AN EMOTION KNOWLEDGE INTERVENTION FOR YOUNG CHILDREN WITH BEHAVIOUR PROBLEMS.

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ABSTRACT

This dissertation describes an emotion knowledge intervention which was designed and conducted with four year old children with behaviour problems. The children's parents and preschool teachers kept daily records of the children's noncompliances to determine if there was any change in behaviour throughout the duration of the study. The children's emotion knowledge and vocabulary ability were assessed and their parents completed a child behaviour checklist both before and after the intervention. The emotion knowledge intervention consisted of six sessions over a three week period. During the sessions the emotions angry, happy, sad and scared were discussed with the use of storybooks and games were played that involved identifying the emotions on faces of emotion cards and the children also practiced making the faces themselves. Results indicated that the intervention did not result in an increase in the children's level of emotion knowledge or result in a change the children's behaviour.

Possible reasons for this lack of effect may have included an insufficient number of sessions to result in a change of emotion knowledge or the intervention may have been ineffective at increasing the children's level of emotion knowledge.

CHAPTER 1

Introduction

Preschool children who lack emotional competence are at risk of poor academic performance and are likely to struggle to form and maintain positive peer relationships both during their school years and later in life (Calkins & Howse, 2004; Trentacosta & Izard, 2007). Early indications that a child may be lacking in emotional competence can be the presence of externalising behaviours such as aggression or noncompliance or internalizing behaviours such as shyness and withdrawn behaviour (Denham, 1998). This dissertation considers emotional competence in children with externalising behaviour. Specifically, it asks whether these children can be taught emotional competence and if so, does an increase in emotion competence influence a child's externalising behaviour?

The reasons why a child may lack emotional competence are many and varied and could be the result of a home environment that is not emotionally stimulating or limited cognitive abilities (Calkins & Howse, 2004). Most interventions for externalising behaviour in preschool children are interventions which target parenting skills. There is very little emphasis on emotional competence. For example, the Positive Parenting Program (Triple P) has been shown to be very effective in reducing problem behaviours in preschool children (de Graaf, Speetjens, Smit, de Wolff, & Tavecchio, 2008). Triple P does not explicitly teach emotion knowledge or understanding but instead relies on an increase in positive interactions between parents and child to assist in the child's emotional development (Sanders, Markie-Dadds, & Turner, 2003). Other programs such as The Incredible Years and Emotion Based Prevention Program (EBP) include topics

specifically focused on emotion recognition, emotion knowledge and associated problem solving. However, both of these programs require a considerable amount of commitment from the parents as they each involve the child attending lessons multiple times per week for up to five months and some forms of each of the programs require the parents to also attend lessons (Denham & Burton, 2003).

This study attempts to investigate whether it is possible to influence a child's behaviour purely by teaching them simple emotions and trying to help them recognize their own emotions. Specifically, this study considers whether an emotion knowledge intervention is able to decrease a four year old child's behaviour problems. This study will begin by first briefly discussing emotional competence followed by various theories on emotional development in childhood. This will then expand into the importance of emotion regulation, a description of emotion knowledge, the relationship between emotion understanding and problem behaviours and the appropriateness of teaching simple emotion concepts to four year olds. The relationship between a lack of emotion knowledge and behaviour problems will be investigated as well as the effectiveness of using cognitive behavioural therapy with four year children. Finally, some programs that are currently used to address emotional competency in children will be discussed followed by the aims of the current study.

CHAPTER 2

Literature Review

Emotional Competence

Emotional competence or emotional intelligence has received an increasing amount of attention over the last 25 years including a strong focus on the development of emotion in children (Denham, 1998). This interest includes attempting to understand how children develop an understanding of emotion and the effects of a lack of emotional awareness or emotional intelligence. Initially a model of multiple intelligences was proposed by Howard Gardner in 1983 and included a description of a personal intelligence, similar to emotional intelligence, although with less of a focus on the role of emotions. John Mayer and Peter Salovey noted that while Gardner's model was influential, it had little empirical support (Mayer & Salovey, 1997). It appears unclear who first coined the term 'emotional intelligence' but John Mayer and Peter Salovey proposed one of the first theories detailing how people can be intelligent in the context of personal relationships and about their own emotions (Goleman, 1997). In this theory, Mayer and Salovey (1997) describe emotional intelligence as involving "the ability to perceive accurately, appraise and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (pg 10).

Goleman (1994) suggests that teaching children emotional literacy should be a standard procedure in schools alongside the requisite skills of literacy and numeracy. He points out that children who are lacking in emotional intelligence are less likely to

peacefully resolve conflicts with others and more likely to instead turn to aggressive strategies. Therefore, knowledge of one's own emotions is an incredibly important skill for young children in order for them to cope with, communicate about and understand both their own and other's emotional experiences.

The way in which a parent responds to a child's emotions can influence the child's understanding of emotions. Katz and Gottman (1986) cited in Gottman, Katz and Hooven (1996) interviewed parents about their attitudes and philosophies towards dealing with negative emotions such as anger and sadness in their children. They found that some parents viewed the expression of emotions by their child as an opportunity for intimacy whereas others felt that negative emotions should be minimized or ignored entirely. They found that some parents, who they described as 'emotion coaches', were comfortable validating and discussing emotions with their children. After interviewing these parents regarding their strategies for dealing with their child's emotions Katz and Gottman (1986) cited in Gottman, Katz and Hooven (1996) determined that the common features of the parents approach to emotion coaching involved five main steps. The first step was that the parents expressed an awareness of low level emotion in both themselves and their child which meant that they were able to intervene before their child's emotional level increased in intensity. The second step was that the parents considered these times of emotion expression in their child to be a time of intimacy with their child and viewed them positively. The third step was that the parents validated the child's emotion and did not try to minimize the child's response to the situation and then the fourth step involved the parents labeling the emotion for the child to enable the child to increase their language capacity regarding how they are feeling. The final step that the

emotion coaching parents used to enable their child to learn to effectively recognize and regulate their emotions was to problem solve and set behavioural limits with their child to enable their child to identify appropriate responses to the situation as well as discussing the precursors that lead to the negative emotion and alternative strategies that could have been utilized to decrease the development of the negative emotion in future. This type of parenting has been shown to help children develop a better understanding of their emotions, help them to learn more positive methods for dealing with their emotions and enjoy more positive interactions with others (Katz, Hunter, & Klowden, 2008; Katz & Windecker-Nelson, 2004).

Emotional Development

There are two significant beginning points for modern theories of emotional development (Strongman, 2003). The first of these is Watson's (1929) theory which is based on behavioural principles and suggests that emotions are externally stimulated in individuals rather than based on internal feelings or states. Strongman (2003) suggests that the second important initial theory on emotion development is that proposed by Bridges (1932). Bridges (1932) cited in Strongman (2003) suggests that children are born with two possible emotional states, one positive (feelings of delight) and the other negative (feelings of distress). She proposed that as the infant then matures and interacts with his or her environment, these internal states differentiate into a larger number of emotions which gradually become more complex (Calkins & Howse, 2004; Camras & Fatani, 2008; Lewis, 2008). From these theories other similar theories developed, but there was not a significant amount of increase in knowledge of emotion development until the 1970's. After this, the level of understanding has accelerated and has included a

focus on the role of cognition in emotional development and more recently a focus on the significance of emotion regulation in emotion development (Strongman, 2003).

While attachment theory is not specifically a theory of emotion development, attachment relationships play a significant part in the development of an individual's understanding of emotions, self regulation and relationship expectations (Strongman, 2003). Thompson (1989) suggests that if a child has a secure attachment relationship as an infant, they are then more likely to develop a greater sense of emotional self regulation and are more likely to create harmonious and long term relationships with other people. Another theory on emotion development was proposed by Fischer, Shaver, and Carnochan (1990). Fischer and colleagues suggest that emotion development may begin as simple internal emotions in infancy but that emotion development is a form of a skill development. They define skill development as 'the child's ability to control variations in his or her own actions and mental processes in a particular context' (p.99). They propose that as a child interacts with the world and is appraised, the child develops their ability to control their emotions and reactions. The child then begins to develop scripts for various situations and when in a similar situation again will cognitively refer back to the script and thus this influences their reaction.

One theory that has been proposed by Greenspan and Shanker (2007) is that infants must learn to recognize and master affective signaling, for example, understanding what responses occur from different interactions with other people. Affective signaling includes interpreting any form of interaction between people such as eye contact, touch and vocalisations. They suggest that this is the process of the child developing a sense of self or what is sometimes referred to as "theory of mind".

Greenspan and Shanker (2007) postulate that children must build on these skills in order to gain greater awareness of more complex interactions that occur between people. The child must master one level of understanding before they are able to master the next, although they state that mastery of one level does not guarantee mastery of the next. Shanker and Greenspan (2007) present evidence that supports this theory. They suggest that children need to become competent social problem solvers in order to then learn to develop complex language, cognitive and social abilities.

Pons, Harris and De Rosnay (2004) defined nine stages of emotion development, these are as follows:

1. Recognition – This stage typically occurs between the ages of 3 and 4 years old and is the ability of the child to recognize and label emotions.
2. External cause – A typically developing child would reach this stage between the ages of 3 and 4 years old. This is their ability to predict the emotion of another person depending on the situation that person is in.
3. Desire – By 3 and 5 years old, children will generally be able to understand that the emotion a person feels in a given situation is significantly influenced by the desires they had about that situation.
4. Belief – Within the ages of 4 and 6 years old, most children can begin to comprehend that a person's either true or false beliefs can effect a person's emotions.
5. Reminder – Children learn between the ages of 3 and 6 years old that over time the intensity of emotions decrease and also that cues from some situations can

elicit a particular emotion that had previously been felt by the person in a similar situation.

6. Regulation – From the ages of 6 and 7 years old, children are likely to utilize behavioural strategies to help regulate their emotions, such as looking away from something that is causing them distress. After the age of eight children begin to use psychological techniques to control emotions, such as distraction or denial.
7. Hiding – Children aged between 4 and 6 years old begin to understand that the emotion a person is displaying is not necessarily the emotion they are actually experiencing.
8. Mixed – Once a child is 8 years old they can usually start to understand that a person may feel multiple emotions in a given situation and that these emotions may be conflicting.
9. Morality – From 8 years old children begin to understand that people are likely to experience positive emotions when they do something that is morally appropriate and negative emotions when they do something that is morally inappropriate.

The stages of emotion development above can be categorised into three general definitions of emotion understanding. These are external, mentalistic and reflective understanding or emotion (Tenenbaum, Alfieri, Brooks, & Dunne, 2008). External understanding involves recognition of emotions, external causes or emotions as well as reminders of emotion. Mentalistic understanding of emotions consists of disguise of emotions, desire and beliefs and finally, reflective understanding of emotions involves emotion regulation, ambivalent emotions and morality.

The above theory of emotion development is supported by research cited in Thompson (1989) which suggests that by the age of two years most children can state, without prompting, the emotions being experienced by either themselves or the people around them. By the age of three and a half, children are able to label emotions such as happy, sad, angry and scared and then from five or six years old can recognize and label the more complex emotions such as jealousy, shame and embarrassment. This research supports the idea that by the age of four years old, if children do not appear to be able to effectively label emotions then it is a developmentally appropriate age to begin to intervene and teach the simple emotions.

Emotion Regulation

A child's ability to effectively control emotional arousal has been shown to be a strong mediator in their ability to build and maintain relationships later in life and have better socio-emotional adjustment throughout their life (Calkins & Howse, 2004). Self-regulation can be defined as an individual's ability to control and alter behaviour in relation to the demands that are placed on them from an emotional, cognitive and social standpoint (Posner & Rothbart, 2000). There is evidence that a child can begin to control emotional arousal from around the end of their first year of life (Greenspan & Shanker, 2007). They begin adapting their behaviour based on emotional stimulation and their response depends on whether the affective stimulus is positive or negative. A typically developing child can react in such a way as to keep their own arousal within a range that they are able to manage and therefore are able to enjoy the interaction (Calkins & Howse, 2004). An example of this control is a child looking away when positive or negative

affect from another individual, such as anger or laughter, is too great for the child to manage comfortably.

When looking specifically at emotion regulation there seems to be some disagreement from experts in this area about an accurate definition (Kring & Werner, 2004). One aspect of emotion regulation that has been debated is whether emotion regulation is a function of internal or external control or a function of both. Examples of internal control are the child's own ability to regulate their emotions and their individual traits and abilities such as intelligence or anger management strategies. External control factors can be the reactions and the following consequences from a parent, other people or society in general. For example, a child may find that behaviour, such as a tantrum, that was tolerated at home is not tolerated at kindergarten. The reaction or consequences from the teachers may result in the child no longer having tantrums at kindergarten whereas the tantrums at home may continue. This situation is an example of external control of self regulation as the child is able to control their tantrums if they cease to occur at kindergarten yet they choose to have tantrums at home presumably to achieve a desired result.

Another point of disagreement between researchers is the role, if any, that emotion regulation plays in the development of psychopathology (Kring & Werner, 2004). This is an important point to consider especially when emotion dysregulation is a factor in many mental health difficulties, such as anxiety or depression (Denham, 1998). If emotion dysregulation can be identified and then strengthened in children, possibly with the help of an emotion knowledge intervention, then this could be a strong protective factor for children and their possible outcome later in life.

Research suggests that a lack of self regulation skills can contribute to the development of internalizing behaviours in young children (Calkins & Howse, 2004). Internalising behaviours can include social withdrawal, anxiety shyness and depression. Children who exhibit internalizing behaviours are likely to attempt to avoid many situations which might cause them distress. For example, being in novel situations or meeting and interacting with peers. Avoidance could involve trying to keep a close proximity to their caregiver or irritable behaviour which may result in them being removed from the situation. The result of this type of behaviour could mean that a child with internalizing behaviours may miss out on many experiences compared to other children. This would result in less learning opportunities which could restrict their emotional competence and self regulation development further.

Another aspect of a child's development that can be associated with emotional regulation is academic performance. Both emotion regulation and regulation of behaviour have been shown to be strong predictors of academic success at school for children (Calkins & Howse, 2004; Trentacosta & Izard, 2007). One mediator that has been suggested for the relationship between emotion regulation and academic success is attention to academic tasks which seems to be strongly related to emotion regulation of children (Trentacosta & Izard, 2007; Trentacosta, Izard, Mostow, & Fine, 2006).

A model of self-regulation developed by Calkins (1994) cited in (Calkins & Howse, 2004) suggests that externalising behaviours that are apparent from an early age can be the result of deficits in the child's emotional regulation. They suggest that these deficits, along with parenting influences and individual differences, for example, temperament, gender or intelligence, may moderate or mediate behaviour problems.

There are many pathways of influence that may result in an increase in externalising behaviours in a child. For example, if the child has a quiet temperament then this may influence parenting by encouraging more sensitive parenting. On the other hand, if the child has a difficult temperament, the parenting may be harsher and more negative. This type of parenting could contribute to a lack of emotion regulation development in the child which could result in behaviour problems (Bennett, Bendersky, & Lewis, 2005; Sullivan, Bennett, Carpenter, & Lewis, 2008).

If a child fails to develop effective self regulation skills, especially emotion regulation skills, they can be more noncompliant during their toddlerhood, especially if the lack of emotional regulation has been related to frustration as an infant (Stifter, Spinrad, & Braungart, 1999). Evidence also shows that emotion regulation is strongly linked to behaviour problems and lack of competence with interpersonal relationships. It has been suggested that the reason for this link may be due to a lack of ability to manage anger and hence the individual displays increased aggression towards others (Denham et al., 2002).

The Social Information Processing (SIP) model expands on this view and suggests that the way in which a child processes, interprets and reacts to social information is dependent on factors such as the child's general knowledge of the world, their individual characteristics, traits and their abilities. As a child develops, SIP patterns become apparent and can help to explain why a child may react overly aggressively to a particular situation (Dodge, Laird, Lochman, & Zelli, 2002). For example, if a child lacks emotion understanding they may misinterpret another child's intentions and react

unnecessarily aggressively. This inappropriate reaction could be due to their SIP patterns that have developed from their early experiences.

Overall, this information suggests that if a young child is not developing effective emotion regulation abilities there are potentially many negative long term consequences for their developmental outcome. These include a possible deficit in attention skills which may lead to poor academic performance. Interpersonal relationships may suffer as a result of low levels of emotion regulation and externalising or internalizing problems may develop. The importance of an appropriate developmental intervention that can realign the child's developmental trajectory to one that will potentially provide more positive outcomes becomes apparent. Implementation of such an intervention at an early age has the potential to greatly improve that child's long term outcome.

Emotion Knowledge

As mentioned previously, emotion regulation appears to begin from the fundamental base of affective signaling and from this skill more complex abilities develop (Greenspan & Shanker, 2007). Emotion knowledge is one of these abilities that a child must master if they are to eventually become a competent, socially aware adult (Denham, 1998; Lewis, 2008). This means that if a child is lacking in emotion knowledge then their emotion regulation development will be compromised and as discussed, this can result in many negative outcomes for the child. An intervention targeting emotion knowledge in young children, therefore has the potential to provide considerable benefits to the child to the extent of possibly altering their emotional development trajectory. However, before such an intervention can be discussed, the specific construct of emotion knowledge needs to be explored.

Emotion knowledge involves the ability to recognize and name emotions both in oneself and in other people (Mayer & Salovey, 1997). It includes the ability to understand the meanings of emotions, including understanding mixed emotions, for example, feeling happy and sad simultaneously and the ability to understand that emotions can change from one to the other, for example, feeling angry which then may transition to shame (Mayer & Salovey, 1997).

Many factors can influence a child's emotion knowledge either positively or negatively. Bennett, Bendersky and Lewis (2005) conducted a study which examined factors that they considered may relate to a child's emotion knowledge. Factors assessed included child characteristics such as cognitive development, vocabulary and negative emotionality. Other factors that were included were environmental or parental characteristics such as socio-economic status, maternal verbal intelligence and type of parenting. Assessments were completed both when the children were two years old and again when the children were four years old. Emotion knowledge was only assessed when the children were four years old as two years old is developmentally too young for such an assessment. The results showed that the factors that were most likely to predict high emotion knowledge in a child were high maternal verbal intelligence, high child cognitive ability and low environmental risk, which included aspects such as employment stability, maternal social support and instability of the child's surrounds (Bennett, Bendersky, & Lewis, 2005).

A final point to mention in relation to emotion knowledge is alexithymia. It is still unclear whether alexithymia is a developmental condition or a personality trait but it is characterized by a lack of understanding of emotions (Strongman, 2003). An

individual with alexithymia is not able to recognize or label emotions either in themselves or other people (Vanheule, Desmet, Meganck, & Bogaerts, 2007). A detailed discussion on alexithymia is beyond the scope of this study but one point of importance is that alexithymia is strongly related to interpersonal difficulties. Specifically, people who show little affection for others, people who have problems initiating relationships with others or people who struggle to cope with social situations (Vanheule, Desmet, Meganck, & Bogaerts, 2007).

Relationship between Emotion Understanding and Problem Behaviours

The relationship between emotion regulation and behaviour problems has already been discussed. This section will briefly discuss whether there is a relationship between emotion understanding and problem behaviours. Cook, Greenberg and Kusche (1994) investigated whether there was any relationship between disruptive behaviour and emotional understanding in school aged children. The children involved in the study ranged between 6 years old and 10 years old. The researchers classified the children's disruptive behaviour as high, moderate or low depending on the T score from the Achenbach Child Behaviour Checklist – Parent Report Form that was completed for each child by one of their parents. The child's emotional understanding was assessed using the Kusche Affective Interview – Revised and involved the child identifying both their own and other's emotional states as well their ability to discuss their own emotional experiences. The results showed that the children who scored lower on the emotion understanding assessment were more likely to also be scored higher for disruptive behaviour problems. The authors had considered that intellectual functioning may be a confounding factor in this study. In order to assess this assumption they administered a

verbal ability assessment as a measure of intellectual ability. The results supported the assumption that intellectual ability influenced the outcome and therefore was a factor that should be considered when investigating emotion knowledge.

Cognitive Behavioural Therapy with Four Year Olds

CBT has not traditionally been used with children, however in recent years it has begun to play a more prominent role. One reason why it is important to consider the use of CBT with children is that CBT has a significant theoretical and evidential base supporting its use with adults (Friedberg & McClure, 2002). Therefore, if it is possible to adapt it to be developmentally appropriate with children, it could be a significant tool for work with them. Some programs already exist that utlise CBT with children such as Paula Barrett's FRIENDS program, Paul Stallard's Think Good-Feel Good program or Philip Kendall's Coping Cat program.

The first point to consider before implementing CBT with children is whether it is an appropriate technique to use. Piaget suggested that meta-cognition, the ability to think about thoughts, was not possible in children until they reached adolescence (Bolton, 2005). This would suggest that a medium such as CBT would be inappropriate for four year olds as they would not be developmentally advanced enough to reflect on their thoughts. This was considered to be the case for many years due to Piaget's assertion on meta-cognition however in recent years there has been some debate on this topic. Bolton (2005) suggests that CBT can be useful with children if developmental abilities are taken into account. Therefore, is it appropriate to use CBT with four year olds or would it be developmentally unsound? As explained previously, four year old children should be capable of recognising and naming emotions both in themselves and in other people

(Lewis, 2008). Thus it should be developmentally appropriate to talk to children about simple emotions. However, in this situation it has been assumed that the reason for the behaviour problems may be related to a lack of emotion knowledge. Therefore, the child would be developmentally behind their peers and even talking about simple emotions may be beyond their immediate grasp. Fortunately, if this is the case, comprehension of simple emotions should be within their zone of proximal development. Vygotsky suggested that children of any age are capable of extending their current developmental abilities if they are appropriately assisted or 'scaffolded'. He claimed that even if a child has not developed a particular skill, if it is within a certain range of their abilities, or within their 'zone of proximal development' then with some scaffolding they are likely to be able to achieve it faster than if they are required to develop it on their own (Bolton, 2005). Consequently, an intervention focused on emotion knowledge should be beneficial to a four year old child even if they are not yet able to discuss their emotions.

The next point to consider is how to deliver the CBT in manner that is most effective for a four year old child. It may be appropriate for an adult to sit and talk to a therapist for an hour each session but this is not likely to be achievable for a four year old child. In order to help keep them interested and engaged, Ronen (1998) suggests that therapists working with young children should use only techniques and tools which can be explained with simple, specific instructions. The session length needs to be kept short enough to keep the child's attention and interesting enough to keep them engaged in the session. Realistically, attention span and interest will differ for every child. Therefore, an important aspect of the sessions is to be flexible and to alter the flow and content depending on how receptive the child is that day.

Current Programs Addressing Emotional Competency

A number of programs already exist that aim to target externalising behaviours in children. Some programs focus on training the parents by teaching them new skills to help them to more effectively deal with their child's challenging behaviours. Some of the programs rely on working with the children to try to develop the child's skills, such as increasing social skills, whereas other programs have an aspect of child and parent training involved. Currently, three parent training programs have been identified as being well established evidence based treatments for children with behaviour problems, but no child training programs have so far met the criteria for a well established program (Eyberg, Nelson, & Boggs, 2008). The probably efficacious treatments identified by the authors, include both parent and child training programs such as Webster-Stratton and Reid's Incredible Years Child Training (IY-CT) and Sander's Positive Parenting Program (Triple P). Both of these programs will now be discussed in general detail as well as in relation to increasing the emotional competence of children.

Triple P involves educating parents about parenting strategies and exploring reasons for child misbehaviour. The aim of the program is to teach positive parenting skills and enable parents to effectively manage misbehaviour. It is based upon social learning principles to identify and alleviate dysfunctional family patterns that may have developed and maintain behaviour problems. The program also utilizes developmental research and social information processing models to enhance relationships between parent and child (Sanders, Markie-Dadds, & Turner, 2003). One meta analysis of the Triple P Program reviewed the results of nineteen studies which included various forms of intervention delivery such as group training, self-directed and individual training.

Inclusion criteria required that there was enough information to calculate effect sizes, post-test data was required and control groups were included in the study. The meta-analysis assessed the parenting competencies of the parents and showed that Triple P is an effective intervention especially for parents of boys. The study showed that the age of the child did not effect the parenting competencies (de Graaf, Speetjens, Smit, de Wolff, & Tavecchio, 2008). As discussed, Triple P has a strong evidence base supporting it's effectiveness in decreasing problem behaviours in children. There is less information however on the impact this program has on children's emotional competency. The assumption within the program is that if the parent and child relationship becomes more positive, from a decrease in the conflict level between parent and child, then the child is more likely to increase their emotional, social and intellectual competencies (Sanders, Markie-Dadds, & Turner, 2003). One study that provides evidence regarding an improvement in emotional competency as a result of the program used a parent report based measure. The study showed that there was a significant decrease in emotional problems in the children as reported by their parents (Sanders et al., 2008). While this reported improvement may result in an increase in a child's emotional competence, the evidence is currently based on parent reports rather than an actual assessment of the child's abilities. Therefore, the child may not have improved their emotional competence but rather become more compliant and this may be confounding the parents' reports of their child's behaviour.

As discussed, Triple P and some other parent training programs are well validated in the research. However, some families do not respond positively to parenting programs. Up to one third of children whose parents had attended a parent training

program continued to have problems with social relationships, including peer relationships, and were still struggling academically. This outcome was consistent at a two and three year follow-up after the parent training had taken place (Reid, Webster-Stratton, & Hammond, 2003). Another potential problem with parent training is that the improvements in the home environment do not always generalize to the school environment. Some parents will not attend training or are unable to effectively implement and maintain the techniques they have been taught. These are just some of the reasons why parent training may not be effective and therefore highlight the importance of being able to provide other options to children with social and emotional difficulties (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton, & Hammond, 2003).

Another program that has been designed specifically to decrease behaviour problems in preschool children is the Incredible Years program. The Incredible Years program consists of three individual programs, a parent training program, a child training program and a teacher training program. All three programs can be delivered alongside one another or the programs can be implemented individually. The child training program is the Dina Dinosaur Social Skills and Problem Solving Child Training Program which is based on social learning and developmental theory (Webster-Stratton & Reid, 2003). The program has been developed specifically for children aged between four to eight years old. This age group has been targeted as child behaviour can become relatively stable once the child reaches eight years old, therefore, there is a greater possibility of positive change in a child younger than that (Webster-Stratton & Reid, 2003). The program aims to increase the child's ability in communication skills, empathy and perspective taking amongst other skills. To achieve this goal, the program

consists of 18 to 22 weekly 2-hour sessions. The topics that are covered throughout the program include problem solving, understanding and detecting feelings and how to be friendly. The program facilitators are guided by comprehensive manuals which specify session goals, protocols, which videotapes to view and the activities to implement each session. The Dina Dinosaur Program utilizes developmentally appropriate techniques to teach and engage the children such as fantasy play and use of puppets. The program has been shown to be effective in increasing children's positive social interactions and decreasing their negative social interactions (Webster-Stratton & Reid, 2003).

Studies have shown that either the child training alone or the combined parent and child training results in improved conflict management and lower levels of aggression in the child at home (Webster-Stratton & Hammond, 1997; Webster-Stratton, Reid, & Hammond, 2001). The results do not appear to generalize to problem behaviours at school unless a teacher training component is introduced as well (Reid, Webster-Stratton, & Hammond, 2003).

Overall, the Dina Dinosaur Program appears to be a comprehensive and effective program for reducing behaviour problems in children and increasing prosocial skills. However, possible limitations of the Dina Dinosaur Program include the number of sessions required and the cost of purchasing the program and the required materials. Firstly, 22 sessions is a lot of sessions for a family to commit to. The child needs to attend the group each week, wherever it is being held, so the parents have to ensure they can transport their child each week. The cost of the program is also a significant factor to consider as the cost may need to be recouped somehow whether by charging a fee to attend the program, which would result in many families not being able to participate, or

other forms of funding may need to be considered such as governmental support. The person facilitating the program needs to have experience working with children with conduct problems and before they can begin to teach the program they need to undertake extensive training which is an additional cost factor. Therefore, is it possible to decrease a child's problem behaviour with a shorter program that requires fewer materials and costs less to implement? Before discussing this question further, one more program will be discussed in depth.

The final program to be discussed is Carroll Izard's Emotion-Based Prevention Program (EBP). This program has been designed for preschool-aged children and new entrants to primary school. The program has been implemented in some preschools in low socioeconomic status areas in the United States of America. The techniques involved are aimed at increasing both the child's emotion knowledge and emotion regulation as well as decreasing internalizing and externalising maladaptive behaviours, such as, depression, anxiety, aggressive behaviour and social withdrawal (Izard et al., 2008).

EBP is based on differential emotion theory (DET). There are three principles of DET that underpin the development of EBP as they provide an understanding of how adaptive or maladaptive emotion development occurs. The first of these principles is that all emotions, both negative and positive, have beneficial and adaptive advantages for people. For example, anger may motivate someone to act on something and happiness may encourage a parent to spend more time with a child. If a child does not learn to utilize emotions in an adaptive way then this may lead to maladaptive outcomes such as internalizing emotions after experiencing sad events rather than turning to others for

support (Izard, Fine, Mostow, Trentacosta, & Campbell, 2002). The second DET principle that EBP is based on is that as a child develops, connections are established between the emotional and cognitive systems. As mentioned previously, there appears to be a strong connection between emotion understanding and cognitive ability. Therefore, providing children with an opportunity to learn about their own and other's emotions as a preschooler can significantly influence their cognitive development and academic success (Izard, Fine, Mostow, Trentacosta, & Campbell, 2002). The third aspect of DET that EBP is based on is that the level of emotion development in an individual must be taken into account to achieve any behavioural change in that individual. This means that an intervention that is designed to increase emotion understanding must be developmentally appropriate for the child, both in the type of information that is taught and the techniques involved in presenting the information. Any such intervention then has the potential to provide considerable benefit to any child who may not have received adequate emotional stimulation throughout their childhood (Izard, Fine, Mostow, Trentacosta, & Campbell, 2002).

EBP consists of 20 lessons which can be delivered by a teacher over a five month period. The lessons include emotion labeling, emotion recognition, and emotion communication among other topics (Izard, Fine, Mostow, Trentacosta, & Campbell, 2002). EBP does not use extrinsic rewards, such as token rewards, and instead relies on intrinsic rewards that the child may receive by correctly recognising and reacting to their own and other's emotions, such as happiness from forming positive relationships with peers. Studies have shown that three to five year old children involved in the course have

increased emotion knowledge and emotion regulation over children in control groups (Izard et al., 2008).

The three programs that have been discussed all have strong empirical evidence that they decrease noncompliant and aggressive behaviour in four year old children. However, all have limitations such as cost of implementation, the time frame involved or some children not responding to treatment.

Previous Studies

A brief review of studies that have investigated how emotion knowledge can be taught to young children and their results will be discussed in this section. The first study that will be discussed was conducted to attempt to increase children's emotion knowledge utilizing vignettes from the TEC. Ninety-three children aged from 5-8 years old participated in the study and were split into three groups. One group was read the vignettes and were then asked to explain the emotions the child in the vignette felt whereas after the second group had been read the vignettes, the examiner then explained the emotions that the child in the vignette felt and in the third group, the control group, the examiner asked the child questions about the story that did not relate to emotions. The study showed that the children who were in either the self-explanation or examiner-explanation group preformed significantly better on the post-test than the children in the control group. The results were also broken down into age groups and the results for all the children excluding the control group, in the 5-6 year age range improved less overall than for the older children but the results were still significantly higher than the control group. The researchers had found that after four weeks the children had forgotten the

TEC sufficiently to allow for the test to reliably be used for the post intervention assessment (Tenenbaum, Alfieri, Brooks, & Dunne, 2008).

A similar study that included 4 year old children was conducted by Peng, Johnson, Pollock, Glasspool and Harris (1992). The study involved reading the children a story and then asking them how they felt. The children were then read a second story and at each strongly emotional part the children in the experimental group were asked to explain how they would feel in that situation. The control group, on the other hand, were only asked how they would have felt in the situation described in the book after the story had been read to them. All the children were then read a final story and only asked how they thought the person would feel at the end of the story. The researchers found that the younger children were more resistant to change than the older children and that the 4 year olds specifically showed almost no change from pre to post test.

Other studies that have focused on increasing children's emotion knowledge include a study that involved 6 and 7 year old children discussing the possibility of feeling two contrasting emotions at the same time. The experimental group received one training session in which either 3 or 4 situations were discussed in which a child could feel conflicting emotions. The control group did not receive this training. Ten weeks later, the children were shown a video of a teacher in a situation that may elicit conflicting emotions in her. The children from the experimental group were significantly more likely to report the possibility of conflicting emotions (Bennett & Hiscock, 1993).

Feshbach and Cohen (1988) conducted a study that was of slightly longer duration than the previous studies that have been mentioned and involved preschool and kindergarten children aged on average 56 months in the preschool group and 68 months

is the kindergarten group. The intervention consisted of daily 20 minute sessions over a period of one week. During the sessions the children were encouraged to think about how other people feel and were involved in discussions regarding identifying other people's emotions. Upon conclusion of the training the children in the experimental group showed a greater sensitivity towards and understanding of other people's emotions than the children in the control group. This suggests that even short emotion identification training can be beneficially to four and five year old children.

In summary, the importance of emotion development and more specifically emotion regulation and emotion knowledge development has been outlined throughout this literature review. However, it has been shown that there can be considerable consequences for children if this development is maladaptive or delayed. One consequence that has been discussed is an increase in childhood behaviour problems in relation to a lack of emotion knowledge (Cook, Greenberg, & Kusche, 1994). As discussed, this could be the result of the child misinterpreting either the social cues from other people or their own emotions and therefore react inappropriately. If the child has learnt to react in an aggressive manner then this may be their instantaneous response and therefore can result in a child with behaviour problems. This point has also been discussed in reverse, that children with a higher understanding of emotions are more likely to be competent in prosocial behaviours and excel academically than children lacking in emotion understanding (Calkins & Howse, 2004; Trentacosta & Izard, 2007; Trentacosta, Izard, Mostow, & Fine, 2006).

This study will propose an emotion knowledge intervention to attempt to increase the child's level of emotion knowledge which in turn may result in a decrease in behaviour problems.

Emotion Knowledge Intervention Rationale

The question that has been identified throughout the literature review is whether it is possible to decrease a child's problem behaviour by increasing their emotion knowledge utilising a short, cost-effective intervention.

The first aspect of such an intervention is the criteria for the selection of appropriate participants. As discussed, there is a relationship between behaviour problems and lack of emotion knowledge. Therefore, children with behaviour problems can be identified from parent and teacher reports regarding their behaviour. The children can then be assessed to determine their level of emotion knowledge.

The age of the children to be included in the study was determined from the literature that suggests that four years old is the age when it is developmentally appropriate for a child to be learning about simple emotions. This includes identifying the emotions in themselves as well as identifying them in other people (Denham, 1998; Pons, Harris, & de Rosnay, 2004). In addition, as children in New Zealand begin primary school at the age of five an increase in emotion understanding could help to ease this transition for them.

The next aspect to be considered is the structure of the actual intervention. As discussed earlier, there are already a number of effective programs that have been developed to decrease both a child's behaviour problems and their emotional difficulties. However, limitations with these programs were also briefly discussed including too much

time involved; the cost involved in transporting children to the sessions; the cost of attending the program itself or finally, the parents may not be willing or able to attend sessions and learn the requisite skills and knowledge. Therefore, one aim of this study is to attempt to determine whether a short program of only six sessions could increase a child's emotion knowledge. Studies discussed in the previous section suggest that this is a feasible option as they show that a four year old's knowledge on aspects of theory of mind development, such as affect identification and their ability to discuss emotions may improve after only a few sessions (Bennett & Hiscock, 1993; Feshbach & Cohen, 1988).

The tools and techniques utilized in the intervention consist of developmentally appropriate CBT techniques to discuss and identify the child's own emotions and those of other people. In this study, CBT was used to attempt to enable the child to be able to make behavioural decisions based on cognitive means. For example, recognising that they are upset and being able to verbalise their feelings to an appropriate person rather than responding impulsively and possibly aggressively. The emotions that were targeted by the intervention were happy, sad, angry and scared as these emotions have been identified as developmentally appropriate for four year olds to understand (Michalson & Lewis, 1985). Disgust and surprise were also measured by the emotion knowledge assessment but not expected, developmentally, to change.

The intervention was set in the home and parents were encouraged to attend sessions and use the materials between times. This was in order to provide the greatest possible positive outcome for the child. Conducting the intervention in the child's home environment also gave rise to the possibility of a 'spillover effect'. A spillover effect is when another member of the family such as a parent or a sibling appears to have gained

benefits that are associated with the child's treatment (Kendall, 2000). This could occur if the parents or siblings potentially expand their own knowledge of emotions after listening to information regarding emotions or by using tools that had been provided during the intervention such as story books. For example, if a parent was originally uncomfortable discussing emotions with their child they may find that after listening to the sessions with their child and by using the storybooks they may become more at ease talking about emotions in the home.

Due to the relationship between cognitive ability and emotion knowledge ability, there should some control between these two variables (Bennett, Bendersky, & Lewis, 2005). Therefore, in this study, a vocabulary test, the Peabody Picture Vocabulary Test – Third Edition (PPVT-III) was administered to each child to provide an indication of their language ability.

Overall, based on the literature that has been reviewed, the above intervention has been proposed as a shorter and cheaper option for families that are struggling with children with disruptive behaviour which may be the result of a lack of emotion knowledge.

Aim of the Current Project

This study was designed to attempt to investigate whether a short emotion knowledge intervention could result in a decrease in behaviour problems for children who are lacking in emotion knowledge. The first hypothesis of this study was, therefore, that a child with behaviour problems may have a co-existing lack of emotion knowledge. The second hypothesis is that a brief emotion knowledge intervention, of six sessions, would result in an increase in the child's level of emotion knowledge. Finally, the third

hypothesis to be investigated in this study is that an increase in emotion knowledge in a child will result in a decrease in externalising behaviour.

CHAPTER 3

Method

Design

A single case design across three participants was used for this study. For one participant an alternating design was employed incorporating baseline (A), control (A1) and intervention (B) phases. The purpose of the control was to investigate whether the individual time spent with the therapist influenced the child's behaviour. Baseline phase consisted of seven days of behaviour recording for all participants. Multiple baselines were originally intended to be used to provide better validity for the intervention but due to time constraints it was not possible to fully implement them.

The intervention consisted of six sessions over a three week period. After the intervention was completed data was collected for a week of maintenance recording. Finally, follow-up data was collected three weeks later.

Participants

The participants that were targeted for inclusion in the study were four year old children with behaviour problems and their parents. Criteria for inclusion in the study required both the parents and preschool teachers to report that the child displayed severe behaviour problems. Participants were recruited through local preschools and a Social Service agency that works predominately with children and families in need. Two participants were referred from the agency and one participant was referred from the preschools. Participants began baseline recording as soon as the screening process and consent was complete.

The three participants were Tasha, aged 4 years 6 months, Jack, also aged 4 years 6 months and Serena, aged 4 years 3 months. Tasha was the only child from a home with two parents and siblings. Both Jack and Serena were from single parent homes, they were both living with their mother, neither of them had any other siblings. Serena and Jack had frequent contact with their fathers during the day but neither would stay at their fathers' houses overnight. Serena had one older sister and three younger brothers, as well as two older brothers who live with another family but who have just recently started having frequent contact with Serena and her family.

Tasha's parents reported that her behaviour problems included frequently hitting her siblings, swearing, spitting and not following instructions. Her early childhood education teachers advised of similar behaviour, particularly hitting other children and refusing to follow instructions. Jack's presenting problems as reported by his mother included not following instructions, hitting the cat and hitting other children who came over to play. Jack's early childhood education teachers also reported that he hits other children as well as disrupting group activities. Serena's main presenting problems as reported by her mother and early childhood education teachers were frequent tantrums, biting and throwing things, such as sand, at other children.

Measures

The methods and materials used were the Eyberg Child Behaviour Inventory (ECBI) (Eyberg & Pincus, 1999), an emotion knowledge assessment (Michalson & Lewis, 1985) and a behaviour diary recorded by the parents. The Peabody Picture Vocabulary Test – Third Edition (PPVT-III) (Dunn & Dunn, 1997) was also administered

to provide an indication of the child's vocabulary level and storybooks on emotions were used as teaching tools during the intervention.

Emotion Knowledge Assessment.

The children's level of emotion knowledge was assessed using the emotion knowledge test designed by Michalson and Lewis (1985). This test assesses three aspects of emotion knowledge; labelling, comprehension and situational knowledge. It has been used to provide an indication of children's level of emotion knowledge with children aged from two to four years old (Michalson & Lewis, 1985). Reliability of each of the three tasks in this procedure has been shown to be acceptable with internal consistency coefficient's of 0.56 to 0.68 (Bennett, Bendersky, & Lewis, 2005; Sullivan, Bennett, Carpenter, & Lewis, 2008).

Labelling. The labelling assessment involved showing photos to the child one at a time and asking them "What kind of face is Felicia making?" The photos that were used are a range of six photos which depict a 10 year old girl 'Felicia' expressing the emotions happy, sad, angry, scared, disgust and surprise (Michalson & Lewis, 1985).

Comprehension. This task involved placing four of the Felicia photos, one target expression and three randomly chosen photos, in front of the child. The child was then asked to point to the target emotion, for example, "point to the happy face". Four target emotions were presented to the child, for example, happy, angry, sad and surprise, and each emotion was presented twice, embedded in a different set of photos each time. In order for the child to achieve a correct answer, the child was required to point to the correct face on both presentations.

Situational knowledge. During this assessment the child was shown six black and white drawings of a child in situations that are likely to elicit certain emotions. In each picture the face of the target child was blank. The situations presented were a birthday party, for which a happy response was expected; a mother comes home with pink hair, surprise was expected; the child's dog runs away from home, sad was expected; the child is given awful tasting food to eat, disgust was the expected response; an older sister knocks over the child's blocks, angry was expected; and the child is lost in the supermarket, scared was the expected response. A brief description of the situation was conveyed to the child, for example, "this child is having a birthday party. As you can see they have a birthday cake, lots of presents and all of their friends are there". Four of the 'Felicia' photos were presented to the child including the target emotion and three randomly chosen photos. The child was then asked to point to the face that the child in the situation would have.

The Peabody Picture Vocabulary Test – Third Edition (PPVT-III) (Dunn & Dunn, 1997)

The PPVT-III was administered to each child to provide an indication of their language ability. This was due to the evidence that language ability is a strong predictor of emotion knowledge (Bennett, Bendersky, & Lewis, 2005; Pons, Lawson, Harris, & de Rosnay, 2003). The aim was to consider each child's response to the intervention in the light of this information. The PPVT-III measures receptive vocabulary and has been designed for use with people aged from 2 years 6 months to 90 years and older (Dunn & Dunn, 1997). Administration of the test involves the examiner saying a stimulus word and the child responds by pointing to the corresponding picture. For each stimulus word

the child has a choice of four pictures to choose from. The PPVT-III has been shown to have good internal reliability and good validity (Dunn & Dunn, 1997).

Eyberg Child Behaviour Inventory (Eyberg & Pincus, 1999)

The ECBI is a 36 item parent report checklist for parents of children aged between 2-16 years old. It has been designed to measure the parent's perspective of their child's disruptive behaviours and has been regularly used to measure the outcome of interventions with behaviour problems. The scale has been shown to have good reliability and validity with an alpha coefficient of 0.98 (Webster-Stratton & Herman, 2008). The checklist has two scales, the first is the frequency of possible child behaviour problems, which the parents can report on a seven point Likert scale ranging from never occurs to always occurs. The second scale is a yes/no answer regarding whether or not the parent considers the behaviour to be a problem. Examples of the behaviours covered by the checklist include; *refuses to do chores when asked*, *whines* and *is overactive or restless*. Each of the scales is then scored to determine whether they are each above or below the clinical cut-off score. This provides an indication of the severity of child's problems in relation to other children of a similar age.

Behaviour Diary

Both the parents and the early childhood centres that the child attended were asked to complete a behaviour diary. The behaviour diary involved recording any instances of noncompliance throughout the day and recording the time of day, what had occurred before the noncompliance and what happened after the non compliance. Non compliance for this study is defined as any unacceptable behaviours such as tantrums,

hitting, swearing and refusing to follow instructions. An example of the behaviour diary is shown in Appendix 1.

Materials and Setting

Four emotion focused storybooks were used as tools during the intervention sessions. An example of one of the books is shown in Appendix 2. The books were recommended for children aged from three years old and were written by Trace Moroney. Each book explained one emotion and discussed aspects such as what may elicit that emotion, what someone might do when feeling that emotion and how they may be able to change their feelings if it is an unpleasant emotion. The four emotions that were covered by the books were happy, sad, angry and scared. The use of storybooks as a teaching tool for emotions followed the example of previous authors (Peng, Johnson, Pollack, Glasspool, & Harris, 1992; Pons, Harris, & Doudin, 2002; Tenenbaum, Alfieri, Brooks, & Dunne, 2008).

Feeling faces cards were also used as a tool in the intervention (refer to Appendix 2 for an example of the cards). These are a set of one hundred cards with faces showing different expressions. They have been created by Reaction Packed and are designed for use with people of all ages.

The intervention took place within the participant's homes. This then allowed the children to remain within an environment that they were likely to feel comfortable in and lessened the burden on the parents in terms of both cost and time that would otherwise be involved in transporting their children to the sessions.

Procedure

Before the study commenced, ethics approval was sought from the Human Ethics Committee at the University of Canterbury, New Zealand. Ethical approval was obtained for the selection and number of participants involved, the methodology, and the use and handling of the data. Formal consent was required from one of the parents of each child involved and participation was entirely voluntary for each family. Due to the voluntary nature of the study, each family was informed that they were able to withdraw from the study at any stage with no possible repercussions and all information collected would be confidentially destroyed (refer to Information Letter and Consent Form in Appendix 3 and Ethics Approval Letter in Appendix 4).

Participant recruitment began by contacting the head teachers of local preschools and social workers at the social service agency. They were given copies of the information sheet explaining the purpose and method of the current study. The centres were then followed up with phone calls at which point the contact details of those parents interested in participating were given to the researcher. Contact was made with the parents by telephone and times were set to meet and discuss the study in greater detail. During this meeting, the information sheet was explained to the parents and they were given the consent form to sign if they were happy to participate. Another meeting was then arranged with the consenting parents to discuss the child's developmental history and health and the family's background. This information was gathered to establish whether the intervention was likely to be appropriate for the child and family or whether a referral to another support agency was required. No immediate concerns for safety were apparent in these discussions and therefore all three families interviewed were

included in the study. Referral on was not deemed necessary for any participants, however, two families were in contact with social workers before the intervention and remained in contact with the social workers after the study was complete for further support. The parents were also given an ECBI form to complete before the next visit and asked to begin the behaviour diary. The head teachers at the early childhood education centres were also contacted and asked to begin recording the child's noncompliances.

Noncompliances were required to be recorded daily by the parents and the early childhood education teachers. Behaviour diary recording was required throughout the entire duration of the intervention and included the follow up period three weeks after the intervention had been completed.

Tasha was assigned to the alternating design condition. Information collection for her began with one week of baseline behaviour recording followed by one week of the control baseline. The control condition consisted of two sessions during which an emotion neutral storybook was read to her. The topics in the book were discussed with her and games were played with cards of emotional faces but with no focus on emotional content. This was not expected to have any effect on her behaviour or emotional competence. Tasha began the intervention after the control week was complete. The other two participants began with one week of baseline recording and then began the emotion knowledge intervention. The emotion knowledge assessment was administered during the baseline week to each of the children.

The intervention consisted of six emotion knowledge sessions during a three week period. Each session was between 15 to 20 minutes long depending on the child's energy and concentration levels. The intervention sessions involved the use of the four

storybooks. One book was read to the child at the beginning of each of the first four sessions and the information in the book was discussed with the child as the book was read. The parents were asked to stay at the sessions to observe both the reading of the book as well as the discussions about the subjects covered by the books. Children were asked emotion focused questions that related to the story and the characters in the story, for example, "how can you tell that the bunny is happy?" The storybooks were then given to the families to keep for their own use and parents were asked to read the books to their children between sessions. All confirmed that they did read them with their child, however, no formal record was kept of this information.

The emotion cards were used as a chance for the children to either pick a face they liked and to talk about it or as an opportunity for them to practice naming different emotions. The cards were also used after discussing the book, to talk about the different emotions that may have been mentioned. After the book had been read and discussed with the child there was a general discussion about emotions including practicing making different emotional faces.

The final two sessions consisted of a general discussion about emotions using the books, the cards and also focusing on emotions that the child had experienced recently. Examples of emotion provoking situations from the child's own life (as reported by the mother or preschool teachers) were discussed with the child along with the situations explained in the storybooks. For example, if the child had been angry or scared recently, details of the situation that had elicited this feeling was obtained from either the parent or preschool teacher. The situation was then discussed with the child regarding what their face looked like, what they did or could have done and what other people did.

Discussions about emotions were kept at a level that the child was comfortable with and the flow of conversation followed the child's interests while still remaining on topic. Simple, concrete ideas related to emotions were discussed in the sessions with the children.

Once the intervention was completed, the parents and the early childhood education centres continued recording the child's non compliances for another week. During this week the PPVT-III was administered along with the emotion knowledge assessment again and the parents completed another ECBI. The PPVT-III was administered after the intervention due to time constraints however it would have been preferable if it had been administered during the screening period. A final week of recording the child's non-compliances was then recorded three weeks later.

CHAPTER 4

Results

Behaviour Diaries

The results from the behaviour diaries are shown in Figure 1 and 2 below. Figure 1 shows the number of noncompliances each day as recorded by the parents and Figure 2 shows the noncompliances recorded by the early childhood education teachers.

Baseline

Tasha. Tasha displayed the lowest level of noncompliance out of the three children as recorded by her mother and early childhood education teacher. During the baseline phase, Tasha's number of noncompliances each day varied from one noncompliance to five noncompliances. During the seven day period her average daily number of noncompliances was just over two noncompliances per day. The early childhood education teachers recorded between one and five noncompliances each day with an average of two noncompliances per day.

Jack. Jack's mother recorded Jack's number of noncompliances each day during the baseline period as ranging from three to seven noncompliances per day. Jack's average number of noncompliances each day at home was five. At Jack's early childhood education centre, Jack's teachers recorded an average of almost three noncompliances per day with a range from no noncompliances to five noncompliances each day.

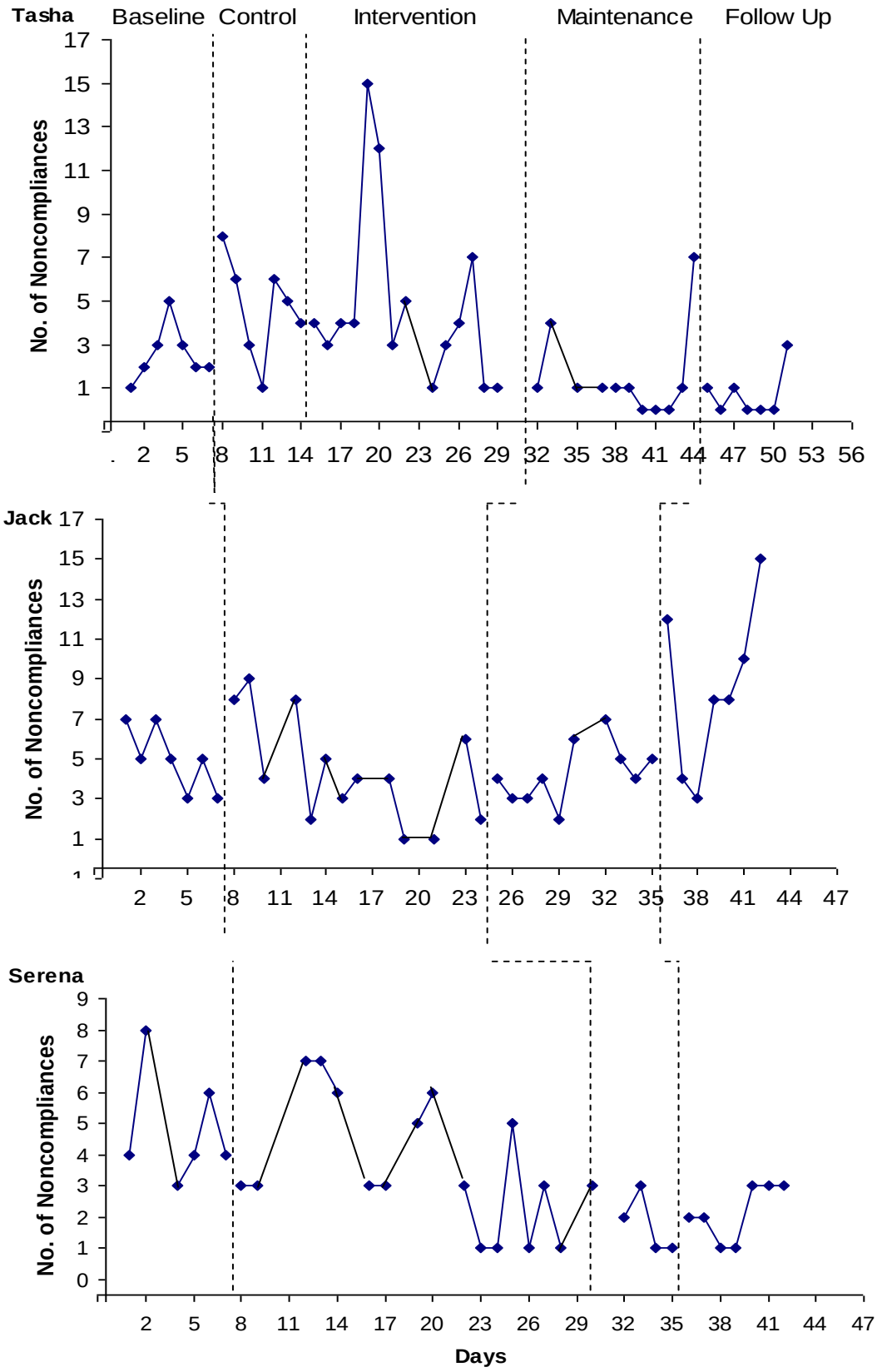

Figure 1. Child Noncompliances as Recorded by the Parents.

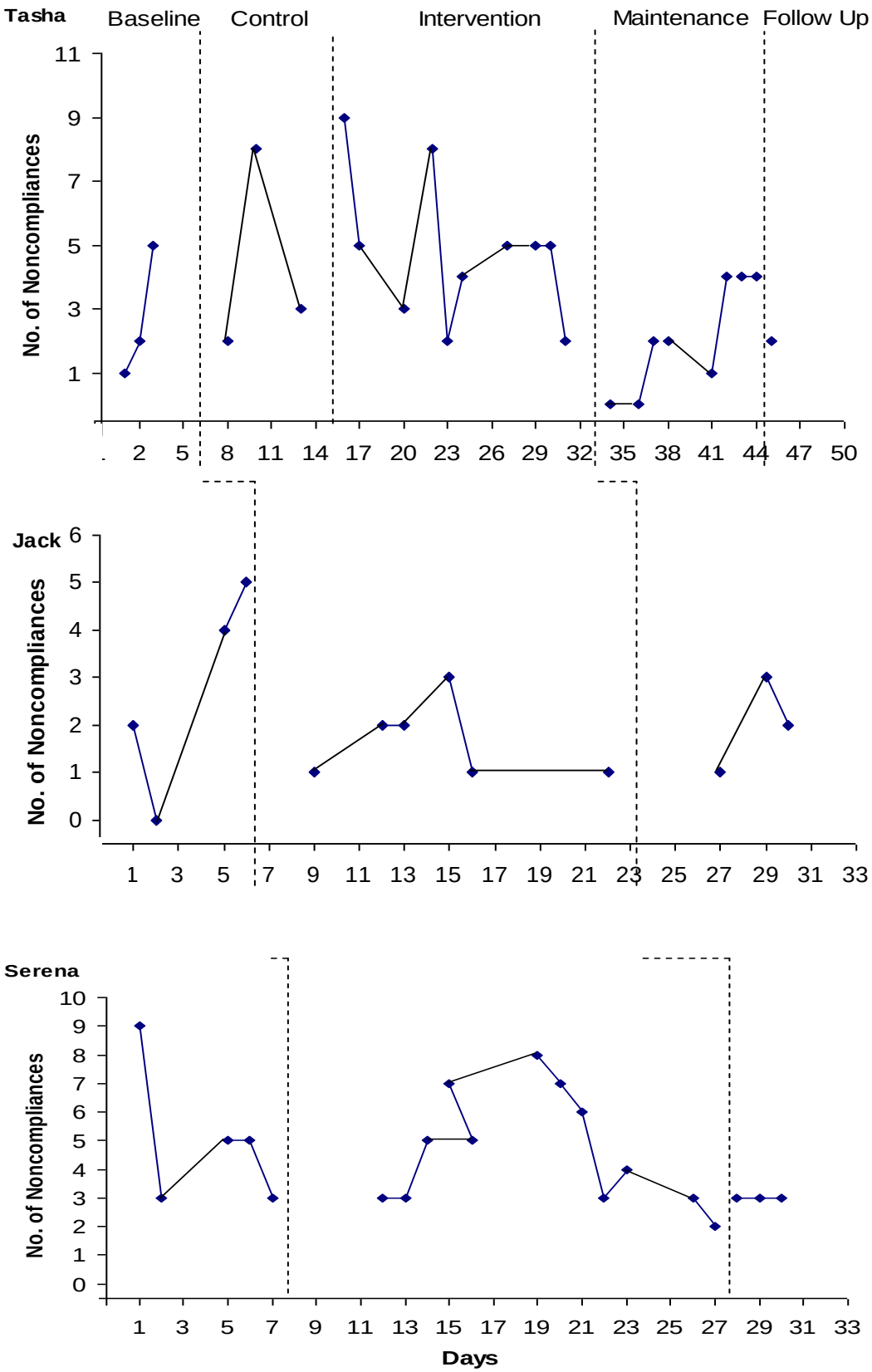

Figure 2. Child Noncompliances as Recorded by the Preschool Teachers.

Serena. Serena's mother recorded an average of almost five noncompliances each day with a range of three to eight noncompliances each day. The early childhood centre teachers recorded an average of five noncompliances per day ranging from three to nine noncompliances each day.

Control Baseline

Tasha was the only participant who experienced the control baseline. Her noncompliance results, as shown in Figure 1 and 2, suggested that her level of noncompliance increased during the control intervention. An average of just over four noncompliances each day was recorded by the early childhood education teachers and almost five noncompliances each day was recorded by her parents. At both settings, the highest number of noncompliances in one day that was recorded was eight noncompliances.

Intervention

Tasha. Tasha's noncompliances, as recorded by her parents, do not seem to show any obvious trend throughout the duration of the intervention. The number of noncompliances appears to decrease slightly with the highest daily numbers of noncompliances, 15 noncompliances one day and 12 noncompliances the following day, recorded soon after the intervention began. The record of her noncompliances at her early childhood education centre seems to show a similar pattern as the daily number of noncompliances appears to decrease throughout the duration of the intervention.

Jack. The noncompliances recorded by Jack's mother seem to show very little or no trend in the data throughout the duration of the intervention. The number of daily noncompliances appears to decrease until day 19 and 21 at which point the number of noncompliances appears to show a slight increasing trend. Jack's noncompliances as

recorded by his early childhood education teachers do not appear to show any stable trends throughout the duration of the intervention with a range from one to three noncompliances per day.

Serena. Serena's noncompliances appear to show a slight decrease throughout the intervention phase. The noncompliance information recorded by Serena's early childhood education teachers also does not seem to show any obvious trend although her number of noncompliances each day increases until day 19 at which point the daily number of noncompliances begins to decrease.

Maintenance and Follow-Up

Tasha. Tasha's average number of noncompliances throughout the maintenance and follow-up period was just over one noncompliance each day at home and two noncompliances each day at her early childhood education centre. This shows a slight decrease from her baseline information recorded at home of two noncompliances each day, however, her daily number of noncompliances at the early childhood education centre remains unchanged from the baseline average.

Jack. During the maintenance stage there appears to be an upward trend in the number of Jack's noncompliances at home which seems to continue throughout the follow-up stage. The maintenance recording at the early childhood education centre also shows a slight increase in Jack's level of noncompliance. The average daily number of noncompliances recorded by Jack's mother in the follow-up phase was over eight noncompliances per day.

Serena. The slight decrease in Serena's daily noncompliances that was apparent in the intervention phase appeared to have stabilized during the maintenance stage but by

the follow-up phase her noncompliances appear to be showing an increasing trend again. The follow up information could be perceived to show a decrease in overall noncompliances as her average daily number of noncompliances was two at home and three at her early childhood education centre.

Overall, the noncompliance information that was recorded by both the early childhood education teachers and the parents does not appear to show any obvious trends for any of the children throughout the duration of the intervention, the maintenance and the follow-up period.

Eyberg Child Behaviour Checklist

The scores from ECBI's as reported by the parents are shown in Table 1. The pre intervention scores for the intensity of disruptive behaviour were within the clinical range for all of the children. This suggests that in the parents' view, all of the children engage in disruptive behaviour more often than other children of a similar age. The only parent that reported that the frequency of their child's behaviour had decreased to below the clinical range after the intervention was Jack's mother. The mother's of both Serena and Tasha reported that after the intervention the girls' disruptive behaviour was still more frequent than that of other children of a similar age as the scores were still within the clinical range. However, Tasha's mother's score had decreased whereas Serena's mother indicated that she perceived that Serena's frequency of disruptive behaviour had increased after the intervention.

The number of problem behaviours for each of the children as reported by their parents is also shown in Table 1.

Table 1

Scores from the Eyberg Child Behaviour Inventory.

	Intensity Score	Clinically Significant	Number of problems	Clinically Significant
Tasha				
Pre-Intervention	158	Yes	22	Yes
Post-Intervention	147	Yes	15	Yes
Jack				
Pre-Intervention	151	Yes	14	No
Post-Intervention	117	No	10	No
Serena				
Pre-Intervention	140	Yes	11	No
Post-Intervention	148	Yes	19	Yes

The scores reported from Tasha's parents were within the clinical range both before and after the intervention. The post intervention score was lower than the pre intervention score so this suggests that her parent's felt that the number of her behaviours that they considered to be a problem had decreased during the time of the intervention. The scores reported by Jack's mother show that in her opinion, Jack did not display more problem behaviours than other children both before and after the intervention. The number behaviours that Serena's mother considered to be a problem increased in the post intervention assessment from the pre intervention assessment.

Emotion Knowledge

The children's results from both pre and post intervention emotion knowledge assessments are shown below in Table 2.

Table 2

Emotion Knowledge Assessment Scores

	Labeling	Comprehension	Situational Knowledge
Tasha			
Pre-Intervention	3	1	2
Post-Intervention	3	1	1
Jack			
Pre-Intervention	3	3	3
Post-Intervention	3	3	3
Serena			
Pre-Intervention	0	4	2
Post-Intervention	3	3	3

Tasha. Tasha achieved three correct results for the *labeling* test in both the pre and post intervention assessments. The emotions that she correctly labeled were happy, sad and angry in each of the tests. This suggests that her ability to label emotions did not improve throughout the duration of the intervention. The emotions that she did not label correctly when presented with the photo in both the pre intervention and post intervention assessment were disgust, surprise and scared.

For the *comprehension* test, Tasha correctly identified only happy on both presentations in each of the pre and post intervention tests. In the pre intervention test, Tasha correctly identified angry on one of the presentations but for scoring purposes was required to correctly identify it on both presentations to achieve a correct score. In the post intervention test Tasha was able to correctly identify one presentation of angry and one of sad.

As shown in Table 2, Tasha correctly identified two emotions based on the situation that was presented to her in the pre intervention test. The situations that she answered correctly were the awful tasting food, she pointed to the disgusted face, and the mother with pink hair, she pointed to the surprised face. Her responses to the other situations were surprise for the birthday party, scared for the dog running away, sad for the blocks knocked over and she said sad but pointed to happy for lost in the supermarket. In the post intervention test, Tasha only chose the correct response for the birthday scenario in which she chose the happy face. Her responses to the other situations were sad for the awful food, angry for the dog running away and the mother with pink hair, sad for lost in the supermarket and sad for the blocks knocked over scenario.

Jack. As shown in Table 2, Jack achieved exactly the same scores for each of the emotion knowledge tests in both the pre intervention and the post intervention assessments. Jack correctly named angry, happy and sad in both the pre intervention and post intervention tests for the *labeling* task. On the *comprehension* test, Jack labeled angry, happy and sad accurately on both presentations of each of the emotions in both the pre intervention and post intervention assessments. In both *comprehension* tests, the

fourth emotion that was presented to him was disgust. While he could not correctly identify it on either presentation in the pre intervention test, he did identify it correctly in one presentation in the post intervention test.

Jack achieved four correct results for the *situational knowledge* test in the pre intervention test and three correct results in the post intervention test. He chose the correct responses for the dog running away and the birthday party in both tests. In the pre intervention test he also correctly answered the blocks knocked over situation and the awful tasting food. In the post intervention test he correctly answered the lost in the supermarket situation in addition to the previously mentioned results.

Serena. Serena's results for the emotion knowledge test are presented in Table 2. As shown, in the pre intervention *labeling* test, Serena did not correctly identify any of the emotions presented. Her responses for the *labeling* task were "don't know" for scared, sad and angry and she said "wide" for surprised, "smiley" for happy and "funny one" for disgust. In the post intervention *labeling* test, Serena correctly named happy, angry and sad. Serena then correctly identified all four emotions of happy, sad, angry and surprised in the *comprehension* task. In the post intervention *comprehension* test she correctly identified both presentations of happy, angry and sad and only one presentation of surprise.

In the *situational knowledge* task, Serena answered two situations correctly in the pre intervention assessment and three in the post intervention as shown in Table 2. The situations that Serena answered correctly in the pre intervention test were the birthday party, for which she chose happy, and the dog running away, for which she chose sad. Her answers for the other situations were sad for the blocks knocked over, the awful food

and lost in a supermarket and disgust for the mother with pink hair. In the post intervention test, Serena again correctly answered both the birthday party scenario and dog running away scenario as well as correctly identifying surprise for the mother with pink hair. Her responses for the other situations were all sad.

Vocabulary

The PPVT-III was administered to each of the children to provide an indication of their current vocabulary ability. Tasha achieved an age equivalent score of 2 years 3 months and a percentile rank of 5. Jack achieved an age equivalent score of 6 years 4 months and a percentile rank of 95. Serena achieved an age equivalent score of 5 years 3 months and a percentile rank of 73.

CHAPTER 5

Discussion

This study investigated whether a brief emotion knowledge intervention consisting of six sessions was able to influence the problem behaviour of four year old children. The assumptions that this was based upon were:

1. That a child with behaviour problems will also be lacking in emotion knowledge.
2. That a brief intervention on emotion knowledge utilising emotion storybooks as a tool would in fact be able to produce an increase in the child's emotion knowledge.
3. That an increase in emotion knowledge would lead, in turn, to an improvement in behaviour problems.

In addition, it was assumed that the child's language ability would influence the child's ability to increase their knowledge of emotions.

Generally, these hypotheses were not supported by the results of this study. The children were reported as having behaviour problems but did not necessarily have deficits in emotion knowledge at baseline. Parent/preschool reports of behaviour problems were largely, but not necessarily reflected in day-to-day diaries of behaviour. The intervention had no appreciable effect on emotion knowledge, or on behaviour problems. This result held regardless of the child's language ability.

The results of each child will be discussed in context:

Tasha

Tasha's baseline score on the ECBI indicated a clinical level of behaviour problems. She recorded the highest score on the ECBI of all the children in the study.

The presence of behaviour problems was corroborated by her pre-school teacher. However Tasha's behaviour diary results were inconsistent with the ECBI as her recorded problem behaviour was the lowest of the three children during baseline. These inconsistent results are particularly of concern because the behaviour diary is the primary measure of behaviour change for this study. Therefore, the results of Tasha's behaviour diary will need to be interpreted cautiously. There are a number of reasons why the behaviour diary results may not be accurate; one simple reason may be that many of Tasha's problematic behaviours might not have been recorded. This could be a result of her mother not writing all her problem behaviours down or Tasha's mother may have had difficulty differentiating between individual incidents. For example, if one noncompliance was immediately followed by another Tasha's mother may have been unsure about whether to record one or two non compliances.

Tasha was the only child in the study who experienced a control phase. This phase, as previously mentioned, was implemented to investigate whether working with a therapist would influence her behaviour. The level of Tasha's noncompliances appeared to increase slightly during this phase however there did not appear to be any strong effect. Various reasons for this slight increase in noncompliance recording could include a behavioural reaction to the focused attention on her and her behaviour. Tasha would very likely be aware that her mother and possibly the early childhood education teachers were recording her behaviour and this might have resulted in an increase in externalising behaviour. Alternatively, the parents and teachers may have become more alert to her noncompliances during the baseline recording period and may have begun to record her behaviour more accurately. In this case, the noncompliance results from the

control baseline may have been a more accurate indication of Tasha's baseline noncompliant behaviour. Overall, the results of the behaviour diary during the control phase did not show any obvious effects or trends and therefore, working with a therapist did not seem to influence Tasha's behaviour.

The first hypothesis of the study to consider is whether emotion knowledge deficits and behaviour problems co-exist. It has been shown that Tasha does present with behaviour problems on the ECBI, therefore, how is this related to her level of emotion knowledge?

The results of Tasha's emotion knowledge assessment from the *labeling* test suggest that her ability to label emotions was adequate for her age in relation to results from other children of a similar age. Her result on the *comprehension* test was lower than the average for her age group as over 80% of four year old children are able to correctly identify happy, angry and sad and almost 60% can identify surprised in the *comprehension* test (Michalson & Lewis, 1985). The final test, the *situational knowledge* test, is harder to evaluate than the other two tests. Tasha's result showed that she achieved a lower score on the *situational knowledge* test than 50% of her peers for the happy situation, the angry situation and the sad situation. The difficulty with interpreting these results, however, may reflect a problem with the instrument. For example, she chose the scared face for the dog running away. Scared could be a perfectly reasonable emotion to experience if your dog has run away and you don't know whether or not it is safe. Therefore, it is important not to over-interpret this result as evidence of an emotion knowledge deficit. In relation to the hypothesis, her emotion knowledge level is difficult

to evaluate and therefore, this information does not provide support for the hypothesis that behaviour problems co-exist with emotion knowledge deficits.

The expectation of the emotion knowledge intervention was that the children's level of emotion knowledge would increase. In Tasha's situation, her results did not change for both the *labeling* test and the *comprehension* test and for the *situational* knowledge test her score actually decreased. Therefore, the results suggest that there was no increase in her level of emotion knowledge. Potential reasons for the lack of an increase could include, firstly, that the intervention was ineffective. The intervention may not have been long enough for her to show an increase in emotion knowledge. The materials used in the intervention or the content of the intervention may not have been appropriate for her to increase her ability. Alternatively, her result could be due to her low language ability, she may struggle to learn new words and this might have meant that the timeframe was not long enough for her to make any detectable changes. Another possible reason for her lack of change might have been because she increased in her knowledge but the instrument that was used was not sensitive enough to detect the change. Unfortunately, more information would be required to attempt to identify the reason/s for her lack of increase in emotion knowledge. Therefore, at most, the evidence suggests that Tasha's emotion knowledge did not increase as a result of the emotion knowledge intervention. Therefore, there is no support from these results for the second hypothesis that the intervention will increase the child's level of emotion knowledge.

The third hypothesis was that an increase in emotion knowledge would result in a decrease in behaviour problems. This hypothesis is not possible to fully interpret due to

her lack of increase in emotion knowledge. However, there was no obvious decrease in her behaviour problems as reported by her behaviour diary. Therefore, the intervention did not impact on behaviour but this may have been due to the possibility that the intervention was ineffective as previously discussed. The post intervention results of the ECBI suggested that there was some decrease in her problem behaviour however, her scores for the ECBI indicated that her behaviours were still within the clinical range.

Finally, Tasha achieved an extremely low receptive vocabulary score in relation to scores achieved by other children of a similar age. This result would suggest that Tasha may struggle to increase her emotion knowledge due to her limited language ability as she may have difficulty learning and understanding words. However, it is not possible to determine from the results how much of an impact her low language ability may have had on her emotion knowledge results.

Jack

Jack's level of emotion knowledge at the baseline phase of the study was of an average ability level for children of his age. This result indicates that Jack does not have a deficit in emotion knowledge. Therefore, this information does not support the hypothesis that behaviour problems co-exist with a lack of emotion knowledge. In Jack's case, he did achieve a very high vocabulary score which supports the assumption that there is a positive relationship between emotion knowledge and language ability.

Jack achieved exactly the same scores in each of the three emotion knowledge tests at the post intervention assessment as he had in the pre intervention tests. In the *labeling* test, Jack was unable to identify the same three emotions in both pre and post intervention tests. Two of the emotions that he was not able to identify were surprise and

disgust. His inability to identify these two emotions was expected as surprise and disgust were not targeted in the content of the intervention. However, Jack was not able to correctly identify scared in the post intervention test which is interesting to note as this was one of the emotions that was discussed in detail throughout the intervention. During the intervention itself, Jack demonstrated several times that he understood what scared meant and he was able to explain how he had developed his own methods of coping when he became scared. His examples of times when he was scared were usually when he woke in the middle of the night. During these times he would either find a toy to protect himself or hide under his bed which, he explained, resulted in him no longer feeling as scared. Another explanation for Jack's inability to identify scared may have been that the test was not sensitive enough to measure any change in his ability. If he was presented with more than just one photo of the expression then he may have been able to respond correctly. His result could also indicate that the intervention that was implemented was not effective at assisting children to increase their ability to identify emotions.

Possible reasons for Jack's lack of increase in emotion knowledge could include the fact that he achieved age appropriate scores initially. Therefore, it may not have been developmentally appropriate for him to increase his emotion knowledge further at this time. Another reason could have been that the time frame of the intervention was not long enough for him to gain any additional knowledge or as mentioned previously, the assessment may not have been sensitive enough to identify any possible improvements. Overall, this information, does not provide any support for the hypothesis that the intervention would result in an increase in emotion knowledge.

In terms of Jack's behaviour, baseline ECBI scores indicated that the frequency of his behaviour problems was clinically significant which is consistent with his baseline behaviour diary results. His reported number of problem behaviours on the pre intervention ECBI however, was not clinically significant.

Throughout the duration of the study, the behaviour diary did not show any obvious trends in his level of problem behaviours. The post intervention ECBI results for Jack were inconsistent with this information and suggested that Jack's behaviour had decreased to a non clinical level by the maintenance phase. However, the follow up behaviour diary recording suggested that his number of noncompliances had escalated considerably as reported by his mother. This may suggest that his behaviour problems did decrease slightly but this decrease was not maintained at the follow up stage. The inconsistency of behaviour reports might have been the result of a problem with the instruments. One possible problem with the ECBI is that personal perceptions of the child at the time it is being completed may have a strong effect on the results. For example, if the child has been misbehaving all morning before the parent completes the checklist or if the parent is tired or has had difficult situations to deal with out of the home, they may over report their child's problem behaviours. The reverse could also occur, whereby, the child has been very well behaviour or the parent is in a good mood and they then may under report their child's behaviour. However, in Jack's situation it is not possible to determine whether an increase in emotion knowledge influences behaviour as there were no obvious trends in his behaviour and no apparent increase in his emotion knowledge.

Overall, Jack's behaviour problems did decrease as reported on the ECBI however this change was not supported by the results of the behaviour diary. As Jack achieved an age appropriate level of emotion knowledge pre intervention, it was not possible to suggest that his behaviour problems were due to a lack of emotion knowledge. Jack's lack of improvement in emotion knowledge could suggest that the emotion knowledge intervention may not have been effective. However, there is not enough information available to determine why the intervention was not effective for Jack if this was the case.

Serena

The first hypothesis to consider in relation to Serena's results is whether she is lacking in emotion knowledge and therefore whether that is likely to be influencing her behaviour problems. Serena performed poorly in the pre intervention *labeling* task of the emotion knowledge assessment and did not manage to correctly label any of the emotions presented. However, she then achieved the highest possible score on the *comprehension* task identifying all four emotions on each presentation. A possible reason for Serena's lack of performance in the *labeling* task may have been that she is not used to identifying emotions and therefore might not have been able to remember the names of the emotions without prompting. She may also have been feeling shy and unsure of how to answer and therefore may have held back from responding even though she may have known the name of the emotion. Her lack of response might also just have been due to a lack of experience in answering questions about emotions. The fact that she used some non emotion words such as "wide" for surprise and "funny one" for disgust could suggest that while she does know the names of some of the emotions she is not

used to naming them. If this last reason is the case in Serena's situation, then when she is feeling different emotions she may not be used to identifying them and therefore, would not be able to let people know how she felt. This would suggest that her behaviour problems could be influenced by this possible lack of ability because instead of letting people know if she is getting sad or angry, she may just get frustrated or act impulsively. In this type of situation it could be expected that an emotion knowledge may be beneficial to her as it could help to improve her ability to identify her feelings and hopefully then be able to inform other people. However, more information would be required to determine whether Serena's inability to label the faces is due to a lack of experience in identifying faces or the result of some other influence.

On the *situational knowledge* test, Serena only correctly answered two of the scenarios. Michalson and Lewis (1985) found that most four year old children could also correctly answer surprise for the mother with pink hair and disgust for the awful tasting food. This suggests that Serena's situational knowledge ability is below that of her peers. However, in this study, neither surprise nor disgust was targeted in the intervention so the child's ability to identify these emotions was not expected to change between the pre and post intervention assessments.

Overall, Serena performed poorly on the *labeling* task and the *situational* knowledge task, however, she achieved the highest possible score for the *comprehension* task. These results suggest that she may be lacking in ability in certain areas of emotion knowledge and excelling in other areas.

Due to the confusing nature of Serena's initial emotion knowledge assessment results it seems imperatively to briefly discuss her vocabulary test results. The PPVT-III

indicated that Serena has a very advanced language ability which may be strongly influencing her level of emotion knowledge. Her results in the emotion knowledge assessment could then be explained if Serena has not been encouraged to talk about her feelings as she has been developing. For example, if Serena has had little experience identifying her feelings and talking about emotions, she might show a weakness in identifying her own and other peoples' emotions. As was identified in her emotion knowledge test results. However, because it has been indicated that she has a strong language ability she may have learnt to identify emotions from books she may have been read or from promptings from preschool teachers.

After the emotion knowledge intervention, Serena's scores in the emotion knowledge test indicated that her ability to label emotions had improved to an age appropriate level. As discussed previously, this increase may have been due to an increase in experience in answering questions regarding identifying emotions. Additionally, she may have become more comfortable answering the examiners questions by the post intervention test. Serena's result on the *situational knowledge* test also improved on the post intervention assessment and overall her emotion knowledge as indicated by the assessment increased to an age appropriate level in all areas.

Serena's pre intervention ECBI results indicated that her intensity of problem behaviours was clinically significant however her number of problem behaviours was not. The baseline behaviour diary results for Serena were consistent with the ECBI results. Serena's behaviour throughout the duration of the study appeared to decrease slightly but then follow-up behaviour records indicated that her behaviour was at a level similar to her baseline results. Her ECBI result after the intervention indicated that her

problem behaviour had actually increased. Her mother reported clinical levels of behaviour on both scales of the ECBI. Therefore, Serena's result did not support the hypothesis that the emotion knowledge intervention would lead to a decrease in problem behaviours. As already mentioned, possible reasons for this result may include the possibility that the intervention was not effective or it may not have been long enough to influence her behaviour.

Summary

In summary, not all of the participants presented with emotion knowledge deficits and therefore, the hypothesis that behaviour problems co-exist with a lack of emotion knowledge is not supported. The emotion knowledge intervention only appeared to result in an increase in emotion knowledge ability in one child and this increase may have been due more to practice and experience rather than specifically to an initial lack of emotion knowledge. Therefore, the intervention may be ineffective for any number of reasons already discussed. This lack of increase in emotion knowledge in the children means that it is not possible to assert whether or not an increase in emotion knowledge leads to a decrease in problem behaviours. There was some support for this theory with Serena's results however many questions were also raised regarding whether or not her emotion knowledge had in fact increased, as mentioned. Finally, the children's level of emotion knowledge did appear to be influenced by their language ability.

Limitations of the Study

Initially, the proposed plan for the methodology included using a multiple baseline design. Unfortunately, due to time constraints this was not possible and only one child, Tasha, experienced a modified baseline design, the control baseline. The lack

of a multiple baseline design is a significant limitation to the study as there is no way to rule out developmental changes and the validity of the results may be compromised by this.

The results of the study also highlighted some concerns with the use of the emotion knowledge assessment, the behaviour diary and the ECBI. The concerns with the emotion knowledge assessment were regarding the sensitivity of the test and the possible ambiguity of some of the answers in the various tasks. The *situational knowledge* test, in particular, does not allow for any flexibility or individual differences that may be influencing the child's answer. As mentioned in the literature review, emotion knowledge is strongly affected by different influences in an individual's life including both intrinsic and extrinsic factors such as personality and parental behaviour (Bennett, Bendersky, & Lewis, 2005; Calkins & Howse, 2004). Therefore, the requirement for a child to choose the 'correct' emotion for the situations that are presented seems to be a developmentally inappropriate request. Concerns with the ECBI were that the results may reflect how the reporter is feeling at that one point in time with the child rather than providing a general report of the child's behaviour. This possible bias in the ECBI results could then help to explain the inconsistencies between the results from it and the results from the behaviour diaries. However, there also may be problems with the under reporting of problem behaviours in the behaviour diaries. These examples highlight some of the challenges with attempting to accurately estimate both a child's level of emotion knowledge and their level of behaviour problems.

Another possible limitation of the study may have been the limited number of intervention sessions. Six sessions may not have been enough sessions for any

significant improvements in the child's level of emotion knowledge. However, there is no evidence from this study as to what may be a more effective number of sessions. There is the possibility that the intervention may have increased children's abilities in areas that were not measured by any of the instruments used in this study. For example, one study found that while little effect was identified on children's level of emotion labeling ability after only four sessions, the children showed greater sensitivity to other's emotions (Feshbach & Cohen, 1988). Therefore, other potential benefits may have resulted from the intervention, however, this is not possible to determine as more information would be required and many more influences in the child's life would confound the results.

Recommendations for Further Study

The first recommendation for further study is to assess the children's emotion knowledge ability before undertaking any further assessment. The importance of this would be to identify children that are lacking in emotion knowledge and therefore meet the first level of criteria before including them in the study.

It is also recommended to include a randomly assigned multiple baseline if the study was to be repeated. The study should also include the implementation of a behavioural intervention, such as Triple P, after the emotion knowledge intervention. The results of the individual children could then be contrasted between each intervention to provide an indication of effectiveness of both the emotion knowledge assessment and the behavioural intervention.

The content and the method of presentation of the emotion knowledge intervention may need to be redesigned for further study. This is because the current

intervention was not shown to be effective at increasing the children's level of emotion knowledge. Therefore, in order to attempt to achieve any perceivable change to the children's emotion knowledge the intervention needs further consideration.

Another possible area of future study could be to further train the parents to read and discuss the books with the children. The parents could then be supported through this process and this might allow for improved communication between the parents and child as the parents might become more comfortable discussing emotions with their children. The research shows that if parents talk about emotions with their children, the children are more likely to form more positive relationships with others and have a more advanced level of self-regulation. Therefore, this could possibly be a much more robust intervention for both the short term and long term outcome of the child and family.

Conclusion

In conclusion, the research reviewed suggests that there is a relationship between childhood behaviour problems and a lack of emotion knowledge (Cook, Greenberg, & Kusche, 1994). One suggestion for this is that the child misinterprets both social cues from other people and their own emotions and therefore reacts inappropriately. If the child has learnt to react in an aggressive manner this may be their instantaneous response and therefore the child may develop disruptive behaviours. The aim of this study was to attempt to decrease the child's disruptive behaviours by increasing their level of emotion knowledge. The results of the study suggest that the intervention did not result in an increase in the emotion knowledge level of the children. The results also showed that there was no obvious decrease in the children's level of behaviour problems. Overall,

there is no evidence that this emotion knowledge intervention results in a decrease in the problem behaviours of four year old children.

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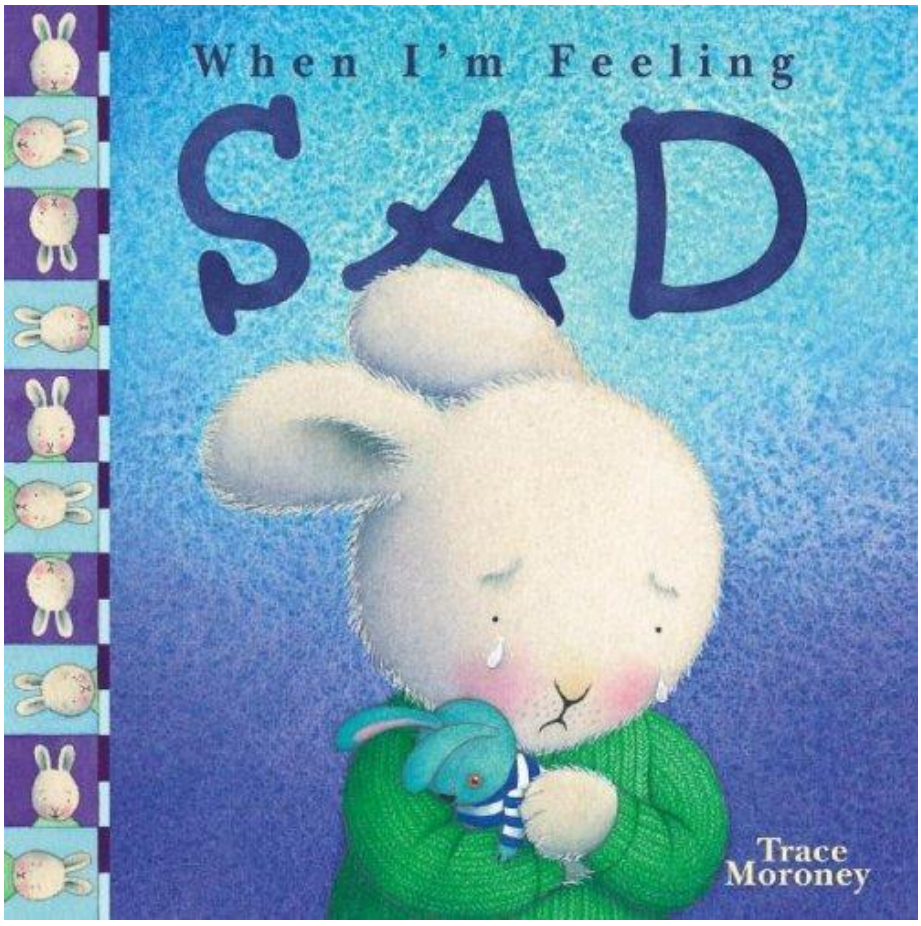
APPENDIX 1
BEHAVIOUR DIARY

Behaviour Diary

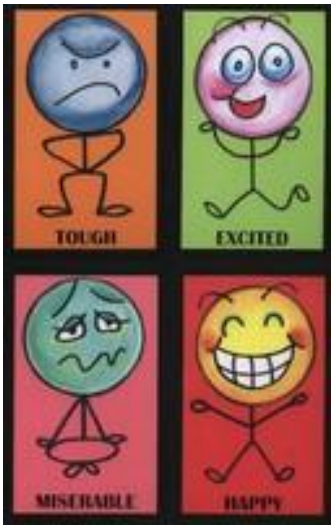
Problem Behaviour: _____ Day: _____

PROBLEM EVENT	WHEN AND WHERE DID IT OCCUR?	WHAT OCCURRED BEFORE THE EVENT?	WHAT OCCURRED AFTER THE EVENT?	OTHER COMMENTS

APPENDIX 2
STORYBOOK EXAMPLE



FEELING FACES CARDS EXAMPLE



APPENDIX 3
INFORMATION LETTER & CONSENT FORM

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Child & Family Psychology programme
Health Sciences Centre

Parent Information Sheet

Do You Have A Child with Challenging Behaviours?

Dear

Hi, my name is Sarah Cole and I am currently studying at the University of Canterbury doing a Masters Degree in Child and Family Psychology. I am a 5th year student working towards registration as a psychologist. As part of my studies, I am required to complete a research study and I would like to invite you to take part in this. This letter provides an overview of the study and what would be expected from you if you choose to take part.

About the Project
The aim of the project is to work with you and your child with challenging behaviours to attempt to reduce these behaviours. This work will be focused on exploring emotions with the child with the use of storybooks that are based on the emotions happy, sad, scared and angry. Throughout the process I will be supported by two registered psychologists who are both very experienced in working with children. Challenging behaviours are often an indication that a child is having difficulty managing his/her emotions. It is likely that increasing the child's awareness of these emotions will lead to a reduction in challenging behaviour. If his/her behaviour does not improve you will be offered further help to solve the problem.

What Your Involvement Would Be
Firstly, we will begin by having an initial meeting where I will meet both yourself and your child. I will ask you to complete a standard questionnaire about you child's behaviour. We will also discuss your child's behaviour to determine which behaviour/s will be focused on and recorded throughout the study. A behaviour diary will be provided for you to use to record these behaviours and during the meeting I will explain its use and answer any questions you may have regarding it. This behaviour diary will be completed by you throughout the entire study. Accurate completion of it is very

important as this is some of the data that I will use to interpret the effects of the intervention.

We will meet again a few days later. In this session, your child's emotion knowledge will be assessed with a standardised assessment procedure that uses stories and pictures to determine a child's level of emotion knowledge. The dates, times and locations of the next six sessions will be also be discussed with you and a plan will be created for where and when these sessions will be held.

The next six sessions will be the intervention phase of the study. These will involve emotion exploration sessions with your child. You will be present so you can read the books to your child between the sessions. Storybooks will be used as a teaching aide and these will then be given to your family as a thank you for being involved in the study.
You will continue the dairy for a week or two after the sessions have finished. During this time we will be discussing progress and whether you want more intervention. If you do, a further intervention will be provided free of charge. If you don't, your involvement in the project will finish at that point .

What Happens to the Information?
All information will be kept secure and confidential and the resulting report will not contain any identifying details. Your information will be destroyed at the end of the project. No information will be released about you or your child to a third party without your consent. The only exception to this is if I should believe that the child or anyone else may be in danger. If this happens, professional ethics requires that I tell my supervisor in which case Dr Karyn France will contact you and discuss what steps will be taken to ensure the safety of the person.

Participation is voluntary. Should you and your child decide to participate in this study, you have the right to withdraw at any time.

The study has been reviewed and approved by the University of Canterbury Human Ethics Committee. There are no known risks of these evidence-based techniques and evaluations. All interactions with your child will be in a child-friendly manner.

This study is carried out under the supervision of the registered psychologists Dr Karyn France and Dr Michael Tarren-Sweeney who can be contacted through the University of Canterbury. They will be pleased to discuss any concerns or questions you may have about participation in the project.

Thank you for taking the time to read through this information sheet and consider my request. If you are willing to be a part of this study please sign the attached consent form. If you would like to know more about this study (either now or at a later date), please feel free to contact either myself or my principal supervisor.
Dr Karyn G. France,
Registered Clinical Psychologist,
Director Child and Family Psychology Programme

Health Sciences Centre
University of Canterbury,
Private Bag 4800,
Christchurch,
New Zealand.
Ph (03) 3642610 Fax (03) 3642418

Yours sincerely,

Sarah Cole
Child and Family Psychology Student
School of Education
University of Canterbury
Ph (03) 960 8514 or 021 0620 305

Consent Form
Child Behaviour and Emotion Knowledge Study

- I/We have read and understood the attached information sheet, and I/we have been given an opportunity to ask the researcher questions. I/We understand what my/our involvement will be.

- I/We agree that my child and I/we will take part in the study described in the attached information sheet.

- I/We agree that I/we will commit to keeping accurate records throughout the entire duration of the study unless I/we decide to remove myself and my child entirely from the study.

- I/We consent to the results being written up and understand that this report will be written in a way that ensures that no personally identifying information will be included.

- I/We understand that my anonymity and confidentiality will be preserved at all stages of this study.

- I/We understand that withdrawal of consent of participation may be undertaken at anytime, including the withdrawal of any information that I/we have provided.

If you do not wish to give consent for any reason, do not sign this form.

I/We _____ (please print name/s) agree to participate in the research study described in the attached information sheet.

Signature: _____

Date: _____

Please feel free to contact me should you need any more information at any stage of this study.

Sarah Cole
(03) 960 8514 or 021 0620 305

APPENDIX 4
ETHICS APPROVAL LETTER

Ref: HEC 2008/94

4 September 2008

Ms Sarah Cole
School of Educational Studies and Human Development
COLLEGE OF EDUCATION

Dear Sarah

The Human Ethics Committee advises that your research proposal "An Emotion Knowledge Intervention for Children with Behaviour Problems between the Ages of 4 to 6 years" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 1 September 2008.

Best wishes for your project.

Yours sincerely

Dr Michael Grimshaw
Chair, Human Ethics Committee