any changes in parental and family functioning indicators.

## Literature Review

There is a wide array of services available through the children's mental health treatment system. Typically, when a child is first identified as having a mental health concern, they are provided with an out-patient or community based service. However, out-patient services are not effective for all children, and some children require treatment that involves taking them out of their home environment (Hair, 2005). When possible, children and youth who require out-of-home treatment are placed initially in the least restrictive level of care possible (Dale, Baker, Anastasio, & Purcell, 2007). Nonetheless,

more restrictive and intensive care (Hair). As a result, these high-needs children may undergo residential treatment.

Residential treatment is the most intensive and expensive form of treatment a child or adolescent can undergo. For many children and youth, it is seen as a "last chance" or "last resort" (Frensch & Cameron, 2002; Knorth, Harder, Zandberg & Kendrick, 2008; Landsman, Groza, Tyler, & Malone, 2001). Children in residential treatment typically have numerous emotional, behavioural, school and social problems (Frensch & Cameron). A large percentage of children in residential treatment reveal a history of abuse, neglect, family dysfunction, parental violence, and/or parental alcohol abuse (Connor, Doerfler, Roscano, Volungis, & Steingard, 2004; Hussey & Guo, 2002). In addition, the rates of psychiatric disorders among children and adolescents in residential treatment far exceed prevalence rates for comparable samples from community settings (Connor et al.). Consequently, residential treatment is seen as an integral, necessary service for high-needs children and adolescents (Hair, 2005). Although descriptive research is necessary to understand who the children are that undergo residential treatment, such research does not provide information on treatment outcomes. In addition, such research does not provide information on what happens to children after they are discharged and return to their families in the community. Thus, methodologically rigorous research examining initial and long-term outcomes of residential treatment is needed to address the use of this expensive and intensive form of treatment (Hair; Frensch & Cameron).

*Outcomes of Residential Treatment*

Despite the importance of residential treatment in children's mental health, there is relatively little research on the outcomes or effectiveness of residential treatment (Fields, Farmer, Apperson, Mustillo & Simmers, 2006; Bates, English & Kouidou-Giles, 1997). This is particularly problematic considering the high costs and intensive nature of residential treatment. Studies designed to examine residential treatment outcomes tend to yield inconsistent results and are subject to numerous methodological limitations (Bates, et al.). However, outcome studies that are available do tend to suggest that residential treatment produces improvements at discharge (Frensch & Cameron, 2002; Knorth et al., 2008; Leichtman, Leichtman, Barber & Neese, 2001; Lyons & Schaefer, 2000).

Lyons, Terry, Martinovich, Peterson and Bouska (2001) examined outcome trajectories for adolescents aged 12 to 17 in multiple residential treatment centres. These authors reported that although adolescents did show improvements overall, there were significant differences between the symptoms that improved and those that did not. During the course of treatment there were significant decreases in at-risk behaviours, depressive symptoms, and psychotic symptoms with adolescents demonstrating improved sleeping and eating habits. However, symptoms of anxiety and hyperactivity showed an increase during the course of treatment. This research demonstrated the importance of separating symptom domains when analyzing residential treatment outcomes. Given these outcomes, the current research examined changes in both behavioural and emotional problem indicators.

One limitation of this research is the lack of representativeness of the younger population in the sample studied. Research has shown that younger children enter residential treatment with a different, often more serious set of symptoms (Baker, Archer,

& Curtis, 2005; Hussey & Guo, 2005). Thus, research examining outcome trajectories of residential treatment should include children of all ages. Although this research builds on the descriptive research described above, the question remains whether benefits are maintained when children leave residential treatment and return to the community. If treatment gains are not sustained, then from a practical view, treatment can be considered of only limited success. Thus, it is imperative that future research on the outcomes of residential treatment include measures post-discharge to determine whether treatment gains are maintained in the community.

A recent meta-analysis by Knorth et al., (2008) examined the effectiveness of residential treatment with children and adolescents who have serious behavioural and emotional problems. Twenty-seven pre-post and quasi-experimental design studies were included into this meta-analysis. Children in residential care showed medium to large improvements for externalizing problem behaviours. There were also improvements concerning internalizing problems, however the effect size was smaller relative to externalizing and general problem behaviour indicators. Thus, it appears that residential treatment may be more effective at reducing externalizing versus internalizing behavioural problems (Knorth et al.). The follow-up periods for the pre-post studies included in the meta-analysis were relatively short, averaging three to four months post-discharge. Thus, it still remains unclear whether or not treatment gains are maintained long-term.

Leichtman et al. (2001) examined the outcomes of intensive short-term residential treatment from pre-treatment to one-year post-discharge in a sample of adolescents aged 11 to 18 years. With this methodology these authors examined the maintenance of

improvements made in residential treatment over time. In this study, Leichtman et al. found clinically significant improvements in internalizing and externalizing symptoms and functioning indicators three months post discharge. In addition, these improvements were sustained one-year post-discharge. Although this research examined post-discharge measures, there are still limitations and lingering questions to be considered.

First, as in the study by Lyons et al. (2001), the sample did not include younger children. Second, although collecting data one-year post-discharge is more informative than a strictly pre-post treatment design, a longer-follow-up period would provide more convincing evidence on the long-term effectiveness of residential treatment. Third, even though there were clinically significant changes in symptoms, there were also a large percentage of children who did not show reliable improvement (Leichtman et al. 2001). Knowing that some children do not improve in residential treatment is an important piece of information. In addition, other bodies of research have noted that treatment gains are not *maintained* for all children (Frensch & Cameron, 2002), yet little is known concerning who those children are, or the context of their out-of-treatment environment. A fourth limitation common to all of the aforementioned literature is that research fails to examine whether there are any changes in parental, family or child-parent functioning, which may relate to youth's residential treatment outcomes. The aforementioned meta-analysis also notes that little research examines the impact residential treatment has on the family situation of children who undergo residential treatment (Knorth et al., 2008). Such information would provide a greater ecological understanding of factors that influence short- and long-term residential treatment outcomes, as well as the positive changes that are possible through residential treatment.

Green and colleagues (2007) also examined outcome trajectories from admission to 1-year post-discharge for children and adolescents aged 3 to 17 in eight different inpatient treatment units. With an average length of stay in treatment of 16 weeks, or 4 months, the youth showed health improvements as rated by multiple informants at time of discharge, and such gains were maintained 1-year post-discharge. Predictors of health improvements at discharge included having a longer length of stay and the existence of a positive relationship between the youth and ward staff. Predictors of health improvements at follow-up included improved family functioning at admission and having parents agree or collaborate with their child's treatment. Methodologically, this study demonstrates some improvements over some of the aforementioned research, as a large age range of youth was utilized and predictors of residential treatment outcomes were also examined. However this study is limited in some respects, such as the length of follow-up and lack of information regarding any changes in parental or family functioning indicators.

The primary goal of the current study was to examine possible variables related to the trajectory of change for children in residential treatment from pre-program admission to 2-years post-treatment. Identifying factors that are linked to positive and negative residential treatment outcomes may help practitioners decide which children and families require continued treatment or services upon discharge. Outcome measures will include behavioural and emotional problem indicators. Specifically, the current study will examine how a variety of relevant family systems variables relate to children's initial treatment outcomes, and the long-term maintenance of treatment gains.

*Family Variables*

It is important to examine residential treatment outcomes from an ecological or family systems perspective, as treatment influences not only the child, but in many cases, the family as well. An ecological perspective takes into consideration the dynamic interconnections between a person and the environment in which they live (McDonald, Poertner & Pierpont, 1999). Also, according to family systems theory, all members in the family unit are interdependent and influence each other in a way that affects the functioning of the family as a whole (Hughes & Gullone, 2008). Thus, humans are not independent beings, but grow, change, and develop in the context of others. In addition, when a child or adolescent is discharged from residential treatment they typically return to a family or similar social context. Hence, successful adjustment upon discharge from residential treatment partly depends on the post-treatment environment to which a child or youth returns (Frensch & Cameron, 2002). Therefore, understanding how variables associated with one's family or out-of-treatment environment relate to residential treatment outcomes is necessary to provide a more in-depth understanding of those who are more likely to maintain residential treatment gains post-discharge.

A study by Blader (2006) examined the relationships among various family system variables and children's externalizing behaviours following discharge from a psychiatric inpatient hospital in a sample of children aged 5 to 13 years old. Participants were assessed at admission and 3-, 6-, and 12-months post-discharge. Changes over time in children's externalizing behaviours and family variables, the relationship between parents' reports on family variables at admission and post-discharge outcomes, and the relationship between parents' reports on family variables post-discharge and post-discharge outcomes were examined. Results showed that parents reported fewer youth

behavioural problems at 3-months post-discharge, and that these gains were maintained at 1-year post-discharge. In addition, there were documented improvements in a variety of family variables such as parental stress, family cohesion, family control, caregiver strain, and parenting variables. Parental involvement, low parental monitoring and parental distress symptoms were all found to be predictive of post-discharge outcomes, and multiple family variables were associated with child behaviour problems when measured concurrently with outcome data (Blader). Thus, family system variables were both predictive of post-discharge success and concurrently related to post-discharge outcomes.

Although the above study provides a strong basis for the current research, there are some relevant limitations and significant differences, especially in regards to the residential treatment centre under examination. First, the follow-up period was 1-year long, and therefore may not provide strong enough evidence of the long-term outcomes of residential treatment. Second, all children were from an inpatient unit of a psychiatric hospital. In addition, the median length of stay for children and adolescents in the aforementioned study was only 13 days. Thus, this population may be significantly different from a sample of children and youth who were admitted to a residential treatment centre and remained in the centre for an average of four months. Also, the treatment children and their families receive in an inpatient psychiatric ward of a hospital for 13 days would likely be quite different than the intensive multidisciplinary treatment children and their families receive in a residential treatment centre. Lastly, the study by Blader (2006) only examined changes in externalizing problems where the current study examined changes in both externalizing and internalizing problem indicators.

*Family Related Factors Linked with Post-Discharge Outcomes*

Considering that residential treatment produces significant improvements for some, but not all youth, and that treatment gains are not maintained for all youth (Frensch & Cameron, 2002; Hair, 2005), it is important to identify reliable predictors for those who maintain gains after discharge. Parental involvement, post-discharge stability (Frensch & Cameron; Hair), pre-admission behavioural problems (Gorske, Srebalus & Walls, 2003), length of stay (Fields et al., 2006; Hoagwood & Cunningham, 1992; Hussey & Guo, 2002), and pre-admission family dysfunction (Green et al., 2007) have been shown to predict residential treatment outcomes. The current research will examine whether family involvement in treatment and parent's reports on parental-stress are linked to residential treatment outcomes, and whether any treatment gains are maintained 2-years post-discharge.

*Family involvement.* When a child attends residential treatment, it is critical for their family to be connected for success within the treatment process. Children who attend residential treatment programs that are family focused and involve family members are more effective at producing positive long-term outcomes compared to residential treatment programs that are not family-focused (Landsman et al., 2001). In addition, family visits during residential treatment have been shown to be predictive of whether youth complete treatment (Sunseri, 2001). In a recent review, Hair (2005) noted that although initial outcome measures show that residential treatment is effective, treatment effects appear to decline over time. A focus of this review was to determine which factors increase the likelihood that positive changes occur for children after they leave residential treatment. Hair demonstrated that one key factors associated with post-discharge changes is family involvement in treatment. A review by Frensch and Cameron (2002) also found

that the level of family involvement in treatment is predictive of post-discharge patterns of adjustment. One aim of the current research is to replicate this finding using caregivers own perceptions of their level of involvement in treatment. In addition to how involved a family is in their child's treatment, there are other factors inherent to one's family that may be linked with residential treatment outcomes.

*Parental stress and parent-child interactions.* Experiencing stress can significantly influence how one feels and acts throughout their day. Stress is also considered role specific, in that someone can feel stressed regarding a specific situation or role in their life (Creasy & Reese, 1996). One role in life that is inherently stressful is parenting. However the degree to which someone feels stressed in their parenting role will differ among individuals. Deater-Deckard (1998) defined parenting stress as "the aversive psychological response to the demands of being a parent" (p. 315). When a parent is feeling a lot of stress related to their parenting role or tasks, the way in which they respond and interact with their child will be negatively affected. A caregiver who is feeling highly stressed in their parenting role is more likely to react negatively towards their child, which may relate to the child exhibiting more behavioural problems (Creasy & Reese, 1996). Hence, the relationship between parenting stress and child behavioural problems seems to be bi-directional and cyclical. Parental stress is also related to using poorer parenting practices, such as being less responsive, more authoritarian and more reactive (Deater-Deckard). In addition, parental stress is related to the development of dysfunctional parent-child interactions or relationships (Abidin, 1995; Deater-Deckard).

Empirical research has shown that there is a relationship between parental stress and behavioural problems in children, such that parents who report greater parental stress also

report more externalizing behavioural problems in their children (Barry, Dunlap, Cotton, Lockman & Wells, 2005; Feldman, Hancock, Rielly, Minnes & Cairns, 2000). Hence parents' reports on their level of stress may be linked to long-term residential treatment outcomes, such that greater parental stress may predict those who are less likely to maintain treatment gains up to 2-years after leaving CPRI. In addition, parents self-reported stress levels will likely differ at admission compared to discharge, and may each relate differently with long-term treatment outcomes. Therefore examining how, and whether, parental stress at admission and discharge relate to post-discharge treatment outcomes will be examined. Understanding whether a caregivers level of parental stress is linked to residential treatment outcomes may help clinicians determine which youth are most likely to maintain treatment gains, and the types of support services that are required for children and families during and after treatment.

Although previous research has examined a variety of variables linked with post-discharge success, little research has examined how the context of a child's out-of-treatment environment influences whether or not residential treatment gains are maintained. Hence, family system variables inherent to the out-of-treatment environment will also be examined to determine how, and if, they influence treatment outcomes. Examining the out-of-treatment environment will provide a more ecological understanding regarding the children who are more likely to maintain treatment gains post-discharge.

*The Context of the Out-of-Treatment or Family Environment*

After a child is discharged from residential treatment and returns to the community, the context of their home environment may influence treatment gains. Specifically, children's

post-discharge success may rely partly on the interactions they experience on a daily basis once leaving residential treatment. From an ecological standpoint, the long-term success for children's mental health and psychosocial development is linked in their family and social environment (Borduin, Mann, Cone, Henggeler, Fucci, Blaske et al., 1995; Landsman et al., 2001). Thus, when examining possible factors related to the trajectory of change for children and adolescents in residential treatment, it is imperative that those factors include family system variables. In addition, Hair (2005) notes that a key factor in whether or not treatment gains are maintained is the stability of the place a child goes to live upon discharge. Hence, those children who are discharged from residential treatment into more stable and positive home environments may be more likely to exhibit positive treatment gains at 6-month post-discharge and may be more likely to maintain any treatment gains 2-years post-discharge. Homes that are more stable and positive will be characterized in the current study by families where the caregivers report lower parental depression, using more positive discipline practices, greater family functioning, and that their child impacts their family less. Although these variables are likely related, they may each also relate independently to treatment gains post-discharge.

*Parental depression.* Depression greatly influences many aspects of one's life, and the life of those around them. When someone is experiencing depressive symptoms they typically have a loss of interest and pleasure in daily activities, have difficulties concentrating, and feel deep sadness and dejection (Butcher, Mineka & Hooley, 2004). These feelings also influence how one behaves and interacts in social situations. For example, people experiencing depression speak less in social situations (Downey & Coyne, 1990). Given the influence that depression has on one's life, it is not surprising

that depression also influences how one parents and interacts with their child (Tatano, 1999). Considering that females are more likely to experience depression compared to males, and that maternal depression has a greater negative effect on children (Leschied, Chiodo, Whitehead & Hurley, 2005), most research on parental depression is conducted with mothers. Mothers who are experiencing depression are less emotionally responsive (Feng, Shaw, Skuban & Lane, 2007), warm and sensitive towards their children (Hoffman, Crnic & Baker, 2006; Tatano), and use more harsh and hostile discipline practices (Downey & Coyne). Also, mothers who are experiencing depressive symptoms are less able to "promote the acquisition of skills necessary for successful emotion regulation" (Hoffman et al., p. 272), and provide children with a consistent environment (Tatano). In addition, children who are living in a home with a parent who is experiencing depression are more likely to be exposed to a number of other stressors, such as greater family conflict, parental stress (Cicchetti, Rogosch & Toth, 1998), marital conflict, and divorce (Downey & Coyne). Thus, a family context where parental depression is present is more likely to feel chaotic and less warm and consistent for a child than a family environment where parental depression is not present.

Previous research has examined the relationship between parental depression and children's psychosocial development. Children with parents who are experiencing depression generally display more internalizing or emotional problems, such as depression and anxiety (Downey & Coyne, 1990; Hammen & Brennan, 2003) and externalizing or behavioural problems (Brennan et al., 2000; Feldman et al., 2000), such as conduct problems (Hamen & Brennan; Tatano, 1999). Children with caregivers who are depressed are also more likely to develop insecure attachments (Cicchetti et al.,

1998), be aggressive (Barry et al., 2000), be diagnosed with attention deficient hyperactive disorder, and have an adjustment disorder (Leschied et al., 2005). Hence, it is clear that parental depression is negatively related to children's psychosocial development, behaviours and emotions. Therefore, children who upon discharge are living with caregivers who report lower parental depression may be less likely to exhibit behavioural and emotional problems at 6-months and 2-years post-discharge. As mentioned above, depression also greatly influences ones parenting or discipline practices, which may also influence treatment gains post-discharge.

*Discipline practices.* Even though parenting plays a pivotal role in the development of child mental health difficulties (Blader, 2006; Hutchings & Lane, 2005), little research has been conducted examining how discipline practices relate to residential treatment outcomes. Parenting practices influence the development of conduct disorder and behavioural problems (Hutchings & Lane; Hester, & Kaiser, 1998; Loeber & Farrington, 2000), which are common among children and adolescents in residential treatment (Connor et al., 2004; Leichtman et al., 2001). Parenting programs designed to improve parenting skills are effective at reducing child behavioural problems (Dadds & Sanders, 2006; Sanders, 1999). Thus, it is clear that parenting plays a major role in the maintenance or prevention of child behavioural problems. Parents who engage in positive discipline practices act in a caring, warm and consistent manner, use less harsh, punitive discipline strategies, and will also engage in more positive parent-child interactions (Sanders). Blader (2003) found that harsh parental discipline practices predicted re-admission into an inpatient psychiatric hospital in a sample of children aged 5 to 12. Therefore, discipline practices may also relate to post-discharge residential treatment

outcomes, and the long-term maintenance of treatment gains. More specifically, children who upon discharge are living with parents who report using fewer harsh discipline practices may be less likely to exhibit behavioural and emotional problems at 6-months and 2-years post-discharge.

*Family functioning.* How a family is functioning may also influence whether treatment gains are maintained once a child leaves residential treatment and returns to their family. Families with healthier functioning will provide more support to each other, have stronger relationships, and will use more effective problem solving and communication skills (Cunningham, Pettingill & Boyle, 2006). Thus, families with more positive family functioning are characterized by displays of higher cohesion and warmth. Green and colleagues (2007) found that family dysfunction at time of admission predicted better outcomes for youth one-year post-discharge, such that those with greater family dysfunction at admission were less likely to maintain treatment gains one-year post-discharge. In addition, family cohesion post discharge is related to fewer behaviour problems in children one-year after discharge from psychiatric inpatient treatment (Blader, 2006). Thus, it is expected that children who return to homes where caregivers report positive family functioning will be less likely to exhibit behavioural and emotional problems at 6-month post-discharge, and will be more likely to maintain any treatment gains up to 2-years post-discharge.

*Global Family Situation.* The global family situation greatly depends on the behaviours and actions of each member of that family. The global family situation is determined by caregiver's perceptions of their child, and how much they perceive them to be negatively influencing their social life or being a source of stress and conflict within the family

(Cunningham, Pettingill & Boyle, 2006). When family members believe a child creates anxiety and conflict in the family, it may negatively influence that child's emotions and behaviours. Similarly, a child who is exhibiting greater emotional and behavioural problems may be perceived by their family members as creating more stress and conflict within the family. Hence, the relationship is likely bi-directional and cyclical. Thus it is expected that children who return to homes with caregivers who perceive them as a source of anxiety and conflict will exhibit more behavioural and emotional problems at 6-months and 2-years post-discharge.

*Impact of Residential Treatment on Family and Parental Functioning*

Research reviews on the outcomes of residential treatment (Bates et al., 1997; Frensch & Cameron, 2002; Hair, 2005) demonstrate that the majority of research tends to focus primarily on treatment effects of children's mental health functioning, and fails to acknowledge whether residential treatment produces any improvements or changes in caregiver/family functioning or parenting behaviours. A recent meta-analysis (Knorth et al., 2008) also notes that studies ignore whether residential treatment impacts the family situation of the admitted youth, referring to this concern as a "missing link" in the literature. This is problematic, since according to family systems perspectives, individuals are best understood by assessing the interactions among family members (Corey, 2005). In addition, one's behaviour is greatly influenced by others (Henggeler, 1999), and the quality of one's family life is essential to a child's well-being (Sanders, 1999). Hence, it is likely that changes in family and parent functioning will also relate to long-term residential treatment outcomes for children and adolescents. Considering that many children return to their families upon discharge, it is also important to know whether

changes occur within family and parental functioning. This is especially true considering that the residential treatment centre under examination in the current study is a child and family treatment centre, and may also produce positive changes within parents and the family as a whole.

Therefore, the current research will examine how family system factors (i.e. discipline practices, parental depression, family functioning, global family situation) relate to children's initial treatment outcomes and the long-term maintenance of treatment gains. In addition, the current research will add to the progression of knowledge by examining the trajectory of change of parental depression, family functioning, discipline practices and how much the child is impacting the family situation from admission to 2-year post-discharge. Considering that effective residential treatment is family focused (Landsman et al., 2001), it is expected that residential treatment will coincide with some positive outcomes in parental and family functioning indicators post-discharge. However, given the very limited research available on whether residential treatment produces any changes in parent and family functioning, this question will remain a post-hoc component in the current research.

*Research Design and Hypotheses*

The current longitudinal study examined the effectiveness of a residential treatment program with a clinical sample of children ages 6 to 16 from admission to 2-years post-discharge. Youth behavioural and emotional problems, which are the primary outcome measures of interest, as well as various family functioning indicators, were measured at admission, 6-months post-discharge, and 2-years post-discharge in a three-wave longitudinal design. In addition, measures of parental stress and family involvement

were included in the analysis both are thought to be predictive of post-discharge outcomes. The following predictions were made:

Hypothesis 1: Children with caregivers who report being more involved in treatment will show improved treatment outcomes at 6-months and 2-years post-discharge, and will be more likely to maintain any treatment gains, compared to those with caregivers who report a lower frequency of involvement in treatment.

Hypothesis 2: Children with caregivers who report lower parental stress will show improved treatment outcomes at 6-months and 2-years post-discharge, and will be more likely to maintain any treatment gains, compared to those with caregivers who report higher parental stress.

Hypothesis 3: Caregivers' reports on factors that characterize a positive home environment will be simultaneously related to treatment outcomes at 6-months and 2-years post-discharge, such that children residing in a home reported by their caregiver as more positive with show improved treatment outcomes post-discharge compared to those residing in a home reported by caregivers as less positive.

Post-hoc Hypothesis 1: The current research will also examine whether residential treatment produces any changes in family functioning, parental depression, parental discipline, and global family situation from admission to 6-months post-discharge, and whether any changes produced are maintained 2-years post-discharge.

## Method

The current research was conducted with existing data that were collected as part of a larger project carried out at the Child and Parent Resource Institute (CPRI) in collaboration with The University of Western Ontario. This method section only included

information that is directly relevant to the current study. For more detail on the larger study, see St.Pierre, Leschied, Stewart and Cullion (2008).

*Participants*

Participants consisted of 98 children and adolescents ranging in age from 6 to 16 ($M$ = 11.23) who were consecutively admitted to CPRI between October 2002 and July 2005. All youth were discharged to a family environment and were living in a family environment at 2-years post-discharge. Of the 98 youth, 81% were males and 19% were females. The median family income per year in Canadian dollars ranged from $30,000 to $40,000. Forty-one percent of the caregivers were single parents, 57% reported themselves as having a spouse or partner, and the remainder did not answer the question. With regards to caregivers self-reported education levels, 14% had some secondary education, 26% had completed secondary school, 13% had some college, 28% had completed college, 6% had some university, 8% had completed university and the remainder choose not to answer the question. Ninety-seven percent of the caregivers reported that the children spoke English and the remaining 3% did not answer the question. Participants length of stay at CPRI ranged from 31 to 401 days ($M$ = 120 days). A review of 14 randomly selected casebooks was conducted to determine whether or not family members were involved in the monthly plan of cares. Of those 14 cases, 12 were identified as having caregivers involved in the plan of care 100% of the time. Thus family involvement during the plan of cares was very high for this sample.

Prior to being admitted to CPRI, the age at which the youth had their first mental health encounter ranged from 1 to 13 years old ($M$ = 6.32). Although children and youth are assessed and may be given diagnoses during their stay, many already had one or more

diagnoses prior to their stay at CPRI. The number of diagnoses youth had prior to their stay at CPRI ranged from 0 to 5 ($M = 1.52$). The type of the first recorded diagnoses varied greatly, although the most common was ADHD, with 43% of the children being given this diagnosis as their first diagnosis. When categorizing the youth's first recorded diagnoses, 32% had co-morbid diagnoses, 1% had primarily social concerns, 7% had primarily cognitive concerns, 52% had behavioural problems, 4% had emotional problems, 1% had primarily developmental concerns, and 1% had no prior diagnoses. More information regarding the sample can be seen in Table 1.

Table 1

*Descriptive Sample Statistics on Information Gathered from the Families at Time of Admission*

| Question | Yes | No |
|---|---|---|
| Did the youth reside out of the home prior to their stay at CPRI | 58% | 42% |
| Has the youth stayed in a mental health facility prior to their stay at CPRI | 44% | 56% |
| Does the youth have any involvement with the Law | 39% | 61% |
| Was there any involvement with CAS at time of admission | 34% | 66% |
| Was the youth given a formal diagnoses prior to their stay at CPRI | 98% | 1% |
| Was the youth on medication before he or she came to CPRI | 91% | 8% |

The sampling procedure used is a consenting convenience sample. This sampling method was useful for the current research as it provides an accessible population relevant to the research questions of interest. The sample is representative of high-needs children and youth who undergo residential treatment at CPRI. Over the three-waves, 30 cases were lost due to attrition. There were 98 cases at admission, 68 cases at 6-months post-discharge, and 98 cases at 2-years post-discharge. Thus all attrition occurred at the

second wave, or 6-months post-discharge. There were no significant differences on any of the dependent or independent variables at time of admission between those who were lost due to attrition and those who remained in the study over the two years. Listwise deletion was employed for the analyses. Thus, this study included a total sample of 68 youth. However, within the 68 participants who completed the primary outcome measures at all three waves (i.e., emotional and behavioural problem subscales of the Brief Child and Family Phone Interview (BCFPI), not all completed measures examining the various family systems variables pertinent to the current study. The number of participants who completed each measure on the BCFPI, other than behavioural and emotional problem measures, can be seen in Table 2.

Table 2

*Number of participants who completed BCFPI subscales that correspond with family systems variables at each wave, and at all three waves.*

| BCFPI Subscale | Admission | 6-months post-discharge | 2-years post-discharge | Across waves |
|---|---|---|---|---|
| Parental Discipline | 81 | 64 | 98 | 49 |
| Family Functioning | 54 | 37 | 57 | 34 |
| Global Family Situation | 86 | 64 | 76 | 42 |
| Parental Depression | 57 | 66 | 95 | 38 |

*Characterizing the Intervention: The Child and Parent Resource Institute*

The residential treatment centre providing the context for evaluation in the current research is the *Child and Parent Resource Centre* (CPRI) located in London Ontario. This treatment centre provides services for children in 17 counties in south-western

Ontario. CPRI is considered a tertiary care mental health service and provides many treatments for children, such as psychiatric treatment, individualized therapy, family interventions, and special education classes (St. Pierre & Leschied, 2006). In addition, the children also undergo specialized multidisciplinary assessments during their stay at CPRI (St. Pierre & Leschied). CPRI is a short-term residential treatment centre, as the program is designed so that children have short length of stays. The average length of stay at CPRI for the current sample was 120 days, or approximately 4 months. When possible, families are involved in their child's treatment and caregivers participate in monthly plans of care. When completing the monthly plans of care, goals for the child and family are put into place. Through a random selection of 14 casebooks it was found that families were involved in all plans of care 86% of the time. Thus the large majority of families do indeed participate in the plans of care. In addition, during the course of stay at CPRI children return to their homes on the weekends. Thus, CPRI is more accurately referred to as an inpatient child *and* family treatment centre. Although the term 'residential treatment' will continue to be used in the remainder of the paper, it must be noted that for the purposes of the current research, the term residential treatment refers to multidisciplinary inpatient psychiatric and school-based intensive treatment.

In order for a child or adolescent to be referred to CPRI, they must have not been successful in previous less invasive treatments. When children and adolescents are not successful in less invasive treatment services, all youth are referred to a central assessment coordinating body in their home community. This group assess him or her with standardized assessment measures, and decisions are then made whether the youth should be referred to CPRI. Thus a child is only referred to CPRI if they could not be

successfully treated in their home environment, or if all less invasive services proved not to be a good fit for the child. Children and adolescents who attend CPRI are referred because of severe social, emotional, learning and behavioural problems. However, the majority are referred for behavioural problems or aggression, and thus participants consisted of high-needs children and youth.

*Measures*

*Family Involvement.* How involved a caregiver was in their child's treatment was measured with one question from the CPRI Satisfaction Questionnaire, which was completed at discharge. The question used was "I was involved in setting treatment goals prior to my child's residential stay" This question is rated on a 5 point scale from 1 *(Strongly Agree)* to 5 *(Strongly Disagree)*, where lower scores indicate greater family involvement in treatment. This question will provide information regarding caregiver's perceptions of their involvement in setting treatment goals.

*Brief Child and Family Phone Interview.* The Brief Child and Family Phone Interview (BCFPI) (Cunningham et al., 2006) is a structured interview with parents that assesses child and family mental health and functioning indicators (Appendix A). The BCFPI is based on Ontario norms, and is currently being used by mental health providers, school-boards, correctional settings, intake sites and researchers. In addition, the measure is similar to the commonly used Achenbach Child Behaviour Checklist (St. Pierre et al., 2008). The current research examined the externalizing, internalizing, family functioning, parental discipline, parental depression, and global family situation scales of the BCFPI. The BCFPI is a reliable measure and demonstrates content and concurrent validity with children ages 3 to 18 in both general population and clinical samples (Cunningham et al.

2006). Thus, the BCFPI is appropriate to use with the current clinical sample of children and adolescents in residential treatment.

*Behavioural Problems.* The 18-item externalizing scale of the BCFPI was used to assess child and youth behavioural problems. The externalizing scale is composed of three subscales: regulation of attention, impulsivity and activity, cooperativeness and conduct. The scale asks primary caregivers to indicate how true a given statement is of their child on a 3-point scale from 0 (*Never true)* to 2 (*Often true),* where higher scores indicate greater behavioural problems. Sample items include "jumps from one activity to another" and "is defiant or talks back to adults". The mean raw score of all items was used as the measure of Behavioural Problems. This scale had acceptable reliability, measure by Cronbach's alpha, ranging from $\alpha = .77$ to $\alpha = .90$ across waves, average $\alpha = 0.86$.

*Emotional Problems.* The 18-item internalizing scale of the BCFPI was used to assess child and youth emotional problems. The internalizing scale is composed of three subscales: separation from parents, managing anxiety, and managing mood. The scale asks primary caregivers to indicate how true a statement is regarding their child on a 3-point scale from 0 (*Never true)* to 2 (*Often true),* where higher scores indicate greater emotional problems. Sample items include "worries that bad things will happen to loved ones" and "gets no pleasure from usual activities". The mean raw score of all items was used as the measure of Emotional Problems. This subscale had acceptable reliability ranging from $\alpha = .80$ to $\alpha = .88$ across waves, average $\alpha = 0.85$.

*Family Functioning.* The 6-item family functioning scale of the BCFPI was used to assess the level of family functioning. The scale asks primary caregivers to indicate how

much they agree with statements about their family on a 5-point scale from 1 (*Strongly agree)* to 5 (*Not Applicable),* where higher scores indicate poorer family functioning or dysfunctional family relationships. In the current sample of youth no one reported a score of 5 to any of the family functioning questions. Thus the scale for the current study is more accurately portrayed as a 4-point scale from 1 (*Strongly agree)* to 4 (*Strongly disagree).* Sample items include "in times of crises we can turn to each other for support" and "we are able to make decisions about how to solve problems". The mean raw score of all items was used as the measure of Family Functioning. This subscale had acceptable reliability ranging from $\alpha = .82$ to $\alpha = .85$ across the waves, average $\alpha = 0.84$.

*Parenting Practices.* The 5-item discipline style scale of the BCFPI was used to assess parenting practices. This scale asks primary caregivers to indicate how often they behave a specific way when their child is being bad or doing something wrong on a 4-point scale from 1 (*Never*) to 4 (*Always*), where higher scores indicate greater use of harsh parenting practices. Sample items include "spank child with your hand" or "reason with the child or explain to the child". The mean raw score of all items was used as the measure of Parenting Practices. This subscale had very poor reliability ranging from $\alpha = .47$ to $\alpha = .24$ across waves, average $\alpha = 0.33$, and will therefore not be utilized in the current study.

*Global Family Situation.* The 7-item global family situation scale of the BCPFI was used to assess how frequently a child's behaviours are influencing or impacting the families day-to-day functioning. The scale is composed of two subscales: family activities and family comfort. The scale asks primary caregivers to indicate how often certain family circumstances occur on a 4-point scale from 1 (*Never)* to 4 (*Always),*

where higher scores indicate that a child's impacts the family more frequently. Sample items include " how frequently has your child's behaviour prevented you from taking him or her out shopping or visiting" and "how frequently have neighbours, relatives or friends expressed concerns about your child's behaviour?. The mean raw score of all items was used as the measure of Global Family Situation. This subscale had acceptable reliability ranging from $\alpha = .66$ to $\alpha = .86$ across the waves, average $\alpha = 0.77$.

*Parental Depression.* The 6-item informant depression scale was used to assess the frequency of caregiver's experiences with depressive feelings and behaviours. The scales asks primary caregivers to indicate how often they have felt or behaved a certain way during the past week on a 4-point scale from 1 (*Less than 1 day)* to 4 (*5 or more days),* where higher scores indicate more frequent occurrences of depressive feelings or behaviours. Sample items include "you felt depressed" and "you could not get going". The mean raw score of all 6 items was used as a measure of Parental Depression. This subscale had acceptable reliability ranging from $\alpha = .82$ to $\alpha = .85$ across the waves, average $\alpha = .84$.

*Positive Home Environment.* All items from the 6-item family functioning scale, 7-item global family situation scale, and 6-item parental depression scale of the BCPFI were combined to create a measure that could be used to assess the overall functioning of the home environment. Hence the positive home environment measure is composed of 19-items that are all rated by primary caregivers on a 4-point scale from 1 to 4, where higher scores represent a less positive, or more dysfunctional, overall home environment. The mean raw score of all items was used as the measure of Positive Home Environment.

This scale had acceptable reliability, ranging from $\alpha = .79$ to $\alpha = .85$ across the waves, average $\alpha = .83$.

*Parental Stress.* The 36-item short-form version of the Parenting Stress Index (PSI-SF) (Abidin, 1995) was used to assess parental stress among caregivers (Appendix B). The PSI-SF is a parent-report measure which is composed of three subscales: parental distress, parent-child dysfunctional interaction, and difficult child. Each subscale is made up of 12 items. The scale asks primary caregivers to indicate how much they agree with statements on a 5-point scale from 1 (*Strongly disagree*) to 5 (*Strongly agree)*, where higher scores indicate greater parental stress. The PSI-SF was completed by caregivers at admission and discharge, with 93 caregivers completed the measure at admission and 45 at discharge. Sample items include "my child rarely does things for me that make me feel good" and "I feel trapped by my responsibilities as a parent". The mean raw score of all items was used as the measure of Parental Stress. The mean raw score of each of the items pertinent to the three subscales were also used as measures of Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child.

Parental Distress refers to caregivers reports on how distressed they feel by their functioning in the parenting role, where higher scores indicate feeling more distressed. Parent-Child Dysfunctional Interaction refers to caregivers reports on the quality of their relationship or interactions with their child, where higher scores indicate more dysfunctional parent-child interactions. Difficult Child refers to caregivers' reports on how disruptive they perceive their child to be, where higher scores indicate that the parent perceives their child as being highly disruptive. The PSI (Abidin, 1995) has been empirically studied with general and special populations and demonstrates concurrent

validity (Barnes & Oehler-Stinnett, 1998). Also, the short-form has very good reliability (Haskett, Ahern, Ward & Allaire, 2006), and is more reliable than the long version (Barnes & Oehler-Stinnett). Inter-item reliability analyses could not be performed for the PSI-SF (Abidin) as item scores were not available, however correlation analyses between individual subscales and the total scores for each wave were conducted. Correlation coefficients can be seen in Table 3.

Table 3

*Correlations between the Subscale scores and Total PSI-SF Score at Admission and Discharge*

| PSI-SF Subscales | Admission | Discharge |
|---|---|---|
| Difficult Child | 0.76** | 0.78** |
| Parent-Child Dysfunctional Interaction | 0.81** | 0.76** |
| Parental Distress | 0.81** | 0.81** |

** Significant at the $p$ <.001 level

In order to examine individual differences in the trajectory of change in residential treatment outcomes from admission to 2-years post-discharge as determined by Parental Stress[1], both High and Low Parental Stress groups (PSGROUP) were created by conducting a median split on Parental Stress scores. Participants who scored 3.19 or below were in the Low PSGROUP (n = 30) and participants who scored 3.2 or above were in the High PSGROUP (n = 33). Participants in the High PSGROUP were given a coded value of 1, and those in the Low PSGROUP were given a coded value of 0. Thus, the PSGROUP measure is a grouped variable based on caregivers' reports of their

[1] Grouping variables for Parental Stress and associated subscales were only computed for admission Parental Stress scores, as there were no significant relationships between discharge Parental Stress scores and treatment outcomes. See results section for further explanation.

parental stress, whereas the Parental Stress measure is a continuous variable based on caregivers' reports of their parental stress. A median split was also conducted for each subscale of the PSI-SF with the same procedure noted above. For the corresponding variable names and median split values for each of the subscales see Table 4. It is important to note that there are limitations associated with dichotomizing continuous variables. For more information refer to MacCallum, Zhang, Preacher, and Rucker, 2002.

Table 4

*Median Split Values and Sample Sizes for High and Low groups of each Subscale*

| PSI-SF Subscales and corresponding variable names | Low Group | High Group |
|---|---|---|
| Difficult Child (DCGROUP) | < 4.08 (n = 31) | > 4.081 (n = 33) |
| Parent-Child Dysfunctional Interaction (PCintGROUP) | < 3.08 (n = 33) | > 3.081 (n = 31) |
| Parental Distress (PDGROUP) | < 2.67 (n = 32) | > 2.68 (n = 32) |

*Procedure*

All children and youth admitted to CPRI between July 2002 and October 2005 were asked to participate in a follow-up study. While obtaining consent, participants were reassured that choosing not to participate would not influence any future services they receive at CPRI. Given that the current study was primarily interested in the influence of family systems variables on residential treatment outcomes, only youth who were both discharged to a family situation and were still living in a family situation 2-years post-discharge were purposively selected. Of the 225 children and youth admitted to CPRI between July 2002 and October 2005, only 98 met these criteria. Living in a 'family situation' includes residing with a biological parent, guardian, or family member.

Caregivers completed the questionnaires of interests at four time-points: admission, discharge, 6-months post-discharge, and 2-years post-discharge. However, not all measures were completed at each time-point. At admission, 6-months post-discharge and 2-years post-discharge, a trained research assistant from CPRI contacted each youth's caregiver by phone. During this time caregivers took part in a structured telephone interview where they completed the BCFPI (Cunningham et al., 2006), which took approximately 30 minutes. During the interview caregivers were informed that they could refuse to answer any question they did not feel comfortable answering. All outcome variables were assessed via data from the BCFPI. The PSI-SF (Abidin, 1995) was completed by the caregivers at admission, discharge, and 6-months post-discharge, however for the purposes of the current research data from the PSI-SF are only being examined at admission and discharge. Parents completed the PSI-SF at the CPRI facilities. The CPRI satisfaction questionnaire was given to caregivers to fill out at discharge. For a review of which variables of interests were examined at each time-point, see Table 5. If participants chose to participate in the long-term follow-up, they were compensated with a $5 Tim Horton's gift certificate for their time.

Table 5

*Measures Taken and Variables of Interest in the Current Study at Each Time-Point.*

| Time-Point | Admission | Discharge | 6-months post-discharge | 2-years post-discharge |
|---|---|---|---|---|
| Measure | BCFPI<br>PSI-SF | PSI-SF<br>Satisfaction Questionnaire | BCFPI | BCFPI |
| Variables of Interest | Behavioural Problems | Family Involvement | Behavioural Problems | Behavioural Problems |
| | Emotional Problems | Parental Stress | Emotional Problems | Emotional Problems |
| | Parental Depression | | Parental Depression | Parental Depression |
| | Family Functioning | | Family Functioning | Family Functioning |
| | Global Family Situation | | Global Family Situation | Global Family Situation |
| | Discipline Practices | | Discipline Practices | Discipline Practices |
| | Parental Stress | | | |

*Research Design*

The current research was a descriptive field study being conducted through a three-wave longitudinal quasi-experimental design with a clinical sample of children and youth ages 6 to 16. The current research was a within-subjects repeated measures design, where the within subjects factor is Wave. As mentioned above, the three Waves when outcome data were collected are as follows: admission, 6-months post-discharge and 2-years post-discharge. The design of the current research is more informative than a simple pre-post

design. It provides data at multiple time points, and can therefore examine changes or trends in children's Behavioural and Emotional Problems across time. Specifically, the current research determined whether improvements seen at 6-month post-discharge are maintained 2-years post-discharge. Also, using a sample of children and youth who vary in age from 6 to 16 will provide more complete information on the population of children who attend residential treatment. Examining both Behavioural and Emotional Problem outcomes is important, as Lyons (2001) demonstrated that different domains portray different outcomes. This information will give service providers a greater understanding of which symptoms are improved through residential treatment, and which improvements are maintained post-discharge.

## Results

All analyses were completed on a sample of 68 children and youth. However the exact sample sizes for each analysis varied depending on missing data, as not all participants completed all subscales of the BCFPI or the PSI-SF. There were no outliers and all variables were normally distributed. An alpha criterion of .05 was used for all analyses. Reported effect sizes for the repeated-measures ANOVAs were partial $\eta^2$, which can be interpreted as follows: .02 is small, .13 is medium, and .26 is large (Cohen, 1988). Most hypotheses were tested using a repeated-measures ANOVA or ANCOVA with a 3-level within-subjects factor (Wave). Where appropriate, repeated-measures ANOVA's with a 2-level between-subjects factor (High and Low PSGROUP, High and Low DCGROUP, High and Low PCintGROUP, High and Low PDGROUP) were also conducted (i.e. mixed-model ANOVA's). All appropriate statistical analyses were conducted twice, once with Behavioural Problems as the dependent variable and a second

time with Emotional Problems as the dependent variable. All of the following analyses did not violate Mauchly's Test of Sphericity. Analyses utilized other than repeated measures ANOVA's, ANCOVA's, or mixed-model ANOVA's are noted where appropriate.

*Residential Treatment Outcomes*

Prior to testing specific hypotheses in the current study it was necessary to examine the effectiveness of the residential treatment the youth received, or whether there were significant changes in the youth's Behavioural and Emotional Problems from admissions to 2-years post-discharge.

*Change in Externalizing problems.* When examining the change over time in youth's Behavioural Problems there was a significant linear effect for Wave, $F(1, 67) = 25.94, p < .001, \eta^2 = .28$, as well as a significant quadratic effect for Wave $F(1, 67) = 23.01, p < .001, \eta^2 = .26$ (Figure 1). Thus, although caregivers reported fewer youth Behavioural Problems from admissions to 2-years post-discharge, they also reported an increase in Behavioural Problems from 6-months post-discharge to 2-years post-discharge. However, the frequency of Behavioural Problems at 2-years post-discharge did not return to pre-admission levels.

Three paired t-tests were performed using a Bonferroni adjustment ($p = .02$) to examine specifically where significant changes in youths Behavioural Problems occurred across the three Waves. Results indicated that scores on Behavioural Problems at Wave 1 ($M = 1.32, SD = 0.22$) were significantly greater than scores on Behavioural Problems at Wave 2 ($M = 1.03, SD = 0.34$), $t(67) = 6.95, p < .001$, and Wave 3 ($M = 1.08, SD$

=0.38), $t$ (97) = 6.52, $p < .001$. However, no significant differences were found between Behavioural Problems at Wave 2 and Wave 3, $t$ (67) = -0.99, $p = ns$..

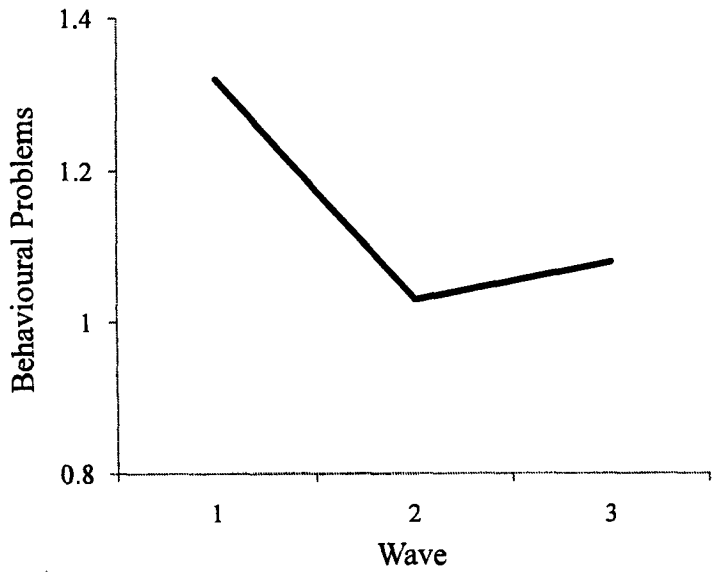


*Figure 1.* Change in Behavioural Problems across the three waves.

*Change in Internalizing Problems.* When examining the change over time for youth's Emotional Problems there was a significant linear effect for Wave, $F$ (1, 67) = 8.93, $p$ = .004, $\eta^2$= .18 (Figure 2). Thus, caregivers reported a decrease in the frequency of youth's Emotional Problems from admission to 2-years post-discharge. Hence caregivers' reports on youth's Emotional Problems were highest at time of admission and declined up to 2-years post-discharge.

Three paired t-tests were performed using a Bonferroni adjustment ($p$ = .02) to examine specifically where significant changes in youths Emotional Problems occurred across the three Waves. Results indicated that scores on Emotional Problems at Wave 1 ($M$ =0.91, $SD$ =0.36) were significantly greater than scores on Emotional Problems at Wave 3 ($M$ = 0.77, $SD$ = 0.37), $t$ (97) = 3.86, $p < .001$. However, no significant

differences were found between Emotional Problems at Wave 1 and Wave 2 ($M = 0.82$, $SD = 0.38$), $t$ (67) = 2.04, $p = .04.$, or Wave 2 and Wave 3, $t$ (67) = -0.99, $p = ns.$.

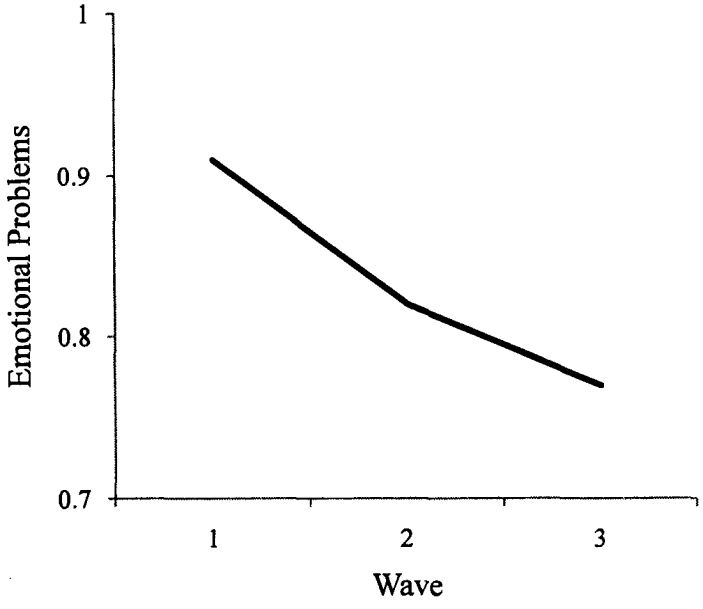


*Figure 2.* Change in Emotional Problems across the three waves.

Hypothesis 1: *Children with caregivers who report being more involved in treatment will show improved treatment outcomes at 6-months and 2-years post-discharge, and will be more likely to maintain any treatment gains, compared to those with caregivers who report a lower frequency of involvement in treatment.*

Contrary to what was expected, Parental Involvement was not linked to overall Behavioural Problems, $F$ (1, 37) = 0.11, $p = n.s.$, $\eta^2 = .003$, or Emotional Problems, $F$ (1, 37) = 1.71, $p = n.s.$, $\eta^2 = .04$. Thus caregivers reports on involvement in their child's residential treatment is not related to the trajectory of change for youth's residential treatment outcomes from admission to 2-years post-discharge.

Hypothesis 2: *Children with caregivers who report lower Parental Stress will show improved treatment outcomes at 6-months and 2-years post-discharge, and will be more*

*likely to maintain treatment gains, compared to those with caregivers who report higher parental stress.*

To examine the above hypothesis a series of repeated-measures ANCOVA's were conducted using Parental Stress, as well as the various subscales of the PSI-SF (Difficult Child, Parent-Child Dysfunctional Interactions, Parental Distress), as covariates. However, the following results only touch on the relationships among treatment outcomes and Parental Stress at admission as all analyses that were run using Parental Stress and associated subscales at discharge were not significant. Thus caregivers' reports on their level of stress when their child is being discharged are not linked to residential treatment outcomes.

*Total Parental Stress.* Contrary to what was expected, Parental Stress was not significantly linked with Behavioural Problems, $F(1, 62) = 2.55$, $p = n.s.$, $\eta^2 = .04$. However, Parental Stress was significantly linked to Emotional Problems, $F(1, 62) = 6.20$, $p = 0.02.$, $\eta^2 = .09$. Thus caregivers reports on their levels of parental stress at time of admission is significantly related to their reports on children's emotional problems.

To further examine the relationship between Parental Stress and Emotional Problems a repeated-measures ANOVA with a 2-level between-subjects factor (PSGROUP) was conducted. As hypothesized, there was a significant main effect for Parental Stress, such that those in the High PSGROUP ($M = 0.92$, $SD = 0.37$) scored higher on Emotional Problems overall than those in the Low PSGROUP group ($M = 0.75$, $SD = 0.35$), $F(1, 61) = 5.08$, $p = .03$, $\eta^2 = .08$. Therefore, parents who reported higher parental stress at admission also reported more emotional problems in their children overall than those who reported less parental stress at admission (Figure *3).*

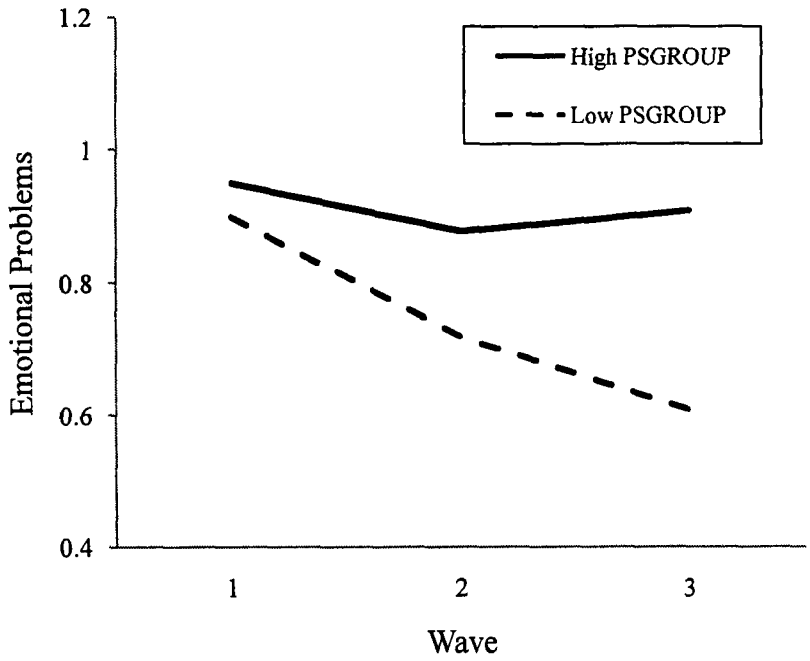


*Figure 3.* Change in Emotional Problems for youth in both the High and Low PSGROUPs.

There was also a significant Wave by PSGROUP linear interaction for Emotional Problems, $F(1, 61) = 8.25, p = .006, \eta^2 = .12$. As shown in Figure 3 it seemed as though Emotional Problems remained stable across the three waves for those in the High PSGROUP while those in the Low PSGROUP had a reduction in Emotional Problems. To examine this pattern further two separate repeated-measures ANOVA's were run on Emotional Problems for the High PSGROUP and the Low PSGROUP across waves. There was not a significant linear effect for the High PSGROUP across waves, $F(1, 32) = 0.45, p = .n.s., \eta^2 = .01$ (Figure3). Thus, there was no change in caregivers' reports on their child's emotional problems from admission to 2-years post-discharge for those who reported higher levels of parental stress at admission. There was a significant linear effect for the Low PSGROUP across waves, $F(1, 29) = 16.94, p < .001, \eta^2 = .37$ (Figure 3). Thus, there was a significant decrease from admission to 2-years post-discharge in

parents' reports on their child's emotional problems for those who reported lower levels of parental stress at admission. Means and standard deviations for the High and Low PSGROUP can be seen in Table 6.

To gain a better understanding of the significant findings between Parental Stress and youths Emotional Problems, each of the subscales of the PSI-SF (Abidin, 1995) were also examined as possible covariates of youths emotional problems.

Table 6

*Means and Standard Deviations for Emotional Problems Across the Three Waves as a Function of PSGROUP*

| | High PSGROUP | Low PSGROUP |
|---|---|---|
| Time-Point (Wave) | *M (SD)* | *M (SD)* |
| Admission (1) | 0.95 (0.35) | 0.90 (0.36) |
| 6-months post (2) | 0.89 (0.38) | 0.72 (0.36) |
| 2-years post (3) | 0.91 (0.37) | 0.61 (0.32) |

*Difficult Child.* Difficult Child was significantly linked with overall Emotional Problems, $F(1, 62) = 8.00$, $p = .006.$, $\eta^2 = .11$. Thus parental reports on how difficult they perceived their child to be was significantly linked to reports on their child's Emotional Problems.

To further examine the link between Difficult Child and Emotional Problems a repeated-measures ANOVA with a 2-level between-subjects factor (DCGROUP) was conducted. A significant main effect for DCGROUP was found, such that those in the High DCGROUP ($M = 0.93$ $SD = 0.38$) scored higher on Emotional Problems overall

than those in the Low DCGROUP group ($M = 0.73$, $SD = 0.33$), $F(1, 62) = 7.87$, $p = .007$, $\eta^2 = .11$. Therefore, caregivers who reported that their child was more difficult at admission also reported more frequent Emotional Problems compared to those who reported that their child was less difficult (Figure *4*). There was no significant Wave by DCGROUP linear interaction for Behavioural Problems, although there was a trend, $F(1, 62) = 3.34$, $p = .07$, $\eta^2 = .05$. Means and standard deviations for the High and Low DCGROUP can be seen in Table 7.

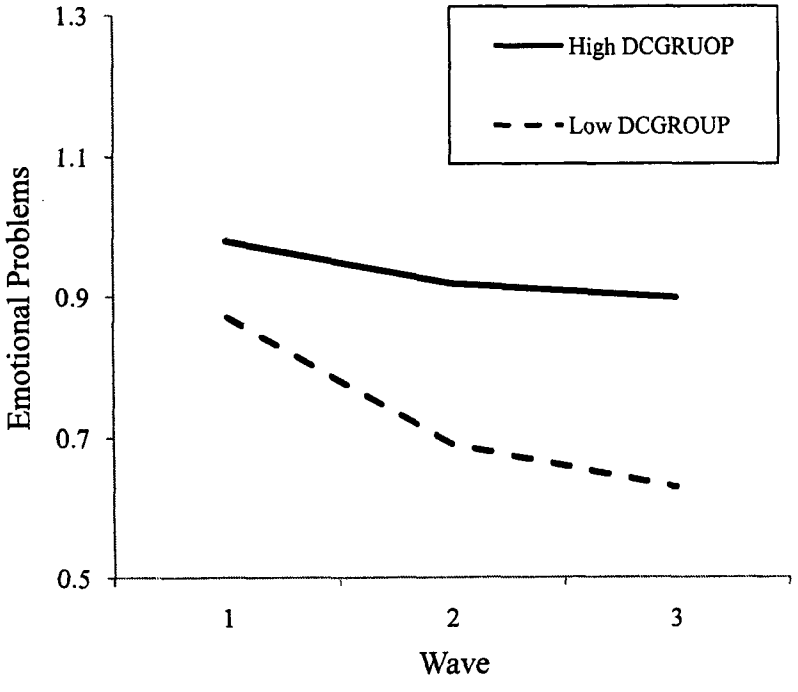


*Figure 4.* Change in Emotional Problems for youth in the High and Low DCGROUPS across waves.

Table 7.

*Means and Standard Deviations for Emotional Problems Across the Three Waves as a Function of DCGROUP*

| | High DCGROUP | Low DCGROUP |
|---|---|---|
| Time-Point (Wave) | *M (SD)* | *M (SD)* |
| Admission (1) | 0.98 (0.35) | 0.87 (0.34) |
| 6-months post (2) | 0.92 (0.37) | 0.69 (0.34) |
| 2-years post (3) | 0.90 (0.40) | 0.63 (0.29) |

*Parent-Child Dysfunctional Interactions.* Parent-Child Dysfunctional Interactions was significantly linked with Emotional Problems, $F(1, 62) = 5.44$, $p = .02.$, $\eta^2 = .08$. Thus caregivers' reports on the interactions they have with their children at admission are significantly linked to Emotional Problems.

To further examine the significant link between Parent-Child Dysfunctional Interactions and Emotional Problems a repeated-measures ANOVA with a 2-level between-subjects factor (PCintGROUP) was conducted. Contrary to what would be expected there was no significant main effect for Parent-Child Dysfunctional Interactions, $F(1,62) = 2.61$, $p = n.s.$, $\eta^2 = .04$. However, there was a significant Wave by PCintGROUP linear interaction for Emotional Problems, $F(1, 62) = 5.45$, $p = .02$, $\eta^2 = .81$. Therefore, although there was no significant difference between the two groups on their overall levels of emotional problems, there is a difference in the trajectories of change for Emotional Problems from admission to 2-years post-discharge between those in the Low and High PCintGROUP (Figure 5).

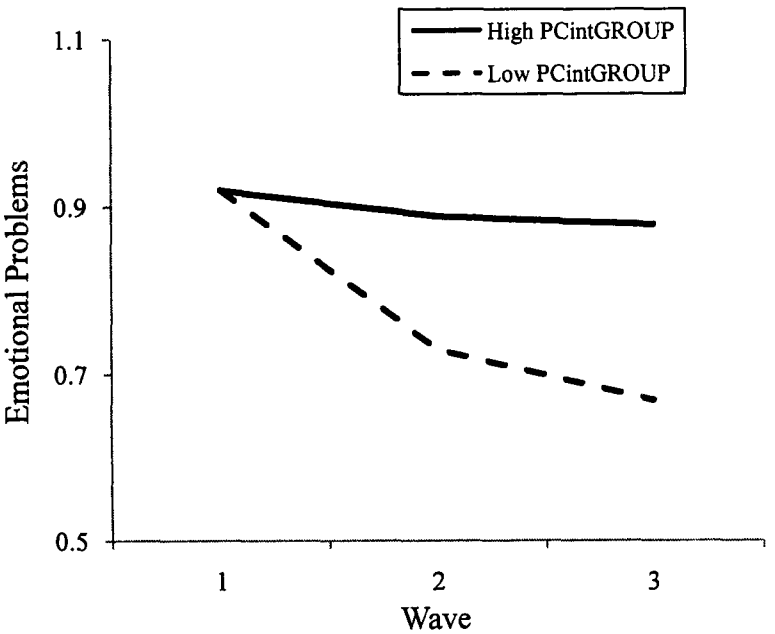


*Figure 5.* Change in Emotional Problems for youth in the High and Low PCintGROUPs across waves.

As shown in Figure 7 it appeared as though those in the High PCintGROUP remained stable across the three waves while those in the Low PCintGROUP decreased in Emotional Problems. To examine this pattern further 2 separate repeated-measures ANOVA's were run on Emotional Problems for the High PCintGROUP and Low PCintGROUP across waves. There was not a significant linear effect for the High PCintGROUP across waves, $F(1, 30) = 0.92$, $p = .n.s.$, $\eta^2 = .03$ (Figure 5). Thus, there was no change in emotional problems from admission to 2-years post-discharge for those with caregivers who reported more dysfunctional parent-child interactions. There was a significant linear effect for Low PCintGROUP across waves, $F(1, 32) = 11.85$, $p = .002$, $\eta^2 = .27$ (Figure 5). Therefore, there was a significant decrease in caregivers' reports on Emotional Problems from admission to 2-years post-discharge for those who reported

less dysfunctional parent-child interactions. Means and standard deviations for the High and Low PCintGROUP can be seen in Table 8.

Table 8.

*Means and Standard Deviations for Emotional Problems Across the Three Waves as a Function of PCintGROUP*

| | High PCintGROUP | Low PCintGROUP |
|---|---|---|
| Time-Point (Wave) | *M (SD)* | *M (SD)* |
| Admission (1) | 0.92 (0.35) | 0.92 (0.34) |
| 6-months post (2) | 0.89 (0.38) | 0.73 (0.35) |
| 2-years post (3) | 0.88 (0.37) | 0.66 (0.35) |

*Parental Distress.* Parental Distress was not significantly linked to overall Emotional Problems, $F(1, 62) = 1.63$, $p = n.s.$, $\eta^2 = .03$. Thus caregivers' reports on their levels of parental distress at time of admission are not related to their reports on children's Emotional Problems.

Hypothesis 3: *Caregivers reports on factors that characterize a positive home environment will be simultaneously related to treatment outcomes at 6-months and 2-years post-discharge, such that children residing in a home environment reported by their caregiver as more positive will show improved treatment outcomes post-discharge compared to those residing in a home reported by caregivers as less positive.*

Multiple Regression analyses were conducted to evaluate how well factors that characterize a Positive Home Environment relate to residential treatment outcomes post-discharge. Using a multivariate model provides a more complete picture of the variance

accounted for by the variables that comprise a Positive Home Environment in children's Behavioural and Emotional Problems. Specifically, doing so will determine how much variance is accounted for individually by the variables, as well as the combined or shared explanation of variance. Testing all of the predictor variables in the same model will provide a more realistic understanding of how well the variables influence post-discharge treatment gains. The individual predictor variables were Family Functioning, Parental Depression, and Global Family Situation. All predictor variables used were measured at the same time as the outcome or criterion variables (Behavioural Problems and Emotional Problems). Thus results are separated into 6-months and 2-years post-discharge.

*6-months post-discharge.* The linear combination of Positive Home Environment factors measured at 6-months post-discharge were significantly related to Behavioural Problems at 6-months post-discharge, $F(3, 30) = 13.68, p < .001$. The sample correlation coefficient was .76, indicating that approximately 58% of the variance of Behavioural Problems can be accounted for by the linear combination of the factors that make up the Positive Home Environment measure. Therefore, together caregivers' reports on Family Functioning, Parental Depression, and Global Family Situation are significantly related to their reports on their child's Behavioural Problems 6 months after leaving residential treatment. Table 9 presents the indices which specify the relative strength of the individual predictors. All bivariate correlations between the Positive Home Environment measures and Behavioural Problems were positive, as expected, and two of the indices were statistically significant. Only the partial correlation between Behavioural Problems and Global Family Situation was significant. Thus, of the variables that make up the Positive Home Environment measure, only Global Family Situation was

a significant predictor, or accounts for a significant portion of the variance of Behavioural Problems, on its own, $t$ (32) = 5.52, $p$ > .001.

Table 9

*Correlations and partial correlations between each Positive Home Environment variable and Behavioural Problems measured at 6-months post-discharge.*

| Predictors | Bivariate Correlations | Partial Correlations |
|---|---|---|
| Global Family Situation | 0.75** | 0.71** |
| Family Functioning | 0.10 | 0.01 |
| Parental Depression | 0.38* | 0.12 |

* $p$ <.05, ** $p$ < .001

The linear combination of Positive Home Environment factors measured at 6-months post-discharge were not related to Emotional Problems at 6-months post-discharge, although there was a trend $F$ (3, 30) = 2.75, $p$ = .06. Therefore together parents reports on Family Functioning, Parental Depression, and Global Family Situation are marginally related to their reports on Emotional Problems 6 months after leaving residential treatment. Table 10 presents the indices to indicate the relative strength of the individual predictors. All the bivariate correlations between the Positive Home Environment measures and Emotional Problems were positive, as expected, and 2 of the indicates were statistically significant. None of the partial correlations between Emotional Problems and the Positive Home Environment factors were significant.

Table 10

*Correlations and partial correlations between each Positive Home Environment variable and Emotional Problems measured at 6-months post-discharge.*

| Predictors | Bivariate Correlations | Partial Correlations |
|---|---|---|
| Global Family Situation | 0.24 | 0.10 |
| Family Functioning | 0.33* | 0.18 |
| Parental Depression | 0.43** | 0.27 |

* $p < .05$, ** $p < .001$

*2-Years Post-Discharge.* The linear combination of Positive Home Environment factors measured at 2-years post-discharge were significantly related to Behavioural Problems at 2-years post-discharge, $F(3, 38) = 20.23, p < .001$. The sample correlation coefficient was .78, indicating that approximately 61% of the variance of Behavioural Problems can be accounted for by the linear combination of the factors that make up Positive Home Environment. Therefore together caregivers' reports on Family Functioning, Parental Depression, and Global Family Situation are significantly related to their reports on behavioural problems 2 years after leaving residential treatment. Table 11 presents the indices to indicate the relative strength of the individual predictors. All the bivariate correlations between the Positive Home Environment measures and Behavioural Problems were positive, as expected, and two of the indicates were statistically significant. Only the partial correlation between Behavioural Problems and Global Family Situation was significant. Thus, of the variables that make up the Positive Home Environment measure, only Global Family Situation was a significant predictor, or accounts for a significant portion of Behavioural Problems, on its own, $t(40) = 7.31, p > .001$.

Table 11

*Correlations and partial correlations between each Positive Home Environment variable and Behavioural Problems measured at 2-years post-discharge.*

| Predictors | Bivariate Correlations | Partial Correlations |
|---|---|---|
| Global Family Situation | 0.78** | 0.76** |
| Family Functioning | 0.15 | 0.09 |
| Parental Depression | 0.26* | 0.09 |

* $p < .05$, ** $p < .001$

The linear combination of Positive Home Environment factors measured at 2-years post-discharge were significantly related to Emotional Problems at 2-years post-discharge, $F(3, 38) = 5.36, p = .004$. The sample correlation coefficient was .54, indicating that approximately 30% of the variance of Emotional Problems can be accounted for by the linear combination of the factors that make up Positive Home Environment. Therefore together caregivers' reports on Family Functioning, Parental Depression, and Global Family Situation are significantly related to their reports on Emotional Problems two years after leaving residential treatment. Table 12 presents the indices to indicate the relative strength of the individual predictors. All the bivariate correlations between the Positive Home Environment measures and Emotional Problems were positive, as expected, and two of the indicators were statistically significant. Only the partial correlation between Emotional Problems and Parental Depression was significant. Thus, of the variables that make up the Positive Home Environment measure, only Parental Depression was a significant predictor of Emotional Problems on its own, $t(40) = 2.52, p = .02$.

Table 12

*Correlations and partial correlations between each Positive Home Environment variable and Emotional Problems measured at 2-years post-discharge.*

| Predictors | Bivariate Correlations | Partial Correlations |
|---|---|---|
| Global Family Situation | 0.41** | 0.27 |
| Family Functioning | 0.18 | 0.01 |
| Parental Depression | 0.49** | 0.38* |

* $p$ <.05, ** $p$ < .001

Post-hoc Hypothesis 1: *The current research will also examine whether residential treatment produces any changes in family functioning, parental depression, parental discipline, and how much the child impacts the family from admission to 6-months post-discharge, and whether any changes produced are maintained 2 years post-discharge.*

When examining the change in Family Functioning across the three waves, there was not a significant linear effect for Wave, $F(1, 33) = 0.18, p = n.s., \eta^2 = .005$. Therefore there was no change from admission to 2-year post-discharge in parent's reports on family functioning.

When examining the change in Parental Depression across the three waves, there was a linear effect for Wave, $F(1, 37) = 6.28, p = .02, \eta^2 = .14$, as well as a significant quadratic effect for Wave $F(1, 37) = 4.37, p = .04, \eta^2 = .11$ (Figure 6). Thus although there was an overall decline in how frequent caregivers reported experiencing depressive feelings and behaviours from admissions to 2-years post-discharge, there was also an increase from 6-months post-discharge to 2-years post-discharge (Figure 6). Three paired t-tests were performed using a Bonferroni adjustment ($p = .02$) to examine specifically where significant changes in Parental Depression occurred across the three Waves.

Results indicated that scores on Parental Depression at Wave 1 ($M$ =2.93, $SD$ =0.56) were significantly greater than scores on Parental Depression at Wave 2 ($M$ = 2.60, $SD$ = 0.57 ), $t$ (37) = 2.85, $p$ = .007, and Wave 3 ($M$ = 2.71, $SD$ =0.61), $t$ (56) = 3.14, $p$ = .003. However, no significant differences were found on Parental Depression between Wave 2 and Wave 3, $t$ (64) = -1.20, $p$ = *ns*..

When examining the change in Global Family Situation there was a significant linear effect for Wave, $F$ (1, 41) = 28.98, $p$ =< .001, $\eta^2$= .41, as well as a significant quadratic effect $F$ (1,41) = 9.40, $p$ = .004, $\eta^2$= .19 (Figure 7). Hence although there was an overall decline in how frequently parents reported that their child was impacting their families day-to-day functioning from admission to 2-years post-discharge, there appeared to be no change from 6-months post-discharge to 2-years post-discharge (Figure 7). Three paired t-tests were performed using a Bonferroni adjustment ($p$ = .02) to examine specifically where significant changes in Global Family Situation occurred across the three Waves. Results indicated that scores on Global Family Situation at Wave 1 ($M$ =2.71, $SD$ =0.55) were significantly higher than scores on Global Family Situation at Wave 2 ($M$ = 2.14, $SD$ = 0.75), $t$ (54) = 4.94, $p$ < .001, and Wave 3 ($M$ = 1.99, $SD$ =0.66), $t$ (64) = 6.76, $p$ < .001. However, no significant differences were found between Global Family Situation at Wave 2 and Wave 3, $t$ (49) = -0.08, $p$ = *ns*.. Analyses on Discipline Practices were not completed due to the very low reliability of the measures used in the current study.

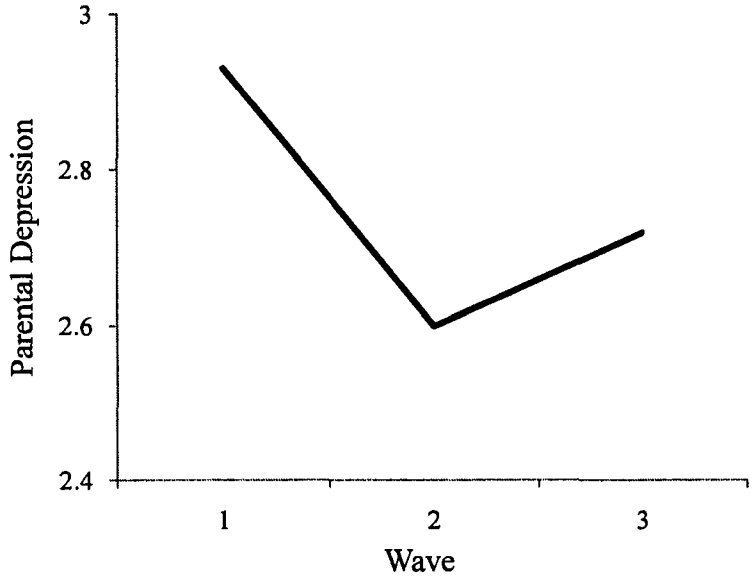


*Figure 6.* Change in Parental Depression across the three waves.

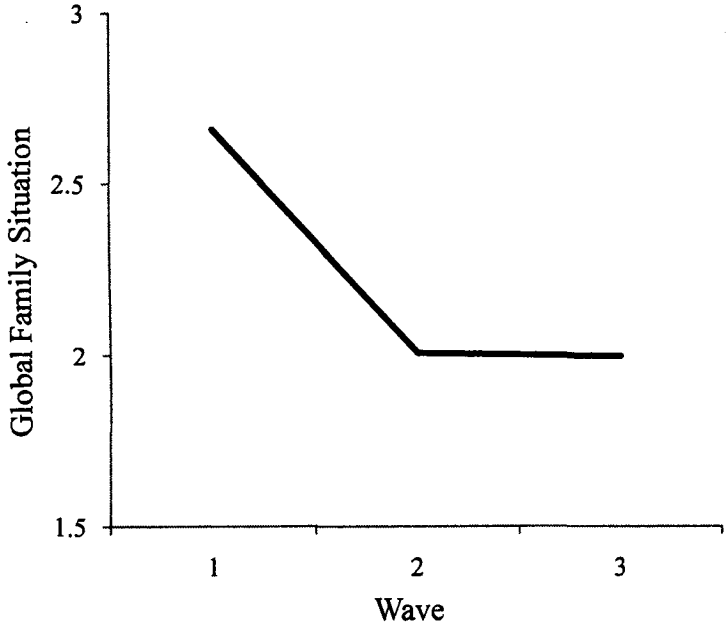


*Figure 7.* Change in Global Family Situation across the three waves.

## Discussion

The purpose of the current 2-year follow-up study was to examine youth's residential treatment outcomes from a family systems perspective. In doing so, there were

three primary objectives. First, the current research sought to determine whether youth's initial treatment gains would be maintained two years after they left CPRI and returned to their families in the community. However, previous research demonstrates that some children are more likely to maintain treatment gains than others, yet it is unclear who those children are. Thus the second objective was to further understand this phenomenon by examining family systems variables as possible factors linked to individual differences in treatment outcomes. In doing so, Parental Involvement and Parental Stress were examined as possible factors linked to the trajectory of change in residential treatment outcomes. The out-of-treatment home environment was also examined as a possible factor influencing post-discharge behavioural and emotional problems. The third objective was to examine changes in family and caregiver functioning indicators from admission to 2-years after youth are discharged from residential treatment. Examining changes in family functioning indicators, in addition to youth functioning indicators, provides a more holistic understanding of the gains that are possible through residential treatment.

*Overview of Primary Findings*

Overall, caregivers reported significant reductions from admission to 2-years post-discharge in the frequency of their child's emotional and behavioural problems. In other words, parents reported that their children had fewer emotional and behavioural problems 2 years after being discharged from CPRI compared to pre-admission. However, there was a slight increase in the frequency of behavioural problems from 6-months to 2-years post-discharge, although the rate did not return to pre-admission levels.

To gain a better understanding of the children who may be more likely to maintain gains upon being discharged from CPRI, or individual differences within the above pattern, Parental Involvement and Parental Stress were examined as two possible factors related to treatment outcomes. Findings indicated that Parental Involvement was not linked to residential treatment outcomes. However, Parental Stress at the time of admission was linked to youth's emotional problems. Caregivers who reported higher parental stress also reported more Emotional Problems in their children overall compared to those who reported that they were experiencing less parental stress. With regards to the trajectory of change from admission to 2-years post-discharge, there was no change in youth's emotional problems for those residing with a caregiver who reported experiencing higher levels of parental stress at admission. On the other hand, caregivers who reported that they were experiencing less stress at admission reported a significant decrease in the frequency of their child's emotional problems.

There were three constructs that constituted Parental Stress (Difficult Child, Parent-Child Dysfunctional Interactions, and Parental Distress), each of which were examined separately as possible factors related to youth's emotional problems. First, how difficult or disruptive parents perceived their child to be (i.e., Difficult Child) was significantly related to overall Emotional Problems. More specifically, caregivers who reported that their child was more difficult to manage at admission also reported more emotional problems in their child overall compared to those who perceived their child as being less disruptive or difficult. Second, parental reports on the quality of the relationship or interactions they have with their child, (i.e., Parent-Child Dysfunctional Interactions) were significantly related to the trajectory of change in Emotional Problems.

There was no change from admission to 2-years post-discharge in parental reports on youth's emotional problems for those who also reported experiencing more stressful interactions with their child. However, on the other hand caregivers who reported less stressful interactions with their child also reported a significant decrease in frequency of emotional problems. Third, Parental Distress was not related to youth's emotional problems.

Whether the home environment the child/youth was discharged to, or lived in after leaving CPRI, was related to residential treatment outcomes was also examined. A more positive home environment was characterized by caregivers who reported the following: (1) lower frequencies of depressive symptoms, (2) family functioning characterized by higher levels warmth and cohesion, and (3) that their child negatively impacted their family's day-to-day activities and comfort less often. When measured concurrently, a positive home environment was significantly linked to caregivers' reports on youth's behavioural problems at both 6-months and 2-years post-discharge. More specifically, according to parental reports, living in a home environment characterized as being more positive after leaving CPRI was related to exhibiting fewer behavioural problems. The relationship between living in a positive home environment and youths' emotional problems post-discharge was significant 2-years post-discharge. Thus, according to parental reports, living in a positive home environment was significantly related to exhibiting fewer emotional problems 2-years after leaving CPRI.

Finally, the change from admission to 2-years post-discharge in parental reports on caregiver and family functioning indicators was examined to determine whether the treatment program at CPRI coincides with any improvements in parental or family

functioning. There were no changes reported on family functioning from admission to 2-years following discharge from CPRI. However, caregivers did report a reduction in how frequently they experienced depressive feelings and behaviours from admission to 2-years post-discharge. Caregivers also reported a reduction in how often their child impacts their families day-to-day functioning.

The following sections will relate the current findings to past research, and provide clinical relevance, and implications for policy in the context of the findings. Finally limitations and future research directions will be discussed.

*Outcomes of Residential Treatment*

Caregivers reported a reduction in the frequency of youth's emotional and behavioural problems from admission to 2-years after leaving CPRI, although the frequency of youth's behavioural problems increased from 6-months to 2-years post-discharge. However, it is important to note that the frequency of behavioural problems did not return to pre-admission levels. Hence the treatment program at CPRI coincided with positive gains, and thus appears to be effective when treating children and adolescents with severe emotional and behavioural problems. Most importantly, treatment gains were maintained 2 years after youth left CPRI. This finding suggests that an intensive short-term family-focused residential program may be an effective treatment modality for children and youth who had not achieved significant improvements in previous less invasive interventions. Thus, such treatment environments should perhaps be seen as an important component of children's mental health services rather than a treatment of "last resort" (Frensch & Cameron, 2002; Knorth et al., 2008).

These findings add to previous research provided by Lyons et al. (2001), and are consistent with previous research reported by Green et al. (2007) and Leitchman et al. (2001). There are numerous similarities between the current study and that of Green and colleagues, including the average length of stay in residential treatment, the sample characteristics, the residential treatment programs, the effect sizes corresponding to residential treatment outcomes, and of course the finding that residential treatment gains were maintained post-discharge. An important difference from previous research is that the current study followed youth for 2-years after they left residential treatment, where the aforementioned studies examined youth up to one-year post-discharge (Green et al.; Leitchman et al). Thus, the current study provides increased support for the long-term effectiveness of residential treatment.

A potential confound in the current study is that there was no examination of whether participants received additional services once leaving CPRI. Hence it is unclear whether participants received other services post-discharge that may account for the reductions in frequency of emotional and behavioural problems. Therefore it is possible that the maintenance of initial treatment gains may be a result of post-treatment services, and not the actual treatment youth received at CPRI. However, even if this were to have been the case, the fact that residential treatment coincided with positive gains 2-years following discharge remains significant. Before youth are admitted to CPRI they must have not been successful in all less invasive treatment services. Thus, if youth are receiving post-discharge supports, the treatment they received at CPRI may have been responsible for getting youth to a level where they can be assisted through less invasive treatment services upon discharge.

As mentioned previously, there was a steady decline in the frequency of emotional and behavioural problems from admission to 2-years post-discharge, although the frequency of behavioural problems increased slightly from 6-monthys to 2-years post-discharge. This could suggest that treatment gains related to emotional problems *may* be relatively easier for youth to maintain once they return to the community. This conclusion is inconsistent with a recent meta-analysis demonstrating that residential treatment produces greater improvements for behavioural problems compared to emotional problems (Knorth et al., 2008). However, although there was a slight increase in the frequency of behavioural problems from 6-months to 2-years post-discharge, there was a larger effect size or magnitude of change from admission to 2-years post-discharge for behavioural problems compared to emotional problems. Thus, despite the marginal increase in youths' behavioural problems post-discharge, residential treatment still coincided with greater improvements in youths behavioural problems compared to emotional problems overall.

*Family Related Factors Linked with Post-discharge Outcome*

*Parental Involvement.* Parental reports regarding how involved they were in the treatment their child received at CPRI were not related to treatment outcomes. This finding is inconsistent with previous research (Hair, 2003; Knorth et al., 2008). One possible reason why the current research did not find a relationship between parental involvement and residential treatment outcomes may be a result of the way in which parental involvement was measured. Parental involvement was measured with a single question, which asked parents to state how much they agreed with the statement that they were involved in setting treatment goals. Measuring parental involvement this way is

limited as there are numerous components to 'family involvement' in addition to whether they felt involved in setting treatment goals. Using a reliable and valid measure of parental involvement in treatment would have been a more methodologically sound way to examine the hypothesis. One example for possible inclusion in future studies is *The Family Engagement Questionnaire* (Green et al., 2001; Kroll & Green, 1997), which is a clinician rated measure of therapeutic alliance. This measure would have provided a more reliable and valid measure of parental involvement in treatment.

On the other hand, the current research may not have found a relationship between parental involvement and treatment outcomes because CPRI tends to be a family-focused residential treatment program. It is a requirement that family members be involved in treatment in order for their child to be admitted into CPRI, and clinicians at CPRI strive to always involve family members in treatment planning. To partly examine caregivers' level of involvement, a random sample of 14 cases were selected to examine how often caregivers participated in the monthly plans of care. Of the 14 cases that were examined, 12 caregivers were involved in the plans of care 100% of the time. The claim that there is high caregiver involvement in treatment at CPRI is further supported through examining the responses caregivers gave to the statement "I was involved in setting treatment goals". Only 4% of parents reported that they were "uncertain" or "disagreed" with the statement, whereas 96% agreed or strongly agreed with the statement. Hence almost all parents reported that they were involved in setting their child's treatment goals. As a result there may not have been enough variability within the sample regarding caregiver involvement in treatment to understand the relationship between involvement and treatment outcomes.

*Parental Stress.* Caregivers' reports on Parental Stress at admission were related to youth's emotional problems, but not behavioural problems. Specifically, caregivers who reported greater levels of parental stress also reported more frequent emotional problems in their youth overall, and did not report any change in youth's emotional problems from admission to 2-years post-discharge. On the other hand, caregivers who reported lower levels of parental stress reported a reduction in the frequency of their child's emotional problems from admission to 2-years post-discharge. Hence, this finding suggests that residential care *may* not be effective in treating emotional problems of youth with caregivers who are under high levels of parental stress at time of admission. These findings may also suggest that caregivers who reported that they were experiencing higher levels of stress at admission continued to experience high levels of stress after their children were discharged from residential treatment. In order to examine whether this is a viable possibility, future research should examine whether caregivers who experience high levels of stress at time of admission continue to experience high stress in their parenting role. Whether post-discharge parental stress is related to post-discharge emotional problems should also be examined.

The relationship between parental stress and youths' overall emotional problems may relate to the relationship among parental stress, parenting behaviours, and child adjustment or development (Deater-Deckard, 1998; Siegler, Deloache & Eisenberg, 2003). Caregivers who are under a considerable degree of parental stress are more likely to exhibit harsh, negative, and inconsistent parenting practices, which can result in an insecure attachment and emotional problems among children (Deater-Deckard). Similarly, children who have an insecure attachment with their caregiver are more likely

to experience emotional problems (Siegler et al.). Also, when parents are stressed they are more likely to be unresponsive towards their child's needs and emotions, and also participate in fewer positive child-parent interactions (Deater-Deckard). In the current study, reporting more dysfunctional parent-child interactions was also related to reporting no change in youths emotional problems over time. Therefore, perhaps the relationship between parental stress and youth emotional problems relates to utilizing less positive parenting practices. This should be examined in future research by determining whether the relationship between parental stress and youth emotional problems is mediated by parenting practices or behaviours.

The finding that parental stress is not positively related to youth's behavioural problems is inconsistent with previous research (Barry et al, 1997; Feldman et al.). However, much of this research is conducted with community samples, and may therefore be significantly different than the current sample of high-needs youth in residential treatment. Considering youth in the current sample are undergoing residential treatment, it is likely that the frequency and severity of their behavioural problems are significantly higher than a sample of youth taken from the community. Also, the finding that parental stress is related to emotional problems, but not behavioural problems, may relate to research suggesting that residential care is more effective when treating externalizing problems (Knorth et al., 2008). As mentioned above, the treatment program at CPRI coincided with greater gains in youths behavioural problems compared to emotional problems. Thus, perhaps the residential treatment program coincided with positive changes in youth's behavioural problems despite any possible influences

parental-stress may have had, but that this was less possible when treating youth's emotional problems.

Another finding regarding the relationship between parental stress and residential treatment outcomes is that caregiver reports on parental stress were related to treatment outcomes when measured at admission, but not discharge. This finding suggests that the extent to which stress impacts caregivers at admission may be a more reliable contributor to post-discharge success than how stressed a parent is when their child is being discharged.

*The Context of the Out-of-Treatment or Family Environment*

As expected, the out-of-treatment home environment was significantly related to youth's behavioural problems at 6-months and 2-years post-discharge, and emotional problems at 2-years post-discharge. More specifically children who were living in homes where caregivers reported fewer depressive symptoms, supportive family relations, and that their child was impacting the family less often, exhibited fewer behavioural and emotional problems as reported by their caregivers. Thus, these findings suggest that living in a positive home environment is a protective factor when it comes to youth exhibiting behavioural and emotional problems upon leaving residential treatment. This finding is consistent with some of the basic tenants of Multisystemic Therapy, which states that a stable and positive home environment with family relationships characterized by cohesiveness and warmth, serves as a protective factor for youth (Swenson, Henggeler, Taylor & Addison, 2005). In addition, the finding that the home environment plays a role in youth's behavioural and emotional problems is consistent with ecological theories that suggest all human's live within the context of relationships and systems

(Siegler et al., 2003; Swenson et al.). Hence the family and home environment one returns to upon leaving residential treatment likely plays a significant role in whether or not one can maintain initial treatment gains.

There were two family system variables that were significantly related to residential treatment outcomes post-discharge in and of themselves. First, parental reports on how much their child negatively impacts the family's day-to-day activities were positively related to the frequency of youth's behavioural problems post-discharge. This finding suggests that caregiver reports on how much their child impacts the family's day-to-day functioning may relate to the frequency of behavioural problems their child is actually exhibiting. However, it is also possible that this finding relates to a reporting or perceptual bias, such that parents who perceive their child to be negatively influencing the family may also perceive that their child exhibits more frequent behavioural problems. In essence, those who expect that their child will have a negative influence on the family may be more motivated to see negative behaviours. Overall, even though the relationship is likely reciprocal, whether this finding results from a realistic understanding of the situation or a parental reporting bias remains unclear.

Second, caregivers who reported that they were experiencing more frequent depressive symptoms also reported more frequent emotional problems in their children two years after they were discharged from residential treatment. Although this finding is consistent with past research (Downey & Coyne, 1990; Hoffman et al., 2006; Leschied et al., 2005), the underlying explanation for the relationship remains unclear. This finding may also suggest a perceptual or reporting bias, such that caregivers who are experiencing depressive symptoms may be more sensitive to the emotional states of their

children. However, it is also possible that caregiver's emotional states may relate to the emotional state of their children such that living with a parent who is experiencing depressive symptoms may relate to children being more likely to exhibit emotional concerns themselves.

*Impact of Residential Treatment on Family and Parental Functioning*

Caregivers reported experiencing fewer depressive feelings and behaviours, and that their child was impacting their day-to-day living less often from admission to 2-years post-discharge. However, there were no changes in parental reports on the overall functioning of their family. These findings suggest that youth's residential treatment coincides with positive changes in family and parental functioning indicators. Within the literature on residential treatment outcomes, there is modest acknowledgement regarding whether residential treatment produces any changes in family or parenting functioning indicators (Knorth et al. 2008). This finding is troubling considering that many youth return to a family setting, and that effective residential requires a strong family-focused component (Knorth et al.; Landsman et al., 2001). Hence these findings are a significant addition to the current literature on residential treatment outcomes.

Within the literature on inpatient treatment, Blader (2006) examined change over time in parental reports on cohesion and control in their family environment, parental stress, and how much caregiver strain parents were experiencing as a result of their child's disorder. As noted in the literature review, the sample from Blader was comprised of children and youth who resided in a psychiatric hospital ward for an average of 13-days. Despite the large differences between this and the current study, results were consistent with Blader's findings of significant improvements from

admission to 1-year post-discharge in parental reports on their family environment, parental stress, and objective and subjective caregiver strain.

The finding that parents reported that their child was impacting their family less from admission to 2-years post-discharge is consistent with the finding that parents also reported fewer behavioural and emotional problems in their child across the same time period. It is likely that parents with children who exhibit numerous behavioural or emotional problems would also report that their child negatively influences their day-to-day functioning more often. This also suggests the more likely bi-directional nature of the relationship between family and child functioning indicators. For example, a child who has extreme temper tantrums in public is likely to be viewed by his or her caregivers as negatively influencing the family. Similarly, a child with family members who view him or her as negatively impacting the family may be more likely to exhibit behavioural and emotional problems, which would perpetuate the cycle.

*Implications for Clinical Practice*

Findings in the current study have a number of important practical implications. First, the finding that residential treatment at CPRI coincides with significant reductions in youths' emotional and behavioural problem, and that such gains are maintained for at least 2-years, suggests that residential treatment can be related to long-term changes. For clinicians working with high needs children and adolescents, this suggests that residential treatment may be beneficial when less invasive mental health services have demonstrated limited success. In addition, these results underscore the relative importance of tertiary care within the children's mental health system. Research supporting the effectiveness of residential treatment is also important for policy makers and individuals who play a role

in decisions surrounding the allocation of funds. Residential treatment is one of the most expensive forms of treatment available, and consequently it is vital to ensure that treatment coincides with positive changes.

Second, the finding that the majority of caregivers in the current study seemed to be involved in setting youth's treatment goals suggests that clinicians at CPRI are successfully meeting their goal of involving family members in treatment. This has significant clinical implications, as previous research has demonstrated that parental involvement in treatment is related to increased residential treatment gains (Hair, 2003; Knorth et al., 2008). However, obtaining a more effective measure of parental involvement, perhaps using the *Family Engagement Questionnaire* (Kroll & Green, 1997), would provide stronger evidence of this claim.

Third, the finding that parental stress at admission is linked to the trajectory of change in emotional problems suggests that children with parents who are feeling highly stressed at admission may require additional treatment and supports both during treatment and once leaving residential care. Specifically, therapeutic treatments post-discharge should be available and focus on youths emotional problems. Also, providing parents with additional supports to help lower their parental stress leading up to a child's admission would be of value.

Fourth, the finding that the home environment in which a child is discharged to is related to post-discharge success demonstrates the importance of providing families with supports and resources. More specifically, clinicians should work to ensure that parents have access to their own therapeutic services both while their children are in residential treatment, and after they have been discharged from treatment. Engagement in family

therapy after discharge may be particularly useful in helping all members of the family work together to maintain treatment gains, and help instil the most positive home environment possible.

Lastly, the finding that caregivers reported significant reductions in how often they experience depressive feelings and thoughts, and how often their child negatively impacts their day-to-day functioning, is a significant addition to the literature on residential treatment outcomes (Knorth et al., 2008). These results suggest that residential treatment can coincide with positive changes not only in child functioning indicators, but caregiver and family functioning indicators as well. Change within the family system will aid in children being able to maintain initial treatment gains, as the behaviour of one family member influences the behaviour of other family members (Henggeler, 1999). Thus having residential treatment coincide with positive changes in child, family and parental functioning indicators provides greater support for the effectiveness and relative importance of residential treatment within the children's mental health system.

*Implications for Policy*

Based on current research findings, a number of recommendations can be made regarding policies and the allocation of funds surrounding residential treatment services for children and adolescents. The current study suggests that residential treatment coincides with positive treatment gains for children and youth exhibiting behavioural and emotional problems, and that gains can be maintained up to 2-years post-discharge. Thus residential treatment seems to be a valuable sector of the children's mental health system; however

certain policies and practices should be altered to better promote initial treatment gains, as well as the successful long-term maintenance of treatment gains.

In light of findings from the current study and previous literature (Henggeler, 1999; Landsman et al., 2001; Swenson et al., 2005) it is appropriate to suggest that residential treatment should continue to have a strong family focus. It may not be enough for family members to be involved in youth's treatment in terms of being given information and helping set treatment goals. Rather, treatment programs should be family focused so caregivers can take part in the treatment program itself. Also, youth typically live within a context or system, and their potential for change and maintaining change may be limited unless transformations take place within their family system (Henggeler; Swenson et al., 2005). Hence opportunities should be made available so that family members can be involved in frequent family therapy, and have access to their own supports (i.e. parenting support groups, individual counselling) both during and after youth's residential stay. Of upmost importance will be resources devoted to the empowerment and development of increased competency and confidence in caregivers (Henggeler).

However, considering the residential treatment program at CPRI currently serves a wide geographical area, it may not be possible for some families to take part in family therapy or utilize supports. Given the grave importance of family and parental functioning to a child's post-discharge success, it would perhaps be more effective if children could access residential services in the community within which they live. Having smaller residential treatment centres available in more cities would be less

disruptive for youth and their families, and would make participating in a family focused residential treatment more accessible for caregivers.

It is important to note that the journeys of children and their families do not end once a youth is discharged from residential treatment, but continues within the context of their home and community. Considering there is a relationship between post-discharge treatment outcomes and youths' home environment, perhaps more funding should be allocated to aftercare services and resources. Ensuring that caregivers and youth have access to aftercare services and resources in terms of supports and counselling will not only promote the maintenance of initial residential treatment gains, but may also help children and families experience additional treatment gains. Perhaps policy-makers should implement another "step" once a youth is discharged from residential treatment that includes family-based treatments within the community one lives. This additional "step" should be similar to a multisystemic therapy model (Swenson et al., 2005), which may help families and youth with the transition from residential treatment to home, as well as help youth and caregivers maintain gains in their natural social networks (Henggeler, 1999).

*Limitations of the Current research*

Limitations to the current study include: attrition in the sample across time, a research design that lacked a comparison group, the absence of a discharge measure, a lack of a measure of post-treatment services, the reliance on parent-reports, no measure of treatment fidelity, and short-comings in the measures that were used. Although there were no significant differences on any of the dependent variables between those who participated in all three waves of the study and those that did not, having to eliminate 30

youth from the analyses due to missing data did reduce the sample size. Consequently the power and generalizability of the current results were also compromised.

The design of the current study also posed some limitations. First, the study is a quasi-experimental design without a comparison or control group. Without a comparison group it is unclear whether it is the treatment program at CPRI which resulted in the positive changes found, or another factor. For example, it is possible that the results could be explained by the regression to the mean phenomena. Although, it is important to note that measuring treatment outcomes at multiple time-points does provide some support for the effectiveness of the treatment program at CPRI. However, without a control or comparison group it may be more accurate to suggest that residential treatment *coincided* with positive treatment gains. Second, the main outcome measure was not taken at discharge. Without an outcome measure at discharge it remains unclear how much change occurred during the period when youth resided at the residential treatment centre. Having an outcome measure at discharge would have provided a clearer understanding of the effectiveness of treatment, irrespective of any other supports utilized post-discharge.

Relying on parental reports can be troublesome as some of the questions may be difficult to answer, and caregivers may have a biased view or perception of their child's behavioural and emotional problems. For example, it may be difficult for caregivers to report that their child is still having behavioral and emotional problems even after they stayed in residential treatment for four months. Parents may then unconsciously, or consciously, report that their child is having less emotional or behavioural problems than they really are. In addition, parental reports may also be influenced by their own mental health concerns. For example, a caregiver who is experiencing depressive symptoms *may*

be more sensitive to emotional or behavioural problems in their child, and *may* over-report behavioural or emotional concerns in their child. Also, different caregivers may have different personal definitions or perceptions of how often a behaviour has to occur, for it to be considered occurring "often" or "sometimes'. In other words, caregivers have different subjective realities and perceptions that influence the reports they provide for their children. Using teacher and clinician reports in addition to parental reports would be a more reliable representation of treatment outcomes.

Another limitation of the current research is that there was no measure of treatment fidelity. Thus there is no way of knowing whether the treatment youth received was consistent throughout the course of their stay at CPRI. The last limitation discussed relates to the poor reliability of the questions from the BCFPI (Cunningham et al., 2006) used to measure parental discipline practices. Considering that the reliability was low, parental discipline practices could not be examined as a possible factor linked to residential treatment outcomes. Similarly, it is unclear whether residential treatment coincides with any changes in discipline practices. The reliability may have been low given the relatively poor face validity of the items used. For example, whether one sends a child to their room often or never may not be a valid measure of whether a caregiver is using positive discipline practices, as there are numerous situational factors that may influence that decision. In addition, from a face validity perspective, the items do not seem to group well together. For example, saying that you "always reason or explain things to your child" is quite different from saying you always spank your child with your hand. Similarly, it is unlikely that many caregivers would have endorsed two of the five

items used, as endorsing them could have resulted in a phone call to the local Children's Aid Society.

*Suggestions for Future Research*

Although the current research added to the literature, residential treatment is multifaceted and many unanswered questions remain. One such question is whether residential treatment is truly an effective means in treating a high-needs group of children and adolescents. The current research suggests that residential treatment is effective, however one of the major limitations is that there was no control group. Thus future research should examine both initial and long-term residential treatment outcomes in a research design that includes a wait-list control to help rule out other explanations for the treatment gains. Future research should also consider using multiple respondents (i.e. teachers, caregivers, and youth) when examining the trajectory of change in youths emotional and behavioural problems. Doing so will provide a more comprehensive understanding of the residential treatment outcomes, and will help overcome the limitations associated with only using parental reports.

A second question that remains unanswered is whether the relationship found in the current study between parental stress and youth emotional problems is mediated by parenting behaviours or practices. This question could not be examined in the current research as the parenting practices measure used was not reliable. Hence future research should strive to answer the above question, while also using a more reliable measure or parenting practices.

A third question that remains unanswered is whether clinicians can identify for whom residential treatment is not successful. The current research partly examined this

question in terms of a caregivers level of parental stress at admission, however there are many facets of a child's life and development that may influence whether or not they will be successful in a residential treatment setting. Hence a better understanding of who the children are that do not benefit from residential treatment is needed. To help answer this question future research should examine a more diverse set of variables or predictors. Such research may also help clinicians see whether there are some children who would benefit from participating in residential treatment earlier, and not utilizing it as a "last resort" (Frensch & Cameron, 2003).

Future research on the outcomes of residential treatment should replicate the findings in the current research regarding changes in parental and family functioning indicators. Whether changes in parental and family functioning indicators coincide or relate to youths residential treatment outcomes post-discharge should also be examined. Such research would further support providing residential treatment that is highly family focused.

Lastly, future research should examine which types of aftercare services are needed to help prevent relapse. If researchers can determine which types of post-discharge services relate to youth and families being more likely to maintain treatment gains, funds can be allocated appropriately. Such research would aid in clinicians being able to provide, and recommend, evidence-based services for youth and their families once they leave residential treatment.

*Summary*

Considering residential treatment is the most intensive and expensive form of treatment a child/youth can undergo, there is debate in the literature regarding whether it is an

effective modality when treating children and adolescents with behavioural and emotional problems. Similarly, there is a lack of research examining for whom residential treatment is most successful, as well as whether residential treatment produces any changes in parental or family functioning indicators. The significant findings of the current study suggest that residential treatment is a valuable component within the children's mental health system. However, findings also suggest that the trajectory of change in youth's residential treatment outcomes partly depend on a caregiver's level of parental stress at the time of admission, as well as the home environment in which the child/youth returns to upon discharge. Thus post-discharge success seems to be at least *partially* related to the functioning of the family, meaning the people with whom they spend the majority of their time once they return to their home community. Despite limitations of this study, it is suggested that practitioners and policy-makers provide residential services that are family-focused, and that families be provided with adequate aftercare services to help with the maintenance of treatment gains.

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# Appendix A: The Brief Child and Family Phone Interview

# *The Brief Child and Family Phone Interview (BCFPI)*

## *Parent Form*

## *Paper Version*

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**PARENT PHONE INTERVIEW (Shaded items are required)**

| CHILD | |
|---|---|
| Child's name<br>last first | ID NUMBER |
| Address<br>street | Date of Birth<br>month day year |
| city province postal code | Sex<br>Male (1) Female (2) |
| Phone | |

| AGENCY | |
|---|---|
| Agency Name | Agency dates (record 1, 2, or 3 of:)<br>1. referral 2. admission 3. discharge |
| **Stage of Service** (Circle 1:) Before During After | Date Form Completed<br>month day year |

| INFORMANT |
|---|
| **Informant Type** (Circle 1) Parent Doctor Provider Self Teacher |
| **Name**: (Circle 1): Female Parent 1 Female Parent 2 Male Parent 1 Male Parent 2<br>last first |
| **Address:**<br>street<br>city province postal code |
| **Phone:**<br>home work |
| **Consent to contact for follow-up: Yes No** |

***Start with basic concerns saying something like . . . .***
***"Please tell me about your concerns and any help you would like."***
***Record comments in box.***

***Move on by saying something like . . .***
***"Thanks, that's a good start. Now, I'd like to go on to some other questions."***
***Go to appropriate section, in accordance with your BCFPI protocol.***

## Externalizing

***"I will read you examples of (other types of) problems which children sometimes have. Tell me whether each is NEVER true, SOMETIMES true, or OFTEN true of _____."***

| **REGULATION OF ATTENTION, IMPULSIVITY AND ACTIVITY** ***"Do you notice that_____ . . . ?*** | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Is distractible of has trouble sticking to an activity | | | | |
| Fails to finish things he/she starts | | | | |
| Has difficulty following directions or instructions | | | | |
| Is impulsive or acts without stopping to think | | | | |
| Jumps from one activity to another | | | | |
| Fidgets | | | | |

| **COOPERATIVENESS** ***"Do you notice that_____ . . . ?*** | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Is cranky | | | | |
| Is defiant or talks back to adults | | | | |
| Blames others for his/her own mistakes | | | | |
| Is easily annoyed by others | | | | |
| Argues a lot with adults | | | | |
| Is angry and resentful | | | | |

| **CONDUCT** ***"Do you notice that_____ . . . ?*** | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Steal things at home | | | | |
| Destroy things belonging to others | | | | |
| Engage in vandalism | | | | |
| Has ____ broken into a house, building or, car | | | | |
| Does _____ physically attack people | | | | |
| Does _____ use weapons when fighting | | | | |

## Internalizing

***"I will read you examples of (other types of) problems which children sometimes have. Tell me whether each is NEVER true, SOMETIMES true, or OFTEN true of _____."***

| **SEPARATION FROM PARENTS** ***"Do you notice that_____ . . . ?*** | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Worries that bad things will happen to loved ones | | | | |
| Worries about being separated from loved ones | | | | |
| Is scared to sleep without parents nearby | | | | |
| Is overly upset when leaving loved ones | | | | |
| Is overly upset while away from loved ones | | | | |
| Complains of feeling sick before separation | | | | |

| **MANAGING ANXIETY** *"Do you notice that_____ . . . ?* | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Worries about doing better at things | | | | |
| Worries about past behaviour | | | | |
| Worries about doing the wrong thing | | | | |
| Worries about things in the future | | | | |
| Is afraid of making mistakes | | | | |
| Is overly anxious to please people | | | | |

| **MANAGING MOOD** *"Do you notice that_____ . . . ?* | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Has no interest in his/her activities | | | | |
| Gets no pleasure from usual activities | | | | |
| Has trouble enjoying him/her self | | | | |
| Is not as happy as other children | | | | |
| Feels hopeless | | | | |
| Seems unhappy, sad, or depressed | | | | |

***ASK THE NEXT 3 QUESTIONS IF THERE IS ANY CONCERN RE: POSSIBLE DEPRESSION OR SELF-HARM. IF ANY OF THE NEXT 3 ITEMS ARE ENDORSED, IMPLEMENT YOUR AGENCY'S RISK MANAGEMENT PROTOCOL.***

| *"Do you notice that_____ . . . ?* | never (1) | some-times (2) | often (3) | comments |
|---|---|---|---|---|
| Has lost a lot of weight without trying | | | | |
| Talks about hilling himself/herself | | | | |
| Deliberately harms self or attempts suicide | | | | |

***"Now I'll ask few questions about _____'s day to day functioning and how all of this may have affected your child. Tell me if it is "NONE", "A LITTLE", of "A LOT".***

| **Child Functioning** | none (1) | a little (2) | a lot (3) | comments |
|---|---|---|---|---|
| **Social Participation** How much has ___ withdrawn or isolated him/herself as a result of these problems? | | | | |
| How much has ___ been doing things less with other kids as a result of these problems? | | | | |
| How much has ___'s life become less enjoyable as a result of these problems? | | | | |
| **Quality of Relationships** How much trouble has _____ had getting along with his/her teachers as a result of these problems? | | | | |
| How much trouble has ___ had getting along with you or your partner as a result of these problems? | | | | |
| How much has ___ been irritable or fighting with friends as a result of these problems? | | | | |
| **School Participation & Achievement** How much has ___ missed school as a result of these problems? | | | | |
| How much have ___'s grades gone down as a result of these problems? | | | | |

***"Now, I'd like to ask about some family circumstances. Tell me if they apply "NEVER", "SOMETIMES", "OFTEN", of "ALWAYS"."***

| **Impact on Family** | never (1) | some-times (2) | often (3) | always (4) | comments |
|---|---|---|---|---|---|
| **Family Activities** How frequently has _____'s behaviour prevented you from taking him/her out shopping or visiting? | | | | | |
| How frequently has _____'s behaviour made you decide not to leave him/her with a babysitter? | | | | | |
| How frequently has _____'s behaviour prevented you from having friends, relatives, or neighbours to your home? | | | | | |
| How frequently has _____'s behaviour prevented his/her brothers or sisters from having friends, relatives, or neighbours to your home? | | | | | |
| **Family Comfort** How frequently have you quarreled with your spouse regarding _____'s behaviour? | | | | | |
| How frequently has _____'s hehaviour caused you to be anxious or worried about his/her chances for doing well in the future? | | | | | |
| How frequently have neighbours, relatives or friends expressed concerns about _____'s behaviour? | | | | | |

## Other Items Available for Inquiry, if applicable

***The interviewer may record degree of concern, if any, regarding any of the following items. Items should be selected which seem to be of concern to the informant, or are of routine concern to the provider.***

| **Concern** | none 0 | a little 1 | a lot 2 | comments |
|---|---|---|---|---|
| **Mutism:** Consistent failure to speak in some situations (e.g. school) but speaks comfortably in other situations (e.g. home) | | | | |
| <<<< The following 6 items are 'pilot' screening items re Elective Mutism. They are optional, under review, and may be dropped or changed in future versions.>>>> | | | | |
| | never (1) | some-times (2) | often (3) | |
| In the past 2 months did _____ speak to his/her parent at home? | | | | |
| In the past 2 months did _____ speak to his/her brothers or sisters at your home? | | | | |
| In the past 2 months did _____ speak to other children at your home? | | | | |
| In the past 2 months did _____ speak to his/her parent at school? | | | | |
| In the past 2 months did _____ speak to other children at school? | | | | |
| In the past 2 months did _____ speak to the teacher at school? | | | | |

| **Other Concerns (Continued)** | none 0 | a little 1 | a lot 2 | comments |
|---|---|---|---|---|
| **Specific Fear:** Unusually strong and persistent fear of something specific (e.g. animals, needles, heights) | | | | |
| **Obsessions:** Recurrent thoughts or impulses cause distress or impair functioning. | | | | |
| **Compulsions:** Repetitive behavious (e.g. hand washing, ordering, or checking) cause distress or impair functioning. | | | | |
| **Movement problems:** recurrent movements (tics) or vocalizations cause stress or impairment | | | | |
| **Thought Problems:** Delusions, hallucinations, paranoia, disorganized speaking or behaviour resulting in significant impairment | | | | |
| **Speech Difficulties:** Informant felt child had significant difficulty understanding speech or speaking | | | | |
| **Learning Problems:** Informant felt academic progress was significantly below ability. If yes, record examples in 'comment' section. | | | | |
| **Sleep Difficulties:** Persistent difficulty falling asleep, staying asleep, awakening from anxiety-provoking nightmares, or prolonged sleep during the day which causes stress or impairment. | | | | |
| **Eating Problems:** Not maintaining weight, significant loss of weight, fear of being overweight, and disturbed thinking about body shape or weight. | | | | |
| **Urination Problems:** Urinates in bed or clothing several times per week | | | | |
| **Bowel Movement Problem:** Bowel movements in inappropriate places (e.g., clothes, floor) several times over a three month period. | | | | |
| **Substance Use Problem:** Recurrent use of alcohol or drugs leading to impaired functioning (e.g., substance-related absences, suspensions, or expulsions from school) | | | | |
| **Development Problems:** Informant felt general development was significantly below age. | | | | |
| **Sexual Problems:** problems with sexual behaviour or identity which cause distress or impairment | | | | |
| **Fire:** inappropriate involvement with fire, matches, ets. | | | | |

## Risk Factors

***"Some of the following items may help us understand your situation and _____'s overall situation better. Different combinations of these things seem to make life easier or more difficult for many families and children."***

***"Here I'll ask a couple or health questions."***

| **Health – Mom and Dad** | very much 1 | some-what 2 | not at all 3 | n/a 4 | comments |
|---|---|---|---|---|---|
| Are you limited, in carrying out normal activities, at home, at a job, or in school, because of a medical condition or health problem? | 1 | 2 | 3 | 4 | |
| Is your spouse or partner limited, in carrying out normal activities, at home, at a job, or in school, because of a medical condition or health problem? | 1 | 2 | 3 | 4 | |

***"We'd like to rate whether or not you feel that drinking is a problem in your home. Please say how much you agree or disagree that . . . . . "***

| **Alcohol – Mom & Dad** | strongly agree | agree | disagree | strongly disagree | n/a | comments |
|---|---|---|---|---|---|---|
| Your drinking is a source of tension or disagreement in your home. | 1 | 2 | 3 | 4 | 5 | |
| Your spouse or partner's drinking is a source of tension or disagreement in your home. | 1 | 2 | 3 | 4 | 5 | |

***"Parent's moods are also important. The following items describe some of the ways people feel at different times. During the past week, how often have you felt or behaved this way during the past week? Would you say is was "less than 1 day", "1-2 days", "3-4 days" or "5 or more days"."***

| **Depression – Informant** | less than 1 day | 1-2 days | 3-4 days | 5 or more days | comments |
|---|---|---|---|---|---|
| You did not feel like eating; your appetite was poor. | 1 | 2 | 3 | 4 | |
| You had trouble keeping your mind on what you were doing. | 1 | 2 | 3 | 4 | |
| You felt depressed. | 1 | 2 | 3 | 4 | |
| Your sleep was restless. | 1 | 2 | 3 | 4 | |
| You felt sad. | 1 | 2 | 3 | 4 | |
| You could not 'get going'. | 1 | 2 | 3 | 4 | |

***"Now some similar questions regarding your spouse or partner. During the past week, how often has your partner . . . . . ?"***

| **Depression – Partner** | less than 1 day | 1-2 days | 3-4 days | 5 or more days | comments |
|---|---|---|---|---|---|
| seemed unable to 'get going'? | 1 | 2 | 3 | 4 | |
| seemed to feel sad? | 1 | 2 | 3 | 4 | |
| had crying spells? | 1 | 2 | 3 | 4 | |

***"The next statements are about families and family relationships. How much do you agree or disagree with the following statements about your family?"***

| **Family Functioning** | strongly agree | agree | disagree | strongly disagree | n/a | comments |
|---|---|---|---|---|---|---|
| In times of crises we can turn to each other for support. | 1 | 2 | 3 | 4 | 5 | |
| Individuals (in the family) are accepted for what they are. | 1 | 2 | 3 | 4 | 5 | |
| We express feelings to each other. | 1 | 2 | 3 | 4 | 5 | |
| We are able to make decisions about how to solve problems. | 1 | 2 | 3 | 4 | 5 | |
| We DON'T get along well together. | 1 | 2 | 3 | 4 | 5 | |
| We confide in each other. | 1 | 2 | 3 | 4 | 5 | |

| **Couple Relationship** | excellent | good | fair | poor | n/a | comments |
|---|---|---|---|---|---|---|
| Overall, how would you rate the relationship between you and your spouse or partner? | 1 | 2 | 3 | 4 | 5 | |

***"Next, a few questions regarding discipline. When _____ is being bad or doing something wrong, how often do you . . . . . ?"***

| **Discipline Style** | never | some-times | often | always | comments |
|---|---|---|---|---|---|
| Reason with ___ or explain to ____? | 1 | 2 | 3 | 4 | |
| Send ____ to his/her room? | 1 | 2 | 3 | 4 | |
| Take away ____'s privileges? | 1 | 2 | 3 | 4 | |
| Spank ____ with your hand? | 1 | 2 | 3 | 4 | |
| Spank ____ with a belt, brush, or something else? | 1 | 2 | 3 | 4 | |

***"We also need to know whether abuse or neglect has been part of _____'s situation."***

| **Abuse** | yes | no | don't know | comments |
|---|---|---|---|---|
| To your knowledge, has _____ ever been physically abused? | 1 | 2 | 3 | |
| To your knowledge, has _____ ever been sexually abused? | 1 | 2 | 3 | |
| To your knowledge, has _____ ever been neglected to that extent that seemed to impair his/her emotional or physical well being? | 1 | 2 | 3 | |
| To your knowledge, has _____ ever witnessed verbal or physical violence amongst the adults who have been involved in parenting him/her? | 1 | 2 | 3 | |

## Protective Factors

***"Next, a few questions regarding some of ___'s activities and talents, and some related family characteristics."***

| | |
|---|---|
| **Supervised activities**<br>Outside of regular physical education classes, did ___ take part in any sports during the past year which involved adult coaching or instruction? (if 'yes' record number and details in comments for this question).<br>☐ yes<br>☐ no<br>☐ don't know | comments |
| Outside of regular classes in school, did ___ take any lessons or instruction during the past year in music, dance, or other non-sport activities? (If 'yes', record number and details in comments for this question).<br>☐ yes<br>☐ no<br>☐ don't know | comments |
| During the past year, did ____ belong to any clubs or groups with adult leadership, such as cubs, scouts, brownies, a church group or community programs? (If 'yes', record number and details in comments for this question).<br>☐ yes<br>☐ no<br>☐ don't know | comments |
| **Family Recreation**<br>How often have all or most of the family participated together in any recreational activities, such as walks, games, fishing, etc., in the past 6 months?<br>☐ once a week<br>☐ 2-3 times per month<br>☐ once a month<br>☐ less than once per month<br>☐ never | comments |
| **Spiritual**<br>How often does ____ attend religious services or cultural ceremonies?<br>☐ almost every week<br>☐ less than weekly, but more often than just on holidays<br>☐ only on holidays or special occasions<br>☐ never, almost never | comments |
| **Child-Confidant**<br>Does ____ have anyone in particular he/she talks to or confides in? (If answer is 'yes', record relationship of confidant to child and impact of sharing on child's coping in comment section for this question). | relationship_____<br>impact: |

| | |
|---|---|
| ☐ yes ➡<br>☐ no<br>☐ don't know | |
| **Parent - Confidant**<br>Do you have anyone in particular that you can talk to or confides in about yourself of issues you are concerned about? (If 'yes', record relationship of confidant to parent and impact of sharing on parent's coping in comment section for this question).<br>☐ yes ➡<br>☐ no<br>☐ don't know | relationship_____<br>impact: |

## Readiness & Barriers

***"The next questions ask about other services and information you may be interested in. Tell me if it is "NO", "MAYBE", or "YES".***

| **Readiness** | no (1) | maybe (2) | yes (3) | comments |
|---|---|---|---|---|
| Would you be interested in reading about the issues you described? | | | | |
| Would you be interested in watching a videotape about the issues you have described? | | | | |
| If there was a group of parents meeting together to discuss similar issues, would you be interested in attending? | | | | |
| If workshops were available to learn about things you could do as a parent to help your child, would you be interested in attending? | | | | |
| Is your child interested in getting help with the difficulties he/she is having? | | | | |

***"Would you be willing to give us a phone number where we can reach you to get updates on these items, so we can track how ____ is doing while waiting for, during, and after service?" (IF YES, ENTER PHONE NUMBER NOW) _____***

***"Let me ask about some things that may affect your ability to work with us. We are located _____ (describe location client would attend).***

***Do you know where that is?"*** **Yes/No**

| **Barriers** | none (1) | a little (2) | a lot, but can participate (3) | will prevent participation (4) | n/a (5) | comments |
|---|---|---|---|---|---|---|
| How much of a problem would it be for you to get to the Centre? Would that stop you from attending? | | | | | | |
| Would parking costs be difficult for you? Would that stop you from attending? | | | | | | |
| Would it be problem if services were only during the day? Would that stop you from attending? | | | | | | |
| Would it be a problem if services were only during the evening? Would that stop you | | | | | | |

| from attending? | | | | | | |
|---|---|---|---|---|---|---|

| **Barriers** | none (1) | a little (2) | a lot, but can participate (3) | will prevent participation (4) | n/a (5) | comments |
|---|---|---|---|---|---|---|
| How much of a problem would babysitting be if you were to come to the Centre? Would that stop you from attending? | | | | | | |
| Would it be difficult for you to read and fill in a questionnaire? Would that stop you from attending? | | | | | | |

***Readiness Wrap Up:***

***"If you would like, we will send you a list of books, videotapes, talks and workshops which you might be interested in. What is the best way to get it to you?"***

_____

***"Do you have a fax?"*** _____

***"Do you have an email address?"*** _____

## Demographics

***"Finally, I'd like to ask a few basic background questions."***

Are you a single parent, or do you live with a spouse or partner?

1. single parent
2. partner or spouse

What language is most often used in your home?

| | | |
|---|---|---|
| 1. English | 9. Ukrainian | 17. Serbian |
| 2. French | 10. Spanish | 18. Slovenian |
| 3. Italian | 11. Dutch | 19. Serbo-Croatian |
| 4. Polish | 12. Greek | 20. Other _____ (please specify) |
| 5. Punjabi | 13. Hungarian | |
| 6. Chinese | 14. Croatian | 21. Ojibway |
| 7. German | 15. Uru | 22. Cree |
| 8. Portuguese | 16. Khmer (Cambodian) | 23. Ojicree |

What is the highest level of education you've completed?

| | |
|---|---|
| 1. no schooling | 6. some Community College |
| 2. some elementary | 7. completed Community College |
| 3. completed elementary | 8. some University |
| 4. some secondary or high school | 9. completed University |
| 5. completed secondary or high school | |

What is the highest level of education your spouse or partner has completed?

| | |
|---|---|
| 1. no schooling | 6. some Community College |
| 2. some elementary | 7. completed Community College |
| 3. completed elementary | 8. some University |
| 4. some secondary or high school | 9. completed University |
| 5. completed secondary or high school | |

Could you tell me which of the following describes your total family income over the past year?

| | | |
|---|---|---|
| 1. $0-$9,999 | 4. $20,000-$29,999 | 7. $50,000-59,999 |
| 2. $10,000-$14,999 | 5. $30,000-$39,999 | 8. Greater than $60,000 |
| 3. $15,000-$19,999 | 6. $40,000-$49,000 | |

| (Optional) What is the primary source of your family income? | |
|---|---|
| 1. Employment Insurance | 4. Employment |
| 2. Disability | 5. Other |
| 3. Social Assistance | |

***"Have we missed anything important?"***

| |
|---|
| |

***"Thank you."***

***Inform Client of next steps in your organization's service delivery process.***

# Appendix B: The Parenting Stress Index

# PSI Short Form

## Instructions

This questionnaire contains 36 statements. Read each statement carefully. For each statement please focus on the child you are most concerned about, and circle the response that best represents your opinion.

Circle the SA if you strongly agree with the statement

Circle the A if you agree with the statement

Circle the NS if you are not sure.

Circle the D if you disagree with the statement.

Circle the SD if you strongly disagree with the statement

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies SA (A) NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movie SA A NS (X) (SD)

Before responding to the statements, write your name, gender, date of birth, ethnic group, marital status, child's name, child's gender, child's date of birth, and today's date in the spaces at the top of the questionnaire.

Name_____ Gender____ Date of birth_____ Ethnic Group_____ Martital status_____
Child's name___ Child's gender_____Child's date of birth_____ Today's date_____

| SA =STRONGLY AGREE A =AGREE NS =NOT SURE D =DISAGREE SD =STRONGLY DISAGREE |
|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | I often have the feeling that I cannot handle things very well | SA | A | NS | D | SD |
| 2 | I find myself giving up more of my life to meet my children's needs that I ever expected | SA | A | NS | D | SD |
| 3 | I feel trapped by my responsibilities as a parent | SA | A | NS | D | SD |
| 4 | Since having this child, I have been unable to do new and different things | SA | A | NS | D | SD |
| 5 | Since having this child, I feel that I am almost never able to do things that I like to do | SA | A | NS | D | SD |
| 6 | I am unhappy with the last purchase of clothing I made for myself | SA | A | NS | D | SD |
| 7 | There are quite a few things that bother me about my life | SA | A | NS | D | SD |
| 8 | Having a child has caused more problems than I expected in my relationship with my spouse ( or male/female friend) | SA | A | NS | D | SD |
| 9 | I feel alone and without friends | SA | A | NS | D | SD |
| 10 | When I go to a party, I usually expect not to enjoy myself | SA | A | NS | D | SD |
| 11 | I am not as interested in people as I used to be | SA | A | NS | D | SD |
| 12 | I don't enjoy things as I used to | SA | A | NS | D | SD |
| 13 | My child rarely does things for me that make me feel good | SA | A | NS | D | SD |
| 14 | Sometimes I feel my child doesn't like me and doesn't want to be close to me | SA | A | NS | D | SD |
| 15 | My child smiles at me much less than I expected | SA | A | NS | D | SD |
| 16 | When I do things for my child, I get the feeling that my efforts are not appreciated very much | SA | A | NS | D | SD |
| 17 | When playing, my child doesn't often giggle or laugh | SA | A | NS | D | SD |
| 18 | My child doesn't seem to learn as quickly as most children | SA | A | NS | D | SD |
| 19 | My child doesn't seem to smile as much as most children | SA | A | NS | D | SD |
| 20 | My child is not able to do as much as expected | SA | A | NS | D | SD |
| 21 | It takes a ong time and it is very hard for my child to get used to new things | SA | A | NS | D | SD |
| 22 | For the next statement, choose your response from the choices "1" to "5" below<br>I feel that I am 1. Not very good at being a parent<br>2. a person who has some trouble being a parent<br>3. an average parent<br>4. a better than average parent<br>5. a very good parent | 1 | 2 | 3 | 4 | 5 |
| 23 | I expected to have closer and warmer feelings for my child than I do and this bothers me | SA | A | NS | D | SD |
| 24 | Sometimes my child does things that bother me just to be mean | SA | A | NS | D | SD |
| 25 | My child seems to cry or fuss more often than most children | SA | A | NS | D | SD |
| 26 | My child generally wakes up in a bad mood | SA | A | NS | D | SD |
| 27 | I feel that my child is very moody and easily upset | SA | A | NS | D | SD |
| 28 | My child does a few things which both me a great deal | SA | A | NS | D | SD |

| | | | | | | |
|---|---|---|---|---|---|---|
| 29 | My child reacts very strongly when something happens that my child doesn't like | SA | A | NS | D | SD |
| 30 | My child gets upset easily over the smallest thing | SA | A | NS | D | SD |
| 31 | My child' sleeping or eating schedule was much harder to establish than I expected | SA | A | NS | D | SD |
| 32 | For the next statement, choose your response from the choices "1" to "5" below<br>I have found that getting my child to do something or stop doing something is<br>1. much harder than I expected<br>2. somewhat harder than I expected<br>3. about as hard as I expected<br>4. somewhat easier than I expected<br>5. much easier than I expected | 1 | 2 | 3 | 4 | 5 |
| 33 | For the next statement, choose your response from the choices "10+" to "1-3"<br>Think carefully and count the number of things which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. | 10+ | 8-9 | 6-7 | 4-5 | 1-3 |
| 34 | There are some things my child does that really bother me a lot | SA | A | NS | D | SD |
| 35 | My child turned out to be more of a problem than I had expected | SA | A | NS | D | SD |
| 36 | My child makes more demands on me than most children | SA | A | NS | D | SD |