Case Study: The Effects of Stress Inoculation Training on a Biological Mother of a Child with a Developmental Disability

by

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Caregivers of children with developmental disabilities have additional stressors that most families do not. This stress may be further exacerbated if the family is involved with the child welfare system and the child or children have already been, or are at risk of being apprehended due to abuse and/or neglect by their caregivers. The purpose of stress inoculation training was to teach the caregivers how to adequately deal with stress so they were better prepared to support their children and meet the criteria outlined by the child welfare system in order to have continued access to their child. The effectiveness of a stress inoculation intervention for reducing perceived stress levels in a forty-year-old single mother of an eight-year-old male with a developmental disability was evaluated. The intervention included the development of a collaborative relationship between the client and facilitator, the teaching of specific skills, which were rehearsed in-vivo in a setting comfortable for the client, and opportunities to practice the skills were prearranged across varying levels and situations. Pre and post assessment results using the DASS21 demonstrated that the client’s overall level of perceived stress and depression decreased moderately following the intervention, although surprisingly, her overall level of anxiety increased. The results support that teaching coping strategies and time management skills to clients using a stress inoculation model may be an effective strategy for decreasing perceived stress in parents of children with developmental disabilities. Suggestions for improving the effectiveness of stress inoculation training with this population, such as including an anxiety reducing component, are discussed.
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Chapter I – Introduction

Caregivers of children with developmental disabilities have additional stressors that most families do not. There are many factors that may contribute to the caregivers' stress such as the child’s characteristics, challenging behaviour, physical limitations, limited social skills, and an insufficiency in self care (Lessenberry & Rehfeldt, 2004). This stress may be further exacerbated if the family is involved with the child welfare system and the child or children have already been or are at risk of being apprehended due to abuse and/or neglect by their caregivers. The purpose of stress inoculation training (SIT) is to teach the parents how to adequately deal with stress so they are more prepared to support their children and hopefully better able to meet the criteria outlined by the child welfare system in order to have continued access to their child, either within the home, or through supervised visitation.

Background Information

SIT is a cognitive-behavioural approach to therapy (Meichenbaum, 1985) that enables an individual to gain necessary skills to better cope with stress. SIT encompasses three phases of training, which include the conceptualization phase, the skill acquisition and rehearsal phase, and the application and follow through phase. SIT involves the client learning about themselves and the stressors that are specific to them, altering their environmental settings, and learning specific coping skills.

Stress inoculation training (SIT) acts as a vaccine against stress (Jaremko, 1984). In disease prevention, an individual is given small doses of the antagonist to develop defense reactions in the body. SIT is based on the same theory. By exposing an individual to small, but increasingly more doses of stressful situations, the individual can learn to develop appropriate coping skills in a safe environment (Jaremko, 1984).

Rational

Evidence has suggested that caregivers of children with developmental disabilities face higher levels of stress than the majority of caregivers of children without developmental disabilities (Lessenberry & Rehfeldt, p 231, 2004). The higher these caregivers' level of stress becomes, the more negative the interactions with their children become (Lessenberry & Rethelot, p. 231). Research has also demonstrated that a caregiver’s level of stress is bidirectional with a child’s problem behaviour (Singer, Ethridge, & Aldana, 2007). Therefore it is reasonable to assume that by decreasing the parent’s level of stress or anxiety their ability to care for their child will also increase.

Stress Inoculation in particular has been shown to be effective in reducing the stress of direct contact staff working with individuals with developmental disabilities and, in one study, 71 % of the staff agreed that SIT was useful in their work with clients (Keys & Dean, 1988). Given that SIT has been shown to be effective in helping direct care staff develop coping skills for working with those with developmental disabilities, it would seem likely that it would work with the primary caregivers as well.

This intervention is different than past interventions because it is providing support for the parent and teaching them some parenting skills in the hopes that once their stress levels are under control they will be much more responsive to advice from others, and will be able to make more informed decisions regarding the welfare of their children.
**Hypothesis**

It has been demonstrated in numerous studies that caregivers of children with developmental disabilities face additional stressors, therefore by reducing these stressors, the caregiver’s ability to cope increases. It is hypothesized that by teaching primary caregivers of children with developmental disabilities the coping skills needed to handle stressful situations, their subjective level of stress will be decreased.

**Anticipated Results**

It is anticipated that after the training, the parents’ stress level will be reduced by 40% on a self-report measure of stress. This will be demonstrated by using the DASS21 by Lovibond & Lovibond (1995).

**Potential Challenges or Concerns**

The major ethical concern with this particular intervention is that the children involved may be potentially abused or neglected. It has already been established that the parents have abused or neglected their child at some point, or have been at severe risk, in order for them to be involved in the child welfare system. It is extremely important that throughout the training with the parents, the child’s welfare is always being observed. If at any point it is suspected that the child may be abused, the appropriate protocols as set out by the child welfare system will be set in place.

Potential challenges may involve the motivation of the parents. Although many parents will be motivated to do what is necessary to continue contact with their children, some of the parents have a negative view of the child welfare system. A major limitation to the study is that the outcome being assessed was difficult to measure objectively. The results will depend on self-report data from the participants.

**Overview**

The thesis will be based on relevant literature and research and will analyze the effects of SIT on primary caregivers supporting a child with a developmental disability. The primary caregiver would be defined as the caregiver who has been designated by law to care for the welfare of the child. Following a review of relevant research the methodology will be discussed in detail. This will include participants, background information, reason for referral, target behaviours, design, assessment measures, and settings. The thesis will then go on to include a discussion of results, which will detail the procedures used, and whether objectives and the original hypothesis were supported. Finally, the thesis will include a discussion which will cover limitations, multi level challenges to services implementation, strengths, and possible recommendations for future research.
Chapter II – Literature Review

Short and Long Term Effects of Stress

When a person is undergoing stress for a prolonged period of time they may experience headaches, asthma, ulcers, and back pain. They may also experience negative emotional states, leading to self-destructive behaviour such as consuming alcohol. Maladaptive behaviours in response to stress can be detrimental for various reasons, however; of larger concern is that unproductive coping strategies can lead to increases in stress levels or cause entirely new stressors all together, such as alcohol or substance abuse. (Saunders et al., 1996). Stress can be described as an antecedent causing an individual to appraise the situation as a demand that exceeds their resources, which in turn results in physical, psychological, behavioural, and social outcomes for the individual (Saunders, Driskell, Johnston, and Salas, 1996). Stress Inoculation Training (SIT) has been used in a variety of settings and for a variety of applications. The purpose of SIT is to make a person resistant to stress, hence the term inoculation (Saunders et al., 1996).

Jaremko (1984) explains that a stressor is any event that places either physical or psychological demands on an individual; stress is the response to the event, and coping is how an individual attempts to handle the stressor. This is when it is important that people have the coping skills necessary to handle the stressor. Without the coping skills, the person may, without intention, make this situation worse. If one is to follow this definition of stress almost anything can be perceived as a stressor if the person does not have the coping skills (Jaremko, 1984). The purpose of SIT is to deal with this by working with an individual to help identify the stressful situations and develop coping skills (Jaremko, 1984).

Stress is described as a psychological and a physiological response to an event (Auerbach & Gramling, 1998). The psychological and physiological responses begin in the body’s nervous system (Auerbach & Gramling, 1998). The nervous system then alerts the slower responding systems such as the endocrine and immune systems (Auerbach & Gramling, 1998). These three systems are all interconnected and have their own response to stress; this is the body’s preparation to either attack a stressor or avoid a stressor, otherwise known as “fight or flight” (Auerbach & Gramling, 1998). The nervous system actually consists of six different systems, the central nervous system, the peripheral nervous system, somatic nervous system, autonomic nervous system, sympathetic nervous system, and the parasympathetic nervous system (Auerbach & Gramling, 1998). These systems can have various effects on our body including insomnia, headaches, indigestion, dry mouth, and dizziness. Over time, if the level of stress a person is facing does not decrease the stress will begin to take a toll on the body’s immune and circulatory systems (Spera & Lanto, 1997). It is estimated that 75 percent of visits people make to their physician are due to stress related disorders such as hypertension, ulcers, migraines, and coronary heart disease (Charlesworth & Nathan, 1982). Stress can also have significant effects on a person’s mental health, causing illness such as depression (Charlesworth & Nathan, 1982). If a person is under stress for prolonged periods of time, eventually it may begin to change their personality (Charlesworth & Nathan, 1982).
**Relationship between caring for children with developmental disabilities and stress**

Research has demonstrated that the interactions between a parent and child can have deep impacts on a child’s emotional or educational outcomes (Lessenberry, & Rehfeldt, 2004). Parents of children with developmental disabilities often have high levels of stress and in turn more negative interactions with their children. The level of stress a parent is feeling can affect how they care for their child and how they interact with their child. (Lessenberry, & Rehfeldt, 2004). As parents’ stress levels increase, the quality of their interactions with their child decreases (Mahoney, 1998). By reducing parental stress it is possible that the effectiveness of services for the child can be enhanced and the child’s prognosis improved (Lessenberry, & Rehfeldt, 2004). Research has suggested that parental stress leads to an increase in behaviour difficulties in children with a developmental disability, and in turn the child behaviour problems lead to an increase in parental stress (Hastings, 2002). This cycle will continue unless early intervention is implemented (Hastings, 2002). Furthermore, Hastings (2002) notes that many variables increase the likelihood of behavioural and emotional problems in children with developmental disabilities including genetics, neurobiological factors, socioeconomic factors, and motivational differences. The author comments that the child’s social environment will particularly affect their behaviour, possibly in a negative manner, which in turn can increase the stress levels of the parent providing care to the child with developmental disabilities.

Hastings (2002) studied the relationship between the behaviour problems of children with developmental disabilities and the stress of their parents. It was found that parents and children reciprocally affect each other. Children’s behaviour problems led to an increase in stress in their caregivers, and caregivers who are under stress had a tendency to adapt to parenting behaviours that reinforced the problem behaviour of their child. Therefore, the more problems a child with a developmental disability displayed, the more stress and psychiatric problems the parent faced; hence understanding the caregiver’s behaviour and its influences is thought to be crucial in understanding problem behaviours of children with developmental disabilities (Hastings 2002). Additionally, child behaviour problems may be a causal factor in contributing to parental stress. Family members become stressed with the child’s behaviour when they do not have the resources or coping skills needed. In particular, severe behaviour problems demonstrated by children lead to less problem focused coping by parents and more emotion focused coping strategies (Hastings 2002). SIT training would be beneficial in counteracting this cycle by teaching parents how to effectively cope with stress. If the above theory proposed by Hastings (2002) is correct, by reducing the parent’s stress level, the child’s behaviour problems may also be lessened.

**Importance of Teaching Parents Coping Skills**

Glidden, Billings, and Jobe (2006) examined the coping strategies of caregivers supporting a child with developmental disabilities. The relationship between personality and whether children with developmental disabilities were born into the home, or adopted into the family, as well as what the child’s influence was on the caregivers’ coping strategies were researched. In this study, fifty percent of the participants knowingly adopted a child with a developmental disability and it was found that these adoptions had very high rates of success. Given that adoptive parents must receive extensive preparation including education and training and are told of resources available to them, (which many biological parents do not receive), a possible explanation for this finding is that the adoptive caregivers may have used more effective coping strategies that were taught prior to adopting a child with a developmental disability.
By giving a caregiver appropriate parenting tools and resources, they may be better able to control their stress and in turn may be better able to interact and care for their child, which is the focus of this thesis.

All child-rearing involves stress and requires coping skills and resources; however, caregivers of children with developmental disabilities are likely to encounter more challenges. In support of this, Glidden et al. (2006) found that caregivers who use coping strategies that focus on problem solving and social support have superior adjustment outcomes and parents who use coping strategies such as denial, escape or avoidance have more negative outcomes. This research supports the notion that by teaching parents the coping skills to handle the daily stressors associated with caring for a child with a developmental disability they can make better decisions and be better equipped to care for their child.

In a related study by Shin & Crittenden (2003), several factors were found to be important in the well being of caregivers supporting children with developmental disabilities, including the child’s adaptive or maladaptive functioning, severity of impairment in their physical or intellectual functioning, and aggressive behaviour. The study also focused on parents of children with a developmental disability, including the relationship between the stressor, the stress, and the variables that mediate the stressor, known as the stress relationship (Shin & Crittenden 2003). The research demonstrated that an internal locus of control, income, and education could affect a parent’s ability to cope with stress (Shin & Crittenden 2003). This is significant because often parents involved with the child welfare system have a lower socioeconomic status or level of education. Similarly in a study by Hastings (2002), children’s problem behaviour were discovered to possibly lower parent’s self-efficacy, which in turn led to increased mental health problems and less ability to cope with stress. The effects of self-efficacy of fathers of children with developmental disabilities were also examined and it was discovered that the higher their self efficacy was, the less affected they would be by their child’s behaviour problems (Hastings, 2002). Parental self-efficacy was revealed to mediate the impact of the child’s behaviour problems on the caregiver and also how parents appraise a situation may moderate the level of stress. It therefore appears that by teaching the caregiver skills that lead them to believe that they are better able to control their environment, they will be better able to self-regulate their emotions in difficult situations due to an increased internal locus of control or self-efficacy.

**Why would Stress inoculation Training be Effective**

When someone is under stress, it undoubtedly affects their performance in various aspects of their lives (Saunders et al., 1996). Caregivers of children with developmental disabilities have additional stressors that most families do not. There are many factors that may contribute to the caregiver’s stress such as the child’s characteristics, challenging behaviour, physical limitations, limited social skills, and an insufficiency in self care (Lessenberry & Rehfeldt, 2004). This stress may be further exacerbated if the family is involved with the child welfare system and the child or children have already been, or are at risk of being, apprehended due to abuse and/or neglect by their caregivers.

Stress inoculation training is a cognitive-behavioural approach to stress management (Saunders et al., 1996). Various studies have demonstrated that parents of children with developmental disabilities benefit from stress management interventions (Singer, Ethridge, & Aldana, 2007). Singer et al.’s (2007) meta analysis of 17 studies found that parenting programs were considerably more effective when they were paired with behavioural parent training, or
cognitive behavioural therapy directed at reducing stress. Jay and Elliot (1990) found stress inoculation to be extremely effective in helping parents of children undergoing painful medical procedures to cope. The feelings of stress that the parents of these children experience could be considered similar to that of parents of children with developmental disabilities. Therefore stress inoculation may be effective with both groups of parents. Jay and Elliot (1990) contend that stress inoculation may help parents control their anger and cope with their stress, which may prevent abuse. They further note that it is also easy to implement, cost effective, and a technique that parents can use anywhere.

Foa et al. (1999) found SIT to be an effective cognitive-behavioural treatment; it was especially effective with those displaying PTSD symptoms or depression. The participants in this particular study showed significant improvements in level of anxiety, however, this was combined with exposure therapy, which does not show immediate improvements but has shown to have long-term benefits (Foa et al., 1999). Stress inoculation training involves developing the client's cognitive and behavioural coping skills as well as exposure to the stressor in small-regulated doses. The purpose is for the client to build their defenses up against the stressor (Foa et al., 1999).

Stress Inoculation Training is a three-phase intervention that focuses on skill acquisition and rehearsal, as well as education regarding the nature of the stress and the impact of it on the subjects’ lives (Meichenbaum, 1996). The specific coping skills that may be taught to the client have been described by Meichenbaum (1996) as emotional self-regulation, self-soothing and acceptance, relaxation training, self-instructional training, cognitive restructuring, problem-solving, interpersonal communication skills training, attention diversion procedures, using social support system and fostering meaning-related activities.

Individuals with developmental disabilities display more problem behaviours than the general population leading the staff caring for them to face and deal with these difficulties accordingly, and this can often have profound effects on the staff members (Keyes and Dean 1988). Aggressive behaviour in particular has the most impact on the staff members (Keyes and Dean 1988). In fact, of extreme concern is that developmentally delayed individuals who display aggressive behaviour are most likely to be abused by staff members. This led the authors to the understanding that these staff members needed to be taught strategies to be able to better handle the stress involved in caring for these individuals. SIT is used to prevent ineffective coping mechanisms or reactions to stress. It can be used as a treatment or as a preventive measure. In the study by Keyes and Dean (1988), fifty staff members working directly with individuals with developmental delays participated in SIT based on Meichenbaum’s paradigm. After completing the training the participants were asked to rate the training on a one to five scale, with five meaning excellent and one meaning poor. Of the fifty participants, 87 percent rated the training as a four or five when surveyed. Three and a half months following the training the participants still felt that the training was useful (Keyes and Dean 1988). Keyes (1995) further expanded on this study and noted that emergency restraint of developmentally delayed clients was greatly reduced; supporting the notion that SIT can have a significant impact on the client as well as the caregiver. The authors concluded that SIT taught the staff to be more effective in managing others’ behaviour as well as their own; because they were not clouded by their own stresses they could more effectively deal with their clients (Keyes 1995).
**Stress Inoculation Training Purpose and Procedures**

When given a vaccination, a person is given a small amount of the antagonist to help their body develop the necessary defenses to fight off the disease in the future. Stress Inoculation Training (SIT) is based very much on the same concept. A person is introduced to small amounts of stress and taught the necessary coping skills or defenses to deal with the stressor in a safe environment. Stress is present in all aspects of life, every day. It is how someone deals with the stress however that is important (Jaremko, 1984). One of the main points of SIT is to help the individual to determine what their coping style is, and in what circumstances it is used. This is considered to be a data collection phase to help the facilitator and client to collaboratively work together to design an intervention that is specific to client’s needs, or more specifically, the client’s personal stressors (Jaremko 1984). Each client will appraise events differently and therefore, how someone appraises an event is what determines if the event will be deemed stressful to the individual. What specifically causes an individual to view an event as stressful is whether he or she assesses that they do not have the resources to cope with the stressor. If there is an imbalance in the level of stress and a person’s ability to cope, they will become stressed (Jaremko 1984).

The goal of SIT is to teach individuals coping skills that are flexible and can be used in various situations. This usually entails teaching a broad range of skills due to the fact that there is no one coping strategy that will work in every situation (Jaremko 1984). The participants are taught that if a coping skill does not work, not to be discouraged but to try another skill they have learned. Along with these “action” skills, the clients are also taught “palliative” skills; these include activities such as relaxation training or diaphragmatic breathing to assist in calming their nervous system arousal (Jaremko 1984). In order to help with stress management, the authors state that “active instrumental skills” should also be used along with the above skills. This means that in order to handle stressful situations, the person will first need to be taught the necessary skills such as parenting, assertion, or communication. The client may also be taught health related skills such as how to eat a balanced diet, exercise, or sleep enough (Jaremko 1984). If the client does not know or understand the necessary skills to cope with a stressful situation, no amount of stress inoculation training will decrease their anxiety (Jaremko 1984).

**Summary of Literature**

The reviewed literature is relevant to this thesis in that the studies explain how parental stress can have serious negative effects on both the caregiver and the children they are caring for. Behaviours reciprocally affect each other and cause a continual cycle of maladaptive coping within a family system. Additionally, evidence suggests that coping strategies operate in controlling stress. Finally, the effectiveness of Stress Inoculation Training on support workers caring for individuals with disability suggests that Stress Inoculation Training may be an effective strategy for reducing stress in parents of children with developmental disabilities.
Chapter III - Method

Participants and Reason for Referral

The participant in this thesis is referred to as Mrs. B. The selected participant had one child with a developmental disability who had been under supervision from the agency for four years. The child was an eight-year-old male, and his mother was a forty-year-old single mother of three. Mrs. B was referred because of her self-reported inability to control her stress. The family services manager from the agency referred this particular client on the basis that she met all of the criteria required to participate.

In order to participate in the study, the caregiver must have at least one child with a developmental disability, meaning that the child has an I.Q. of below 70 or below the second percentile. The caregiver was screened to ensure that she did not have any issues regarding substance abuse that would interfere with the program, a serious mental health concern that is not under control, issues regarding domestic violence, and/ or a developmental disability.

The definition of substance abuse that was used is the definition that is cited in the DSM-IV, the fourth edition the Diagnostic and Statistical Manual of Mental Disorders (DSM). The DSM-IV definition is as follows:

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

1. Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions or expulsions from school; neglect of children or household)
2. Recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
3. Recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct)
4. Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights)

A serious mental illness was defined as a mental illness in which:

1. The individual must be on medication specifically for their mental illness or
2. The individual must be seeing a professional regarding their mental illness on a regular basis (at least once every three weeks)

Domestic violence was taken very seriously and was defined as:

1. Abuse and intimidating behaviour
2. Any threats, whether physical, verbal, written, or otherwise between the caregiver and another adult residing in the household, or visiting the household.
3. Any physical violence displayed by either by the caregiver or towards the caregiver by another adult currently residing in the household or visiting the household.
4. Emotional Abuse included:
   a. Spurning - verbal and non-verbal acts that reject and degrade (i.e., humiliation, shaming, rejecting treatment, belittling)
   b. Terrorizing – threats or likelihood to harm, kill, abandon, or place the individual in a recognizably dangerous situation,
   c. Isolating – the person is denied the opportunity to interact and communicate with other outside the home
   d. Exploitation – encouraging the individual to do inappropriate behaviour,
   e. Denying emotional response – ignoring or not expressing or showing emotion

(Information derived from Ontario Child Welfare Eligibility Spectrum, 2007)

A developmental disability was defined as:

1. Having an I.Q. below 70 or the second percentile.

**Client Background Information**

Mrs. B had a history of involvement with the child welfare system. She had three children, all boys, in her care. She appeared to have a strong relationship with them according to the strength and needs assessment originally completed by the agency. Mrs. B completed high school and post secondary education. At the time of the study Mrs. B had three jobs working as a personal support worker, which allowed her to work three days per week while maintaining her eligibility to receive government subsidy. Mrs. B’s partner discontinued residing with her when her youngest child was two months old.

The client’s foremost concern, as identified by the agency, was that she failed to adequately parent and protect her child. The service plan as set out by the agency was for Mrs. B to focus on areas of discipline and meeting the needs of the child. The agency had also decided that the child was safe at home with Mrs. B, with the support of service providers, family, and friends. It was believed that by teaching Mrs. B coping skills to deal with the everyday stressors involved in caring for a child with a developmental disability, she would feel less stressed and, hopefully, have better success controlling her emotions. Mrs. B’s child had been assessed as having an intelligence score below the first percentile, but did not have a specific diagnosis.

**Assessment Measures**

Due to the general nature of the behaviours targeted, assessments were based on self-report by the client. The assessment that was used is the Depression Anxiety Stress Scales (DASS21) by Lovibond & Lovibond (1995) to assess the caregiver’s level of stress prior to the training, after the training, and three weeks following the training. This particular assessment was beneficial to this case because the DASS does not directly measure the client’s momentary emotional state, but rather situations outside of the testing context (Lovibond & Lovibond, 1995). Therefore this assessment was not simply a measure of whether the client was or was not stressed at any particular moment but rather what their level of stress had been over the past week.
Review of Client File

Mrs. B is the biological mother of an eight-year-old boy. She had not received any specialized training, but had been involved with the agency for four years. Mrs. B was caring for a child with delayed development, and academic difficulty. The agency manager referred Mrs. B because of her self-reported level of stress. She also had a history of inadequately parenting her child with a developmental disability, and failing to protect this child from harm. The client often had to restrain the child and had difficulty setting limits.

Initial intake interview

Mrs. B lived in a rural community and had a difficult time accessing services, and therefore received limited in-home support. At the time of the study, Mrs. B was receiving one day per week of in-home support for her child. Money was generally very tight for this client, however; she had strong coping skills, an adequate support system, and continued to promote positive coping skills in the home environment. Mrs. B had a friendly disposition, enjoyed helping others, and considered herself to be a good listener. Mrs. B has many friends and is very close with her family. She had minimal support to help with her child with a developmental disability being a single mother; the client was however a volunteer at the local child resource centre where she has stated that she received support and guidance from those she worked with. During the period of the intervention, the client was working three separate jobs, employed as a personal support worker. Her income was minimal and she reported that although she is able to make ends meet, there are few funds left at the end of the month to do activities with the children or to enrol them in after school activities or childcare.

DASS21

The client appeared to be suffering from episodes of depression and stress according to the DASS21. The client’s level of anxiety was also moderate however was not at an alarming level. Results are attached in appendix B.

Functional Assessment Interview (FAI)

The FAI indicated Mrs. B’s main stressor was when the children fight. She said that this occurs seventy percent of the time and it is most prevalent between the two youngest children, one of who has a developmental disability. The behaviours were most likely to occur when Mrs. B was in the kitchen and when the children first got home from school. The behaviour was least likely to occur when they were watching a movie or are in their rooms playing video games or with their “dinky” cars.

Mrs. B explained that, from her perspective, the main source of her stress was a lack of time. Mrs. B felt she did not have enough time to spend with her children, and that her life revolved around working, cleaning, and cooking. Mrs. B felt that when she was able to find time to spend with her children the problematic behaviours decreased significantly, however; trying to find this time was adding more stress to Mrs. B and leading her to feel as though she was failing as a mother.
Hypothesis

The SORC analysis was used with Mrs. B for stress and inappropriate coping mechanisms. A SORC analysis is a functional behaviour assessment tool, which isolates the target behaviour for precise analysis.

Stimulus Variables. The antecedent stimuli to Mrs. B’s stress included the perception of being unable to adequately manage her children, particularly when the children were very active, or the children were engaging in altercations. The conditions under which Mrs. B found the children’s behaviour to be difficult occurred when the children returned home from school and when Mrs. B was in the kitchen. The least likely conditions for stress occurred when children were in their own room playing or when they were watching a movie.

Organismic Variables. The organismic variables include her husband leaving her, being a single mother, not being able to see friends often, being a diabetic, living in a rural community and not being able to gain access to needed services, and financial instability.

Response. Mrs. B’s response to stressful situations included yelling at the children and then feeling guilty about it. She also became upset and said things to her children that she later regretted. The continual interaction between them included the children becoming upset, followed by Mrs. B becoming upset and failing to follow through with that she had said would be the consequence. Instead Mrs. B would ignore the children to avoid becoming upset.

Consequences. The client displayed avoidant behavior. By avoiding the situation (ignoring the children) she escaped the unpleasant emotions elicited by upsetting the children, thus her avoidant behaviour was negatively reinforced. Mrs. B also yelled at the children, which caused them to temporarily discontinue the problematic behaviours and negatively reinforced Mrs. B’s yelling behaviour. However, Mrs. B’s perception that both yelling at the children and ignoring the children are poor parenting strategies further contributed to her stress.

After a careful review the SORC model, FAI assessment, and the summary of ABC’s (an ABC analysis is a functional assessment, which seeks to identify the function of behaviour, including what the behaviour looked like, how intense the behaviour was, what triggered it, and what happened directly after the behaviour), it was hypothesized that Mrs. B’s stress was a result of her perceptions that she was unable to effectively manage her children and her time. When the children were overly active or in conflict, Mrs. B was more likely to perceive that she did not have control and consequently either yell at her children or escape the situation, which ultimately increased Mrs. B’s perceived level of stress. In addition, when Mrs. B stated that when she was feeling as though she could not manage her time efficiently it led her to feel as though she lacked control over her life and was not a good mother. The FAI assessment indicated that when Mrs. B spent additional time with her children their behaviours improved significantly. Therefore, it appeared that Mrs. B’s inability to manage her time led to a feeling of a loss of control over her emotions, and increased the level of disruptive behaviour in her children.
Goals and Objectives

**Goal #1.** The primary goal was to increase Mrs. B’s ability to manage her time (accelerate): With the use of daily activity logs, Mrs. B was able to track how much time was being used productively and how much time was causing more stress and benefits. The student also assisted Mrs. B in helping her to discover what she values in her life and how this can be incorporated into her daily life.

**Goal #2.** The secondary goal was to increase Mrs. B’s ability to control her anger (accelerate): Mrs. B was taught relaxation exercises such as deep breathing and progressive muscle relaxation. The counsellor and Mrs. B discussed the appropriate outlets for anger and how to recognize when she was becoming upset. The counsellor also aided Mrs. B in recognizing her cognitive distortions and creating appropriate thoughts and behaviours to replace the negative ones through behavioural experiments.

**Procedures**

Prior to beginning treatment, the student met with Mrs. B individually. During this time, Mrs. B signed a letter of informed consent (appendix A). The letter detailed the procedures to be carried out in which the participant will be involved, assessments to be used, data collection, intervention details, and an explanation that the intervention is a collaborative process in which the client will be involved with the entire decision making. The letter also described the risks and benefits to taking part in the intervention and who they could contact for more information. Mrs. B was given a chance to ask questions and express any concerns that she may have. A copy of the letter was given to Mrs. B and the placement facilitator kept a copy for the agency and college record.

In the first meeting, Mrs. B completed the initial interview, completed the functional assessment interview, and the DASS modified assessment. The client also completed a hierarchy of stressful events to help the facilitator better understand the client’s particular needs. Finally, the facilitator and Mrs. B discussed what she hoped to gain from the training. The following sessions were based on the three phases of Stress Inoculation Training developed by Meichenbaum (1985).

Emphasis of SIT is based on flexibility, adaptability, and relapse prevention. It is usually offered in 12-14 sessions however it can take much longer or a shorter amount of time. SIT has been demonstrated to be able to be completed in as little as 20 minutes and as much as 20 sessions. Stress Inoculation Training (SIT) is delivered through three phases adapted from Meichenbaum. The following is a chart depicting the schedule that was followed for the thesis based on the relevant research.

**Phase One: Conceptualization Phase**

In the first phase, the conceptualization phase, the client and the placement facilitator developed a collaborative relationship. Together they identified the client’s specific stressors, how the client responds to these stressors, and what the result of the response is using an ABC analysis. This phase was used as an opportunity to educate the client about the nature and the impact of her stress and to identify situations in which the stressors are most likely to be prevalent (Meichenbaum, 1985). The client was also taught to be able to differentiate between
stressors that can be changed and those that cannot. The client was informed of coping strategies to be used for stressors that cannot be controlled and how to problem solve and develop necessary skills to change stressful situations that can be controlled.

**Phase Two: The Skill Acquisition and Rehearsal Phase**

In phase two, the caregiver was taught specific skills which were rehearsed in-vivo in a setting comfortable for the client. The skills taught were specific to the client's needs.

**Phase Three: The Application and Follow Through Phase**

In this stage, the client was given opportunities to practice the skills learned across varying levels and situations. This included role-plays, modelling, and behavioural rehearsal. In the final session during this stage, relapse prevention was also discussed. The client and the placement facilitator discussed high-risk situations for the client, and how the client will cope with the situations in the future. It was also discussed with the client that relapse is part of learning and not to view it as failure, rather as something to learn from.

**Setting and Apparatus:**

The current study took place in the participant’s home to allow for the most natural setting and to promote generalization. All of the sessions took place in the client’s living room with no one else present. This study was inexpensive and required very few materials. The materials needed were the self-monitoring forms, which included an ABC analysis, and a daily time record.

**Ongoing Assessment Procedures**

**Daily activities log.** A daily activities log was used to help Mrs. B recognize what most of her time was being spent on, and recognize “dead” time, which is time she is not accomplishing anything; for example waiting for appointments. Mrs. B and the facilitator worked collaboratively to help her fit more valued activities into her schedule and fewer activities that led to frustration.

**Deep Breathing.** Deep breathing was used to help Mrs. B relax in stressful situations. The purpose of teaching deep breathing was to give Mrs. B a technique that she could use anywhere and anytime that took very little effort. The goal was to teach Mrs. B that if a situation is uncontrollable, her emotional response is still controllable. The client was asked to practice deep breathing three to five times daily or whenever she was feeling stressed.

**Thought Stopping.** Thought-stopping procedures were used to help Mrs. B recognize when she was having negative thoughts, and stop them immediately. Mrs. B was taught to think about her “worrying” thoughts during a certain time allotted each day, but other then that she was not to think of them. This was not to say that she could never have negative thoughts, thought stopping was only to be used for the continual thoughts that are detrimental to her self-esteem and level of stress. For Mrs. B, these thoughts included that she is a bad mother, and that she had no control over her life.
**Changing cognitive distortions** Mrs. B’s maladaptive thoughts were explored in order to find the relationship between the thoughts, situational triggers, and affect. Mrs. B’s cognitive distortions were challenged by examining the evidence that either supported them, or she was taught to reject the thought. Alternative thoughts and ideas were also examined, as well as underlying beliefs and assumptions. Mrs. B’s core beliefs and schemas regarding stress were decisive. Finally, the facilitator and Mrs. B conducted behavioural experiments to test the beliefs.

**ABC sequential analysis.** ABC recording was used throughout the entire process to help Mrs. B to understand the effects her behaviour had on her surroundings.

**Maintenance and Generalization**
No follow up with the client was conducted due to agency policies. The signed confidentiality was only valid until December 5/2008 at which point the student was no longer able to speak with, or see the client. In the final session before termination the client and the counsellor discussed relapse prevention and how the client will cope in situations in the future. Generalization was promoted by teaching the client to use the skills we practiced in various settings in her everyday life and following up with the student the following session. The counsellor and student then discussed what went well, what the client could have done differently, and if she felt comfortable using the skill. The counsellor and the client continued to role-play real life situations throughout the entire process.
Chapter IV - Results

The results of this study supported the hypothesis in that by teaching Mrs. B coping strategies and time management she was able to decrease her level of stress. Pre and post assessment results from the DASS21 demonstrated a unique outcome. Mrs. B’s overall level of stress and depression decreased, however; her overall level of anxiety increased significantly. After viewing the DASS severity ratings as indicated in table 2.0 (adopted from Lovibond and Lovibond, p. 26), it was indicated that the baseline results for Mrs. B presented that she was in the moderate range for depression, the normal range for anxiety, and the mild range for stress. After treatment, Mrs. B presented in the mild range for depression, the mild range for stress, and her anxiety level was in the severe range.

Table 1
DASS 21 Normative Sample.

<table>
<thead>
<tr>
<th>Norms</th>
<th>Z score</th>
<th>Percentile</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&lt;0.5</td>
<td>0-78</td>
<td>0-9</td>
<td>0-7</td>
<td>0-14</td>
</tr>
<tr>
<td>Mild</td>
<td>0.5-1.0</td>
<td>78-87</td>
<td>10-13</td>
<td>8-9</td>
<td>15-18</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.0-2.0</td>
<td>87-95</td>
<td>14-20</td>
<td>10-14</td>
<td>19-25</td>
</tr>
<tr>
<td>Severe</td>
<td>2.0-3.0</td>
<td>95-98</td>
<td>21-27</td>
<td>15-19</td>
<td>26-33</td>
</tr>
<tr>
<td>Extremely Severe</td>
<td>&gt;3.0</td>
<td>98-100</td>
<td>28+</td>
<td>20+</td>
<td>34+</td>
</tr>
</tbody>
</table>

Table 2
Table of Raw Scores, Z-scores, and Percentile Ranks for Pre and Post DASS21 Assessment Results

<table>
<thead>
<tr>
<th></th>
<th>Depression</th>
<th>Anxiety</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw score</td>
<td>Pre 14</td>
<td>Post 13</td>
<td>Pre 6</td>
</tr>
<tr>
<td>Z-score</td>
<td>Post 16</td>
<td>Pre 16</td>
<td>Post 14</td>
</tr>
<tr>
<td>Percentile Rank</td>
<td>Pre 87</td>
<td>Post 87</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Post 95.8</td>
<td>81</td>
<td>78</td>
</tr>
</tbody>
</table>

The average range for depression, anxiety, and stress for a female around Mrs. B’s age would be as follows:

Depression = 10
Anxiety = 3.72
Stress = 8.93

These results demonstrate that Mrs. B’s level of anxiety prior to treatment was average, but after treatment it was above average. Although her depression and anxiety levels did decrease, they still remained above average for Mrs. B’s age.
Increasing Mrs. B’s ability to manage her time and discovering her values

As part of the treatment the goals included increasing Mrs. B’s ability to manage her time and discover what her life goals were. This was attempted by using daily activity log’s and value exercises. This was unsuccessful due to the client’s unwillingness to participate. When asked to complete the log’s and activities, Mrs. B would forget to fill them out or say she did not have the time. Mrs. B also began missing scheduled meetings when we were going to discuss the homework that was assigned. Because of Mrs. B’s lack of follow through this aspect the training was not achieved.

Originally the intervention also included a foster family, who ultimately did not participate in the study. The foster family was a challenge because their needs were significant and very different from that of the biological family. The foster family was also less co-operative with the agency and demonstrated some hostility towards the facilitator. Eventually the foster family was removed from the study and any information collected on the family was destroyed.
Singer et al. (2007) suggested that support should be offered to parents to help them develop skills, resources, and attitudes that will reduce stress as well as provide a buffer against stress. The study supported the usefulness of interventions that lead to early resolution of depressive symptoms in parents of children with developmental disabilities. The stressors associated with caring for a child with a developmental disability can potentially lead to psychological distress in the caregivers. Further, the study found that the caregivers who displayed psychological distress interacted less with their children, were less contingent in responding to them, were more irritable, and were more likely to use explosive discipline with their children (Singer et al., 2007). The psychological distress of these parents was directly related to problematic parent-child interactions, how the caregiver reacted to stressful events and the interaction between the natures of the stressor, the way the family members appraised it, and their resources and their coping skills to deal with the situation. Singer at al. (2007) found that parents caring for a child with developmental disabilities were responsive to supportive interventions. It was also suggested that the associated reduction in problem behaviour in the children of the parents involved in the study was likely a cause and effect improvement in parental influence (Singer et al., 2007). As a result an intervention, such as that proposed in this thesis, which focuses on increasing the parents’ skill level could be beneficial to the entire family system.

Plant and Saunders (2007) also found that caring for a child with a developmental disability could involve considerable expenditures of time and energy, as well as physically demanding and unpleasant tasks. When a caregiver feels overwhelmed by such tasks, it can have negative effects on the entire family, and particularly the child with the disability (Plant & Saunders 2007). A heightened level of parental stress is associated with coercive parent child interactions, higher drop out rates from interventions, and depression in the parent (Plant & Saunders, 2007). It would therefore seem reasonable to assume that by decreasing the immediate caregiver’s level of stress through a technique such as Stress Inoculation Training (SIT), that it would not only benefit the immediate caregiver but the entire family. As of this point the literature has indicated that parental stress affects all members of the family suggesting that decreasing parental stress levels should be of utmost importance.

Although general findings indicated that the program was moderately successful in decreasing Mrs. B’s level of stress, her anxiety levels actually increased. Although this was possibly due to external factors that could not have been controlled for, it does suggest that a comprehensive program might benefit from incorporating a component that also focuses on reducing anxiety. Furthermore, it is possible that the work Mrs. B was doing in trying to decrease her stress levels actually increased her anxiety levels. In order to decrease Mrs. B’s level of stress, she was first educated as to how her body may react to stress and in what areas of her body she tends to feel the effects of stress. For example, Mrs B.’s neck hurt when she was stressed and she often could feel her heart beating. Before teaching Mrs. B to listen to her body, she was unaware of these sensations in her body. Therefore, it is possible that when the DASS 21 was re-administered following the treatment Mrs. B reported higher levels of anxiety symptoms. For example “I was aware of the action of my heart in the absence of physical exertion” (Lovibond & Lovibond, 1995).

Other possible reasons for these distinctive results could have included that Mrs. B’s mother became ill during the intervention. Mrs. B and her mother were quite close, and her
mother helped care for Mrs. B’s children on the weekends while she was at work, providing significant childcare support. Along with the recent illness of her mother, Mrs. B elected to increase her hours of work from three-days per week to four days per week. By increasing the number of days per week Mrs. B was working while decreasing the amount her mother could care for the children would cause additional stress and anxiety for Mrs. B that was not present during the initial assessment. Had this factor been present in the initial assessment, it is possible that the same results may have been observed.

As described above, it is also possible that Mrs. B’s level of anxiety increased due to an increased awareness of her body’s reaction to stress. Through SIT training, Mrs. B was encouraged to pay attention to her body's reaction to anxiety. Therefore it is possible that Mrs. B was undergoing the same level of anxiety, however; after becoming more aware of her reactions to stress she was now able to distinguish anxiety from other physical symptoms.

**Strengths**

The strengths of the thesis included that maintenance and generalization were designed as part of the program. The intervention took place in Mrs. B’s home, which is the location she found to be the most stressful. Real life events were used to teach Mrs. B the skills to cope with stress and the skills taught were specific to Mrs. B’s stressors. Prior to each session, Mrs. B and the student would discuss the past week's events and discuss what was learned the week before. Also, prior to ending the session, Mrs. B and the student would discuss how to use these skills in her life over the course of the next week, which would of course be examined the following week. When teaching Mrs. B skills, all examples used were real life examples that included issues relevant to her home and children.

Caregivers of children with developmental disabilities have additional stressors that most families do not. Stress Inoculation Training is a tool that can be used to decrease their level of stress in an effort to help them be more prepared to support their children with exceptional needs. A potential long term benefit of the ongoing use of Stress Inoculation Training with such families could be to improving the likelihood of children continuing to reside with their biological or foster parent families, rather than being placed in a group home setting, because their parents are better prepared to deal with stressors and consequently provide more effective parenting.

**Limitations**

The main limitation to this study was the lack of follow through by Mrs. B when asked to complete homework. Homework was often not completed and when asked to practice skills Mrs. B would rarely comply with skills practice. Mrs. B claimed that this was due to a lack of time. She did, however, state that she very much enjoyed the program and perceived a personal benefit from having once a week to discuss the week’s events with the counselor, but seemed to lose her motivation once the counselor had left the premises.

The second limitation was that of time restrictions. A delay in the study approval process resulted in an initial postponement of the intervention and ultimately all of the original objectives could not be met. Although the intervention was of some benefit, more time would have allowed for a more comprehensive intervention.

A third limitation was that the original intervention intended to compare the effects of the stress inoculation training for the family noted in the current study and a foster family, which
would have provided some interesting information regarding the similarities and differences in stressors for these two types of families. The foster family did participate in the study because ultimately their needs were significant and very different from that of the biological family. The foster family was also less co-operative with the agency and demonstrated some hostility towards the facilitator. Eventually the foster family was removed from the study and any information collected on the family was destroyed. Having had the foster family participate, may have been a benefit because the present study would also been able to compare the effects of the stress inoculation training for several subjects rather than analyzing the effects on one person.

A fourth limitation, as noted above, is attributed to unexpected changes in Mrs. B’s life circumstances during the intervention. Several additional stressors previously described (i.e., increased work hours, mother's illness and associated loss of childcare support) served to increase Mrs. B’s level of stress in the middle of the intervention, which may have seriously mitigated the beneficial effects of the stress inoculation training.

A final limitation to this study is that clients involved with this particular agency have a tendency to distrust the agency staff. They may sometimes engage in impression management, attempting to portray themselves in a favorable light for agency staff, rather than being completely forthright. The effectiveness of any intervention is necessarily limited by the openness and honesty of the client in identifying their problem.

**Program Changes**

There were very few changes made to the SIT program with Mrs. B. Fortunately, Mrs. B’s home environment remained stable throughout the intervention, although a number of extra stressors presented during the training that could not have been anticipated. The first stressor that emerged was that Mrs. B increased her work schedule from three days per week, to four days per week because of perceived financial pressures from the upcoming Christmas season. The second stressor that presented itself was that Mrs. B’s mother became ill. Not only was Mrs. B worried for her mother’s wellbeing but her mother was no longer to provide childcare for Mrs. B on the weekends when Mrs. was working. The change in this relationship had a significant impact on Mrs. B.

Another program change was that of the intended participants. Originally the program was to include both a foster family and a biological family. However, early in the study it became clear that the foster family’s needs were significantly different from those of the biological family, making them unsuitable candidates for SIT and the decision was made to remove them from the study. The foster family’s needs were quite extensive and after reviewing baseline data it was decided that they required immediate assistance from the agency.

**Multilevel Challenges to Service Implementation**

**Client level.** At the client level there was difficulty-recruiting clients to participate in the study. Several clients expressed concern that being overly involved with the agency might decrease their likelihood of keeping the children in their care. Similarly, this type of client resistance made it difficult to determine how honest the client who agreed to participate in the study was being. Given the power and authority bestowed on the agency, many clients engage in impression management strategies. Future studies with clients of this nature would benefit from having a third party work with the client, who might appear more independent and provide assurance to clients that participation in the intervention would not affect decision making by the agency.
At the client level, it was also difficult to motivate the client. Many of the clients involved with this agency, and especially this particular client, have a high level of stress their life, which can make it difficult for them to find time to meet. In this particular case, Mrs. B would fail to follow through with homework or suggestions given to her. The client seemed to feel relaxed during sessions, however, when involved in her daily life she would not use the coping strategies taught.

**Program level.** At the program level the main issue was related to a lack of follow through by the client. This may have contributed to why the results of the study were not as significant as one would have hoped. The client’s lack of trust of the agency also impacted the intervention. Because the client knew she was under observation by the agency, and was aware that the agency had the authority to apprehend her children should the concern arise, the client was obviously hesitant to be completely honest about her interactions with her children. Originally the intervention also included a foster family, who ultimately did not participate in the study. The foster family was a challenge because their needs were significant and very different from that of the biological family. The foster family was also less co-operative with the agency and demonstrated some hostility towards the facilitator. Eventually the foster family was removed from the study and any information collected on the family was destroyed.

**Organization level.** At the organizational level, issues were related to a significant lack of time and staffing. While completing this study at this agency, five staff members resigned from their job or took an extended leave of absence. This left the remaining staff members over burdened by their case loads. All staff had a considerable lack of time and therefore completing a study of this nature became quite difficult. The student completing this study was required to balance part of the extra workload while still completing this study. As some clients were unaccommodating the amount of time to available to spend with each client was reduced.

**Societal level.** At the societal level, it appeared that the agency was often considered in a negative light. The public may hold negative perceptions of the mandate of child welfare agencies. Although clients of the agency is working may desire utilizing the services offered to them, they may not because it means accepting services from a social services agency. For example, clients may need help with daycare costs but are not willing to have the agency supply them with support because then the daycare will know they are involved with the child welfare system and they fear the stigma attached to being involved with this type of service. As previously noted some clients possessed a general mistrust of the agency. They may have feared losing custody of their children and consequently were less forthright about their experiences.

**Recommendations for Future Research:**

The primary recommendation for future research would be to include a larger sample of clients. The present study was a single case study and it would be beneficial to see the results across a larger number of participants. A second recommendation would include having a broader recruitment process. Having the participants pre-selected from a very small sample limited the possibility of finding more than one client with the same stressors. Future studies might also benefit from the use of a third party, as clients have difficulty trusting staff from the agency. An individual who the client perceives to be outside of the agency could be advantageous and perhaps lead to more honest results. Thus, with the appropriate modifications
stress inoculation training could prove to be a positive technique for caregivers and frontline staff caring for both children and adults with developmental disabilities.
References


Indianapolis, IN: JIST Works.
Dear client,

I am a student in the Bachelor’s Degree in Behavioural Psychology program at St. Lawrence College. This four-year degree program is based on a behavioural framework, which has been demonstrated to be effective in developing positive skills with a wide range of individuals. Currently, I am completing an Applied Thesis that involves an intervention or project that I will summarize in a written report. My intervention/project Stress Inoculation Training for Caregivers of Children with Developmental Disabilities will include three phases of education and training that will help you to develop coping skills to be able to better handle stress in difficult situations. The program will be tailored to fit your particular needs and will be in a collaborative process in which you will help determine what you want to learn and what will be beneficial to you. The three phases will consist of The conceptualization Phase, where together we will identify the your specific stressors, how you respond to the stressors. This phase will be used as an opportunity for education about the nature and the impact of their stress and to identify situations in which the stressors are most likely to be prevalent. In phase two you will be taught specific skills which will be rehearsed in a comfortable setting, and the skills taught will be specific to your needs. In the final stage you will be given opportunities to practice the skills learned across varying levels and situations. This can include role plays, modelling, and behavioural rehearsal. You will also be completing an assessment called the Depression Anxiety Stress Scales (DASS) by Lovibond & Lovibond (1995) which will help you and I to determine what your level of stress is, and to be able to inform if the program was successful for you, and to what degree. The information collected will not be shared with anyone and will be kept at the Frontenac Children’s Aid Society in a locked cabinet. This client-focused intervention/project will be developed in collaboration with you, the agency’s staff, and team members.

The benefits of participating in this project are that you will be able to learn healthy ways of coping with your stress. The risks of participating in this program are that by discussing stress regularly, it may increase your level of stress. Should your level of stress be increased you will be referred to your case worker who will refer you to the appropriate professional.

This project has been approved by the appropriate managers at the child welfare agency and by the Research Ethics Board at St. Lawrence College. The intervention/project will be developed under the supervision of Yolanda Fernandez my supervisor from St. Lawrence College.

I would like your permission to implement the intervention/procedures described above.
All information collected will be kept strictly confidential. The information will be coded and stored in a locked cabinet. Upon request, we will gladly share a copy of a brief report of the intervention. Participation in this project is voluntary and [Client Name] may withdraw at anytime without incurring undue biases to current or future treatment.

If you agree [Client Name] to participate in the project, please complete the form at the bottom of this letter and return it to me as soon as possible. A copy of this signed document will be given to you for your own records.

I sincerely appreciate your cooperation. If you would like to receive more information about the project or have additional questions or concerns, please contact my College Supervisor.

Sincerely,

Megan Carrigan

St. Lawrence College
Student
I, ______________________, being the legally authorized consent giver for ________, understand and consent to the following.

I, ______________________, understand and consent to the following.

**NOTE:** all information identifying you [Client Name] will be removed from any reports to protect confidentiality

_____ I consent [for Client Name] to participate in the intervention/project conducted by [Your Name].

_____ I consent for the data collected as part of this intervention/project to be put in a report in the college library.

_____ I consent for the data collected as part of this intervention/project to be presented at a conference.

_____ I consent for the data collected as part of this intervention/project to be published in a peer reviewed journal or professional publication.

Client/Guardian Signature: ______________________
Date: ______________________

Printed Name: ______________________

Witness Signature: ______________________
Date: ______________________

Printed Name: ______________________

SLC Student Signature: ______________________
Date: ______________________

Printed Name: ______________________
Appendix B: DASS 21

<table>
<thead>
<tr>
<th>DASS</th>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The rating scale is as follows:*

0  Did not apply to me at all  
1  Applied to me to some degree, or some of the time  
2  Applied to me to a considerable degree, or a good part of time  
3  Applied to me very much, or most of the time  

<p>| 1  | I found myself getting upset by quite trivial things | 0 1 2 3 |
| 2  | I was aware of dryness of my mouth | 0 1 2 3 |
| 3  | I couldn't seem to experience any positive feeling at all | 0 1 2 3 |
| 4  | I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 1 2 3 |
| 5  | I just couldn't seem to get going | 0 1 2 3 |
| 6  | I tended to over-react to situations | 0 1 2 3 |
| 7  | I had a feeling of shakiness (eg, legs going to give way) | 0 1 2 3 |
| 8  | I found it difficult to relax | 0 1 2 3 |
| 9  | I found myself in situations that made me so anxious I was most relieved when they ended | 0 1 2 3 |
| 10 | I felt that I had nothing to look forward to | 0 1 2 3 |
| 11 | I found myself getting upset rather easily | 0 1 2 3 |
| 12 | I felt that I was using a lot of nervous energy | 0 1 2 3 |
| 13 | I felt sad and depressed | 0 1 2 3 |
| 14 | I found myself getting impatient when I was delayed in any way (eg, lifts, traffic lights, being kept waiting) | 0 1 2 3 |
| 15 | I had a feeling of faintness | 0 1 2 3 |
| 16 | I felt that I had lost interest in just about everything | 0 1 2 3 |
| 17 | I felt I wasn't worth much as a person | 0 1 2 3 |</p>
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>19</td>
<td>I perspired noticeably (eg, hands sweaty) in the absence of high</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>temperatures or physical exertion</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life wasn’t worthwhile</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

**Reminder of rating scale:**

0  Did not apply to me at all
1  Applied to me to some degree, or some of the time
2  Applied to me to a considerable degree, or a good part of time
3  Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>I found it hard to wind down</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>23</td>
<td>I had difficulty in swallowing</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>24</td>
<td>I couldn’t seem to get any enjoyment out of the things I did</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>25</td>
<td>I was aware of the action of my heart in the absence of physical</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>exertion (eg, sense of heart rate increase, heart missing a beat)</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>I felt down-hearted and blue</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>27</td>
<td>I found that I was very irritable</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>28</td>
<td>I felt I was close to panic</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>29</td>
<td>I found it hard to calm down after something upset me</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>30</td>
<td>I feared that I would be &quot;thrown&quot; by some trivial but</td>
<td>0 1 2 3</td>
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<tr>
<td></td>
<td>unfamiliar task</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>32</td>
<td>I found it difficult to tolerate interruptions to what I was doing</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>33</td>
<td>I was in a state of nervous tension</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>34</td>
<td>I felt I was pretty worthless</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>35</td>
<td>I was intolerant of anything that kept me from getting on with</td>
<td>0 1 2 3</td>
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<tr>
<td></td>
<td>what I was doing</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>I felt terrified</td>
<td>0 1 2 3</td>
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<tr>
<td>37</td>
<td>I could see nothing in the future to be hopeful about</td>
<td>0</td>
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<tr>
<td>38</td>
<td>I felt that life was meaningless</td>
<td>0</td>
</tr>
<tr>
<td>39</td>
<td>I found myself getting agitated</td>
<td>0</td>
</tr>
<tr>
<td>40</td>
<td>I was worried about situations in which I might panic and make a fool of myself</td>
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<tr>
<td>41</td>
<td>I experienced trembling (eg, in the hands)</td>
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</tr>
<tr>
<td>42</td>
<td>I found it difficult to work up the initiative to do things</td>
<td>0</td>
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</tbody>
</table>
Appendix C: Functional Assessment Interview Form

Functional Assessment Interview Form

Interviewer(s) ___________________________ Date(s) _______________
Student(s) _______________________________
Respondent(s) ___________________________ Title _______________________

1. Describe the behavior of concern. ___________________________________________
   __________________________________________
   __________________________________________

2. How often does the behavior occur? ________________________________________
   How long does it last? __________________________________________
   How intense is the behavior? __________________________________________

3. What is happening when the behavior occurs? ________________________________
   __________________________________________
   __________________________________________

4. Where/when is the behavior most/least likely to occur? ________________________
   __________________________________________
   __________________________________________

5. With whom is the behavior most/least likely to occur? ________________________
   __________________________________________
   __________________________________________
6. What conditions are most likely to precipitate ("set-off") the behavior? 

7. How can you tell the behavior is about to start? 

8. What usually happens after the behavior the behavior? Describe what happens according to adult(s), peers, and student responses. 

9. What is the likely function (intent) of the behavior; that is, why do you think the student behaves this way? What does the student get or avoid? 

10. What behavior(s) might serve the same function (see question 9) for the student that is appropriate within the social/environmental context? 

11. What other information might contribute to creating an effective intervention plan (e.g., under what conditions does the behavior not occur)? 

12. Who should be involved in planning and implementing the intervention plan? 

Appendix D: Antecedent Behavior Consequence (ABC)

Antecedent Behavior Consequence (ABC)
Recording Form

<table>
<thead>
<tr>
<th>Antecedents</th>
<th>Behavior</th>
<th>Consequence</th>
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## Appendix E: Daily Activities Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Description of Activity</th>
<th>Satisfaction Rating (scale of 1 - 10)</th>
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