EMOTION REGULATION IN DYADIC PRETEND PLAY: PRESCHOOLERS' RESPONSES TO POSITIVELY AND NEGATIVELY VALENCED SCENARIOS

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ABSTRACT

The diverse set of skills that facilitate emotion regulation are crucial for adaptive developmental outcomes. The foundations for these skills are consolidated in social interactions during pre-school years. Dyadic pretend play is a social interaction that is posited to provide valuable opportunities for emotion regulation in this age group. However, our understanding of dyadic pretend play has not progressed to the point where this activity can be reliably structured to create a zone of proximal development for emotion regulation skills.

In Study 1, a repeated-measures experiment was conducted to observe individual differences in emotion regulation during positively and negatively valenced dyadic pretend play. Thirty children between four and five years of age participated in two unstructured and two structured pretend play sessions. The structured sessions included a "pretend creature in a box" scenario where interaction with a pretend monster (negatively valenced condition), or kitten (positively valenced condition) was required in order for the pretend game to continue. It was expected that individual differences in the children's regulation of negative emotion tone and intensity would be observed in their response to the pretend monster. However, there were no significant differences in children's emotion tone and intensity, approach to the creature, and ability to continue the pretend play across the positively and negatively valenced conditions. Instead, individual differences were observed in the children's continuation of pretend play when information was gained about the pretend/reality status of the creature. The "pretend creature in a box" scenario was hypothesised to challenge children's

regulation of anticipatory arousal elicited by uncertainty about the pretend/reality status of the creature.

Study 2 examined this hypothesis in an experiment that explored emotion regulation across positively and negatively valenced pretend play, and conditions of high, low, and no uncertainty. Sixty children aged between four and five years participated in a structured pretend play game, which included an adaptation of the "pretend creature in a box" scenario. Anticipatory arousal elicited by uncertainty was manipulated by providing visual, verbal, and no information about the pretend/reality status of the creature. It was expected that individual differences in regulation of anticipatory arousal elicited by uncertainty would be observed in children's efforts to gain information about the pretend/reality status of the creature. Under conditions of uncertainty, a significantly greater proportion of children discontinued the pretend game by approaching the box and checking the pretend/reality status of the creature. Consistent with the results from Study 1, the intended emotional valence of the condition was not influential.

Overall, this research programme highlights the challenges that occur in structuring dyadic pretend play to create a zone of proximal development for emotion regulation. Study 1 and Study 2 linked emotion regulation in pretend play with children's experience of anticipatory arousal elicited by uncertainty, and information seeking as an emotion regulation strategy. Study 2 demonstrated that pretend play has the potential to be utilised in the development of a set of skills that regulate the anticipatory arousal elicited by uncertainty. Variation in the particular strategies that a more experienced play partner might use to create and direct the experience of emotion and emotion regulation is a useful starting point for future research in this area.

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CHAPTER ONE

General Overview

Intense, inflexible, extreme, explosive, volatile, wilful, stubborn, selfish, picky, finicky, fussy, and just plain difficult. As a clinical psychologist in an early childhood setting, I have often heard parents of preschoolers complain about these characteristics in their children. They may have been told that these difficulties are a part of a developmental "stage" and that their child will "grow-out of it." Emotion and emotion regulation have a pivotal role in these difficulties, and for children who experience intense emotion, negotiating everyday life can be a challenge. Adult respondents in a survey by Parkinson and Totterdell (1999) reported 162 distinct strategies that assisted them to regulate intense emotion. When asked, parents can also recite a number of strategies that enable them to calm down, compromise, cheer-up, and wait patiently when experiencing intense emotion. However, when I have asked parents where they *learned* these strategies, and where their child might learn the same strategies, the usual answer is, "I don't know." The development of emotion regulation during childhood is a process that is often taken for granted.

The development of emotion regulation is inherent to positive socio-emotional outcomes for children (Baumeister & Heatherton, 1996; Calkins, 1994; Cicchetti, Ackerman, & Izard, 1995; Gross, 1998; Keenan, 2000; Southam-Gerow & Kendall, 2002; Walden & Smith, 1997). Impaired emotion regulation has been linked to poor social adjustment (Calkins, Gill, Johnson, & Smith, 1999; Connolly & Doyle, 1984; De Lorimier, Doyle, & Tessier, 1995; Eisenberg, 2002; Eisenberg et al., 1999;. Eisenberg, Fabes et al., 1998; Eisenberg et al., 1997; Eisenberg,

Shepard, Fabes, Murphy, & Guthrie, 1998; Rubin, Copland, Fox, & Calkins, 1995), and to clinically significant internalising and externalising behaviour (Braaten & Rosen, 2000; Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Eisenberg et al., 1996; Eisenberg et al., 2001; Shaw, Keenan, Vondra, Delliquadri, & Giovannelli, 1997). Deficits in the development of emotion regulation can occur as part of the negative sequelae of child maltreatment (Maughan & Cicchetti, 2002; Shipman, 1999; Smetana, Toth, Bruce, Kane, & Dadds, 1999; Smith & Walden, 1999), sexual abuse (Shipman, Zeman, Penza, & Champion, 2000), parental conflict (Katz & Gottman, 1995; Lengua, Sandler, West, Wolchick, & Curran, 1999), and peer victimisation (Kochenderfer-Ladd & Skinner, 2002). When the development of emotion regulation does not progress as expected, children are at risk for sub-optimal developmental outcomes. Consequently, how to help children "grow-out" of a finicky, fussy, or inflexible "stage" is of great interest to parents and clinical psychologists alike.

The development of emotion regulation is inseparable from the characteristics of our early social environment (Saarni, 1999). How we experience emotion is shaped by our interactions with family, teachers, and peers (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Eisenberg, Cumberland, & Spinrad, 1998; Eisenberg et al., 2001; Jenkins & Ball, 2000; Lagattuta & Wellman, 2002; Laible & Thompson, 1998). During the preschool years, children begin to learn that the significant people in their lives have expectations about the expression of emotion and emotion-related behaviour in these interactions (Saarni, 1999; Salisch, 2001; Zeman, Penza, Shipman, & Young, 1997; Zeman & Shipman, 1997a).

Of the many and varied social interactions relevant to the preschool age group, dyadic pretend play stands out. This social activity is linked to positive outcomes in social, cognitive, and linguistic development (Goneu & Gaskins, 1998; Jarrols, Carruthers, Smith, & Boucher, 1994; Lillard, 2001; Lillard, 1993a; Russ, 1998b; Tamis-LeMonda, Chen, & Bornstein, 1998). It is also thought to provide unique opportunities for the experience of emotion and emotion regulation (Bornstein, Haynes, O'Reilly, & Painter, 1996; Bretherton, 1989; Fein, 1989; Vygotsky, 1978). How then can pretend play be utilised as a context that supports children's experience of emotion and emotion regulation?

This question provides the starting point for the research reported in this thesis. The purpose of Chapter 1 is to explore the literature that links pretend play and emotion regulation, and to provide a rationale for the experiments in emotion regulation presented in Chapters 2 and 3. To explore these ideas it is first necessary to introduce the theoretical framework used to define emotion and emotion regulation. The literature on emotion is vast and not always consistent (Rosenberg & Fredrickson, 1998), and consequently will not be reviewed here. Instead the key features of the *functionalist* framework of emotion and emotion regulation are presented. In particular, the role of socialisation in emotional development is highlighted.

The Experience of Emotion

Emotion is manifested by a combination of physiology, perception, cognition, and behaviour (Lewis & Haviland, 1993). Diverse approaches to the study of emotion have generated a multitude of definitions, models, and explanatory theories. Often the terms *affect, mood,* and *emotion* are used

interchangeably. For the purposes of this thesis, emotion is conceptualised as an intense change in state with short duration and an identifiable antecedent (Forgas, 2000; Russell, 2003). In contrast, mood is conceptualised as a low intensity experience without a specific antecedent, and affect is a broader category that includes both mood and emotion (Forgas, 2000; Russell, 2003).

There have been significant changes in how psychologists conceptualise and investigate emotion (Dodge & Garber, 1991). Research has begun to move away from the working definition of emotion as a unique subjective state that can be best understood by examining discrete and static categories of feeling such as "fear" or "anger" (Campos, Campos, & Barrett, 1989; Campos, Mumme, Kermoian, & Campos, 1994; Rushforth, 1999; Russell, 2003; Saarni, 1999; Thompson, 1994). Instead, the experience of emotion is broadened to more diffuse states, and acknowledged as having dynamic temporal and intensive features (Campos et al., 1989; Campos et al., 1994; Rushforth, 1999; Russell, 2003; Saarni, 1999; Thompson, 1994). Russell integrates two conflicting theories in a proposed model of emotion that "weds bipolar dimensions (via an attributional stage) to discrete categories" (p. 146).

The key feature of Russell's framework is that the experience of emotion is grounded in *core affect,* a primitive building block consisting of a blend of two dimensions. The first dimension, pleasant/unpleasant, combines with the second, physiological arousal, to create universal states. For instance, consider the state of excitement and the state of relaxation. They are similar in that they both tend to the pleasant end of the pleasant/unpleasant dimension, yet they are distinctly different as they are at polar opposites of the arousal dimension (Ridgeway & Waters, 1987). The pleasant/unpleasant dimension can be thought of as equivalent

to positive and negative emotion tone, and the arousal dimension as equivalent to emotion intensity. The consideration of both emotion tone and emotion intensity can have important implications. For example, in an experiment that examined the relationship between emotion and task completion, Ridgeway and Waters found children's level of persistence with a searching task was related to emotion intensity, but not emotion tone. Children who were excited (positive tone, high intensity) completed significantly more items on searching tasks than children who were calm (positive tone, low intensity).

Emotion is Generated in a Person-Environment Transaction

As we interact with the people and objects around us our emotion tone and intensity are changed (Campos et al., 1989; Campos et al., 1994; Russell, 2003). The experience of emotion is not based solely in the person or the environment, but is generated in a *person-environment transaction* (Campos et al., 1989; Campos et al., 1994; Lazarus, 1991; Russell, 2003; Saarni, 1999; Saarni & Harris, 1989; Thompson, 1990, 1994). Lazarus' model of discrete categories of emotion describes an individual's experience of emotion based on his/her concurrent cognitive appraisal of significant environmental events. In this model an individual may experience fright in response to an environmental event that is thought to threaten his/her well-being.

For the purposes of understanding how we experience emotion, the person-environment transaction can be broken down into several person-based and environment-based components (Russell, 2003). A prototypical experience may begin with an antecedent event (i.e., a rat), which is perceived in terms of emotional valence (i.e., a rat is disgusting). A change in core affect occurs, which

provides us with information (i.e., something unpleasant and intense is happening). We may attribute this change to the antecedent event (i.e., the rat), and appraise its relevance to us (i.e., this rat is dangerous to me). We may make a behavioural response accordingly (i.e., avoidance of the rat). Facial, vocal, and autonomic changes occur throughout this entire process, and we may or may not be aware that any of these components are occurring.

This model of a prototypical experience incorporates the reciprocal links between cognition and emotion that combine to form discrete categories. Cognitive components include the attribution of causal links between antecedents and changes in core affect, and appraisal of the relevance of antecedents to an individual's well being. Maladaptive attributions and/or appraisals are pivotal in models of psychological disorders characterised by intense negative emotion. For instance, Barrett and Healy (2002) found that children diagnosed with obsessive-compulsive disorder will cognitively evaluate environmental antecedents of negative emotion as more harmful than children who do not have this disorder. Children diagnosed with obsessive-compulsive disorder will also attribute a higher level of responsibility for the antecedent to themselves.

Emotion Has a Function

Changes in core affect during a person-environment transaction serve a functional purpose. Campos et al. (1989; 1994) described emotion as having the function of establishing, maintaining, changing, or terminating the interaction between an individual and significant elements in his/her environment. Theory has also begun to move away from the perspective of emotions as the "noise in the system" that disrupts adaptive cognitions and behaviour (Fox, 1989). Instead, the

functionalist perspective emphasises the role of emotions as biologically derived reactions that serve to co-ordinate an adaptive response to significant events in our environment (Campos et al., 1989; Campos et al., 1994; Forgas, 2000; Lowenstein, Weber, Hsee, & Welch, 2001; Russell, 2003). The absence of these biologically derived reactions has been linked to sub-optimal outcomes. For example, Bechara, Damasio, Tranel, and Damasio (1997) found that the absence of somatic arousal in response to threat impaired decision-making during a rigged card game. Patients with a head injury causing deficits in somatic responses to threat were presented with indicators that their card game strategy was causing them to lose the game. Without somatic responses, the patients with head injury did not adapt their responses to enhance their performance in this activity.

Emotional Valence of Events and Objects

Our environment can be experienced as pleasant, distressing, exciting, or boring, and there are several ways in which events and objects gain these qualities (Campos et al., 1994; Gross & Munoz, 1995; Russell, 2003). Emotional valence can be determined by the social communication of other people (Eifert, 1987; Gross & Munoz, 1995; Russell, 2003; Salovey & Sluyter, 1997; Walden, 1991). For instance, children who are told that crocodiles are dangerous may experience wariness in response to crocodiles, despite never having been in contact with them before. Emotional valence is also dependent on learning history. Children who have had aversive experiences at the doctor's office may experience distress when they are told a visit is due. The hedonistic properties of an event can give it emotional valence. For example, play is a source of stimulation and children frequently engage in this activity.

The emotional valence of an event or object can also be determined by our cognitive evaluation of how it relates to our goals (Campos et al., 1989; Campos et al., 1994; Russell, 2003; Thompson, 1990, 1994). For example, events that are perceived to be obstacles may be experienced as unpleasant and intense. When we are observing an individual in a person-environment transaction we may try to determine what he/she is feeling at the time. Emotion in a person-environment transaction can be inferred from how the interaction supports or undermines personal goals. For instance, we may infer that a child is upset in a situation where he/she is denied a second biscuit.

In summary, significant environmental events elicit changes in core affect, and in turn this creates the potential for new emotion, cognition and behaviour (Campos et al., 1989; Campos et al., 1994). Different responses during a person-environment transaction will result in different consequences. When asked to wait for a biscuit, a child may be reprimanded for displaying anger but praised for remaining patient. Only one of these responses may support that child in achieving his/her goal of getting a biscuit. To manage the consequences of the expression of emotion and emotion-related behaviour, a child may engage in emotion regulation (Campos et al., 1994; Thompson, 1994; Zeman & Shipman, 1997b, 1998).

The Experience of Emotion Regulation

Emotion regulation can be thought of as a diverse set of skills rather than a single behavioural entity (Walden, 1991). These skills are the key elements in maintaining a level of arousal that is both tolerable and flexible enough to support adaptive behaviour (Cicchetti et al., 1995). Following the functionalist

perspective, Thompson (1994) provided a working definition of emotion regulation as "the intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (p. 27). In recognising the dynamic rather than static nature of emotions, functionalist theorists emphasise the importance of ease of arousal, intensity of arousal, modulation, and recovery time in determining individual differences in emotion regulation (Thompson, 1994). If emotions can have the function of establishing, maintaining, changing, or terminating the interactions between an individual and significant elements in his/her environment, then emotion regulation serves to avoid, displace, transform, minimise, inhibit, and intensify emotions (Campos et al., 1994).

What is Regulated?

Russell (2003) has argued for a distinction to be made between affect regulation and emotion regulation. Affect regulation is an attempt to elicit a change in mood. An example of affect regulation is taking a relaxing bath when tired to induce a positive mood state. In contrast, emotion regulation is an attempt to influence person-based or environment-based components that are specifically relevant to the experience of emotion. An example of emotion regulation using a cognitive strategy is silently counting to 10 to minimise intensely unpleasant arousal experienced when interacting with an annoying person.

Eisenberg (2002) separated emotion regulation into two sub-domains. Similarly to Russell (2003), she used the term *emotion regulation* to describe a process that directly influences emotion tone and emotion dynamics. Emotion regulation includes cognitive strategies such as re-evaluating a person-

environment transition so that the positive aspects are salient. A second term *emotion-related behavioural regulation* is used to describe a process that directly influences the behavioural indices of emotion. Emotion-related behavioural regulation includes voluntary inhibition of facial expression when angry. These two domains are closely interrelated and an episode of emotion may reflect both processes simultaneously. For example, smiling and taking a deep breath when angry shows a positive outward appearance (emotion-related behavioural regulation) while trying to regulate physiological arousal (emotion regulation).

Both Russell (2003) and Eisenberg (2002) highlighted that emotion regulation implies more than emotional restraint. It encompasses this term, as well as the dynamic regulation of the temporal and intensive features of emotion (Southam-Gerow & Kendall, 2002; Thompson, 1994). Changes in cognition and behaviour, as well as changes in the quality, intensity, and duration of arousal all come under the rubric of emotion regulation (Campos et al., 1989; Campos et al., 1994; Russell, 2003; Thompson, 1990, 1994).

Campos et al. (1994) outlined three stages at which emotion regulation could occur. Firstly, regulation of emotion can occur at the "input" stage and has been described as antecedent emotion regulation or pro-active coping by Eisenberg (2002). Children may avoid arousing stimuli, not attend to, or distract themselves from significant events to modulate arousal. Regulation at the "input" stage occurs when children avoid movies or books because the content is too frightening. Regulation may also occur at the "processing" stage, where events can be interpreted and reinterpreted to minimise or intensify arousal. For example, exaggerating a humorous story may increase positive arousal for both the individual and his/her audience. Finally, emotion regulation can occur at the

'output' stage, or as Eisenberg termed it, emotion-related behavioural regulation. Particular environmental cues will make emotion-related behaviour more or less likely, and we may have to engage in behaviour that is not consistent with our original emotion. In a series of studies examining emotion-related behaviour regulation, Cole, Michel, and O'Donnell-Teti (1994) found that when a child received a disappointing present, he/she still expressed pleasure and gratitude to the giver. Eisenberg noted that while inhibition of behaviour as described above occurs at the "output" stage, it is also a proactive emotion regulation strategy. It enables children to minimise the occurrence of negative emotion (i.e., that may result from a reprimand) or to maximise the potential for positive emotion (i.e., that may result from praise for socially desirable behaviour).

To enhance an individual's performance, emotion regulation skills must be flexible across contexts and responsive to unique situations (Cole et al., 1994; Eisenberg, 2002; Thompson, 1994). Dysfunctional skills are stereotypical, rigid, and under or over arousing (Thompson, 1994). An example of maladaptive emotion regulation skills can be found in the paediatric coping literature. Children may use information seeking or avoidance strategies to mange distress related to medical procedures (Rudolph, Dennig, & Weisz, 1995). Children who avoid medical information have been found to experience greater distress during a medical procedure than children who sought information (Rudolph, Dennig, & Weisz, 1995). Children who disengage from distressing material are using an emotion regulation skill that achieves the immediate goal of decreasing negative arousal; however the rigid application of this strategy has a maladaptive outcome when the source of the distress cannot be avoided.

The Development of Emotion Regulation

The development of emotion regulation is an incremental progression that involves the successful integration of biological, socio-emotional, and cognitive experience over an individual's lifetime (Calkins, 1994). Specific skills are learnt in a process of organisation and reorganisation of the interrelationships between biological and behavioural systems that occur during socio-emotional experiences in early childhood (Cicchetti et al., 1995). It is important to consider the characteristics of child-environment transactions that serve to direct and redirect this process.

Child Characteristics

Some children are challenged by their ease of arousal, intensity of arousal, and the time and effort required to return to homeostasis. The temporal and intensive features of emotion vary in accordance with individual differences in biological potential for ease of arousal, intensity of arousal, modulation, and recovery time (Russell, 2003).

Research in child temperament has reliably demonstrated that individual differences in emotion dynamics are apparent from a very young age (Rothbart & Hwang, 2001). For instance, Katz and Gottman (1995) found that children with high vagal tone indicating higher ability for soothing, showed less externalising behaviour in response to marital conflict during their preschool years than children with low vagal tone. Research investigating the sequelae of premature birth has shown that children who are born early have a less mature central nervous system with which to achieve the immediate goals of self or state regulation (DiPietro, Porges, & Uhly, 1992; Sykes et al., 1997). For example, in a

study by Sykes et al., infants who were born prematurely were rated as having higher scores on measures of behavioural difficulties by preschool teachers than their peers who were born full-term. As children interact with their early environment the intrinsic factors that influence their emotional development can be modified. Social interaction with caregivers can mediate the impact of central nervous system function on emotional development (Calkins, 1994; Calkins, Smith, Gill, & Johnson, 1998).

Social Interactions and the Development of Emotion Regulation

Research with new-born children and young infants has shown that social influences have a significant role in the acquisition of emotion regulation skills from a young age (Calkins, 1994; Dawson, 1994; Denham, Zoller, & Couchoud, 1994; Fox, 1989, 1994; Malatesta-Magai, 1991). Effortful control is an example of a temperament system of self-regulatory mechanisms that emerges between 6 and 12 months of age. Kochanska, Murray, and Harlan, (2000) found that responsive parenting predicted maturity in effortful control from 22 to 33 months of age. Implicit learning environments are created in how parents react to their children's emotion, how they express their own emotion (Eisenberg, Cumberland et al., 1998; Fabes et al., 1994; Rapee, 1997; Roberts & Strayer, 1996; Roberts, 1999; Rubin et al., 1995), and how they model emotion regulation or dysregulation (Gross & Munoz, 1995). Stansbury and Sigman (2000) found that children use covert strategies such as distraction and cognitive reappraisal to organise their emotional state before they are developmentally able to report on the link between these cognitions, behaviours and emotion.

Emotion regulation develops in accordance with cognitive and language skills (Stansbury & Zimmermann, 1999; Wilson, 1999). Parents talk to their children about emotion before three years of age (Lagattuta & Wellman, 2002). They use explicit instructions to assist their children to regulate emotion, as well as providing verbal soothing or encouragement (Eisenberg, Cumberland et al., 1998). With cognitive and language skills, children gain access to multiple sources of socialisation where they have the opportunity to learn about the antecedents and consequences of emotions (Lopez & Little, 1996; Zeman et al., 1997; Zeman & Shipman, 1997a). Consistent with the functionalist conceptualisation of emotion and emotion regulation, children as young as preschool age conceptualise their emotion-related behaviour in terms of environmental consequences (Josephs, 1994; Lopez & Little, 1996; Zeman et al., 1997; Zeman & Shipman, 1996, 1997a, 1998).

A social interaction that is proposed to provide unique opportunities for preschool children to experience emotion and emotion regulation is social pretend play (Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Fein, 1989; Vygotsky, 1978; Youngblade & Dunn, 1995). Social pretend play has been broadly associated with positive outcomes in emotional development for preschool children. In previous research, I found that children who were reported to engage in frequent pretend play with their parent had higher scores on concurrent indices of emotion regulation, than children who did not engage in the same play (Galyer & Evans, 2001). More sophisticated pretend play has been related to more sophisticated emotion understanding (Seja & Russ, 1999), affective role-taking (Connolly & Doyle, 1984), and adaptive responding in day to day activities (Russ, 1998b; Saunders, Sayer, & Goodale, 1998). Elias and Berk

(2002) found that children who were initially rated as highly impulsive and subsequently engaged in a high frequency of complex sociodramatic pretend play in kindergarten showed marked improvement in impulsivity as the kindergarten year progressed. In contrast, children who were initially rated as highly impulsive and subsequently engaged in more solitary pretend play did not show any significant change.

Structured adult-child pretend play has also been associated with positive outcomes in socio-emotional well-being. Child-centred play therapists utilise pretence as an intervention technique to improve emotional well-being. Play and play materials are assumed to facilitate children's expression of thoughts and feelings about their experiences (Russ, 1998a; D. A. Singer, 1998; J. Singer, 1998). Therapy that has a play and/or pretend play component has been used successfully in addressing the sequelae of trauma (e.g., Kot, Landreth, & Giordano, 1998) and dysfunctional parent-child relationships (e.g., Athanasiou & Gunning, 1999; Bratton, 1995). However, pretence as an intervention tool for children with psychological difficulty is not restricted to this particular therapeutic orientation (Hall, Schaefer, & Kaduson, 2002; Knell, 1998). For some children, modelling and practising responses to aversive events in pretend play has also been linked to better coping responses in actual distressing situations. For instance, cognitive-behavioural interventions for childhood anxiety disorders adopt these procedures to shape coping responses to aversive stimuli (Dadds & Barrett, 1998).

In summary, emotion regulation occurs in a person-environment transaction and the social aspects of that transaction are relevant to the development of emotion regulation. Social interaction is an important process for

modifying the biological basis of emotion, developing emotion regulation skills, and introducing social contingencies that motivate children to use those skills (Thompson, 1994). Of particular interest in this thesis is how the context of social pretend play provides unique opportunities for preschool children to experience emotion and emotion regulation.

The Context of Social Pretend Play

What is Pretend Play?

Pretence begins to emerge in a child's second year of life. It begins with a single role or a single act, such as "putting dolly to bed", and soon progresses to complex make-believe themes with multiple characters and events. Between four and five years of age, typically developing children can perform complex pretend transformations, and communicate these transformations to a play partner (Howes, 1992; Kavale & Forness, 2000; Kavanaugh, 1997; Kavanaugh & Harris, 1994). Children in this age group will also have the necessary language and social skills that support dyadic pretend play, such as the ability to communicate ideas, negotiate, and compromise (Howe, 1998; Howe, Rindaldi, Jennings, & Petrakos, 2002; Howes, 1985; Howes, Unger, & Seider, 1989; McCune, 1994; Sheldon, 1996).

Pretence is primarily thought of as a cognitive transformation, where a mental representation of a situation other than reality is created, acted on, and communicated with play partners (Lillard, 2001). Lillard (1993) defined pretence as "a projection of an imagined situation onto an actual situation, in spirit of fun rather than survival" (p. 65). Pretend play is distinct from other activities that involve imagination, as the mental representations in pretence are projected onto

reality. For instance, imagining a boat that may appear in a story is not the same as cognitively transforming a box into a boat and then participating in a sequence of boat related activities (Lillard, 2001). A pretender *intends* to project imagination onto reality, and is *aware* he/she is doing so. Without the elements of intention and awareness, projection of an imagined situation onto a real one cannot be defined as pretence.

How is Emotion Experienced in Pretend Play?

Although pretence is a cognitive transformation, it does have a component of emotion. Changes in core affect occur with conscious perception, whether that perception is of a real event or not (Russell, 2003). For example, children and adults respond to the emotional valence of fiction (Bourchier & Davis, 2000; Brenner, 2000; Bretherton, 1989; Fein, 1989; Lillard, 1993a; Lillard, 2001). If fictional events did not elicit genuine emotional participation they would be considered meaningless (Bretherton, 1989). If fictional events did not elicit genuine emotional participation in children, society would not restrict young children's access to fear-provoking films, which would be expected to cause significant distress despite reassurance that the events are "not real." In a survey of children aged between 7 and 12 years, Valkenburg, Cantor, and Peeters, (2000) found that 31% of children reported being frightened by something on television in the last year. Fabes et al. (1994) found that parents try to buffer the emotional valence of fictional events in accordance with their child's age. Younger children were assisted with the regulation of fear-provoking aspects of story-telling by prompts from the adult story-teller.

Pretend play is a form of fiction, and similarly the symbolic events or objects in pretend play are antecedents that elicit emotion. Several studies have observed that children report fear in response to fear-provoking pretend creatures such as monsters (Golomb & Galasso, 1995; Golomb & Kuersten, 1996; Harris, Kavanaugh, & Meredith, 1994; Harris & Saarni, 1989). Observations of children's naturally occurring pretence has shown that this play is characterised by more social and emotional involvement than non-pretend play (Connolly & Doyle, 1984; De Lorimier et al., 1995).

Adults can structure imagination, fiction and play to provide children with specific experiences. Emotion elicited by imaginary stimuli is utilised in structured situations such as psychological interventions. For example, facilitating the experience of emotion is an integral component of psychological intervention for anxiety disorders. During the process of exposure, an individual is instructed to imagine a negatively valenced stimulus and regulate his/her negative emotion by introducing a relaxation response (Carr, 1999; Ginsburg & Silverman, 1998; Perrin, Smith & Yule, 1998). Dahlquist (1997) illustrated the use of pretence and imagery in preparing a relaxation-based coping response to medical procedures for a six-year-old child with leukemia. Facilitated emotion using a structured play context is an integral component of play therapy (Knell, 1998; Russ, 1998). Play themes and play materials are used to elicit emotion, with the goal of assisting a child to express and regulate that emotion.

How is Emotion Regulation Experienced in Pretend Play?

The cognitive transformation of pretence has an emotion component, and thus the opportunity is created for a child to engage in emotion regulation. In

accordance with the definition of emotion regulation presented earlier in this chapter, a child will avoid, displace, transform, minimise, inhibit, and intensify emotions to accomplish his/her goals in this context (Campos et al., 1994). There are two complementary schools of thought on what aspect of pretend play provides an opportunity for emotion regulation, and how emotion regulation is manifested in pretend play. These can be divided into conceptualisations of play that emphasise the specific content or *theme* of the activity, and those that place more emphasis on the *process*. It is important to consider these two perspectives as they have different implications for how emotion regulation might be managed in an adult-child pretend play context.

The theme of pretend play and the experience of emotion regulation. Theorists with a psychodynamic orientation emphasise the pretend play content or *theme* and manipulation of that *theme* as the primary manifestation of emotion regulation (Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Bretherton & Beeghly, 1989; Fein, 1981; Fein, 1989; Lillard, 1993b; Russ, 1998). One hypothesis, based on the psychodynamic perspective, is that emotion regulation in pretence is organised around the expression and resolution of negatively valenced themes (Fein, 1989). This conceptualisation is supported by earlier descriptions of children's emotion in pretence by Piaget (1962), who observed that a child motivated by current emotional concerns may produce a modified version of reality that allows him/her to experience and resolve those concerns to the satisfaction of the ego.

Fein (1981; 1989) posited that pretend play is a symbolic context and the symbols that children create are representative of significant events in their everyday life. Using symbols, children can create a context that goes beyond

literal meaning but still provides the opportunity to manifest, process, and modify experiences that have a high degree of emotional arousal. Children have the opportunity to express negative emotion in symbolic re-enactments of real-life challenges, and to experiment with resolutions without incurring the adverse consequences that may be possible in the original context of the problem. For instance, children can re-enact and resolve sibling conflict without complications. Presumably children who create more frequent and/or more sophisticated pretend transformations have more opportunities to experience emotion in this way.

Emphasis on theme has influenced how researchers examine emotion regulation in pretend play. A common technique has been to examine the resolution of negatively valenced events as an indicator of emotional mastery (Bretherton & Beeghly, 1989). Essentially, a child is rated on the success of his/her proposed resolution of a negatively valenced event that is re-enacted within a pretend play context. A study by Oppenheim, Nir, Warren, and Emde (1997) used this approach to examine children's emotion regulation skills within a narrative-play task. Children were given a negatively valenced theme (e.g., parents leaving on holiday without the child) to enact within a pretend play context. They were rated on their ability to construct a story, and those children who included a conflict resolution received the higher ratings. Children who were able to design a resolution were found to have less behaviour problems as reported by parents.

Close examination of the themes of children's naturally occurring play challenge the perspective that resolution of negatively valenced themes is the best way to examine emotion regulation. In contrast to this theory, the exact events that are salient in children's lives do not appear to translate into play in a one-on-one

correspondence. Kramer (1996) found that mother's records of events that their child expressed concern about did not then appear in the context of their child's pretend play. These same children were observed across the transition to becoming a sibling. Again, the content of children's pretend play did not reflect this specific event.

Observation of children's pretend play has documented exploration and manipulation of more broad socio-emotional themes that are fundamental concerns for all children such as ill health (Connolly & Doyle, 1984; De Lorimier et al., 1995; Fein, 1989), interpersonal conflict (Connolly & Doyle, 1984; De Lorimier et al., 1995), connectedness, and empowerment (Fein, 1989). However, observational studies of naturally occurring play have also shown that negatively valenced themes are rarely resolved within a naturally occurring pretend play context (Bretherton & Beeghly, 1989; De Lorimier, Doyle, & Tessier, 1995; Fein, 1989). This finding also directly contradicts the theme resolution hypothesis, and implies that mastery of negatively valenced events is not an inevitable outcome of pretend play for all children (Bretherton & Beeghly, 1989; Fein, 1989; Gordon, 1993).

Fein (1989) proposed an alternative to the idea that theme resolution is a useful indicator of emotion regulation within a pretend play context. The players in Fein's study rarely offered resolutions. Pretend ill characters stayed ill, characters that hid from monsters were eventually revealed, and scary creatures were attacked but never died. This process allowed play to continue so that negatively valenced themes could be replayed several times in several different ways. Fein's conclusion was that emotion regulation in pretence is not organised around the outcomes of emotionally arousing situations, but is primarily

concerned with approach, appraisal, and modulation of the arousal associated with emotionally arousing events. For example, children are engaged in the process of emotion regulation by simply approaching and remaining engaged with themes that pose emotional challenges. In previous research, I found that the ability to continue a pretend play game after the introduction of a negatively valenced element by another player was related to children's emotion regulation skills in the broader context (Galyer & Evans, 2001); in contrast, the ability to resolve the negatively valenced element was not.

The process of pretend play and the experience of emotion regulation. Theories that emphasise the process of play acknowledge that the content of play is significant. But from this perspective, the specific theme of the content, and the personal relevance of that content are less important. It is the process of separating thought and action from the environment, adherence to rules about content, and rules about social engagement, that have important implications for emotion regulation.

Vygotsky (1978) proposed that the *process* of pretend play has unique elements that give it a special status in the development of self-regulation. Pretend play emerges at a time in a child's development when significant others begin to demand engagement in socially desirable behaviour. Children are asked to "wait", "share", or "take turns", thus delaying or denying gratification of their own desires. Vygotsky (1978) posited "to resolve this tension, the preschool child enters an imaginary, illusory world in which the unrealisable can be realised, and this world is what we call play" (p. 93). This is not to say that the content of pretend play serves the purpose of gratifying desires as seen in psychodynamic

theories, but rather that the process inherent in pretend play assists children in gaining mastery of the self-regulatory tasks described above.

One advantage of engaging in an *"imaginary, illusory world"* described by Vygotsky (1978) is that it allows children to separate cognition and behaviour from physical reality, and use their own ideas to regulate action. As children pretend they interact with the environment in a way that is inconsistent with the actual objects they encounter. Berk and Winsler (1995) posited that the ability to separate meaning from objects facilitates children's ability to choose between alternative courses of action, thus providing an opportunity to self-regulate their own behaviour.

In addition to the cognitive features of pretence that facilitate self-regulation, Vygotsky (1978) highlighted the rule-governed nature of pretend play. He proposed that an implicit rule in play is that a theme is "pretended" in accordance with how it might proceed if it were real. For example, when children act out a "mother" role, they adhere to "mother-type" behaviour. Berk and Winsler (1995) noted that adherence to these rules places a demand on a child to regulate his/her own desires. If this self-regulation task is achieved in pretend play, children can then generalise these skills and engage in rule-governed behaviour in the everyday situations they pretend about.

Play itself is hedonistic stimulation for preschool age children and access to pretend play is a source of positive reinforcement. Emotion regulation is a salient part of sustaining access to this form of reinforcement (De Lorimier et al., 1995; Fein, 1989). Theories that emphasise the process of play also emphasise the contribution of social contingencies as motivation for self-regulation. Children must adhere to rules about the sequence of play as described above (Vygotsky

1978). In addition, children are required to accommodate both their own and their play partners' agenda.

Fein (1989) described the process of emotion regulation that occurs as a child shifts between varying levels of arousal in order to sustain a pretend play game. Engaging in emotion regulation is useful when the game is under- or over-whelming. It is also useful when a child is required to adjust his or her own agenda, in order to accommodate another player. For instance, if another player introduces an aversive theme into the game, accommodation of that theme by the other players will continue the game. However, the introduction of an aversive theme also has the potential to discontinue the game if it is not accepted. DiLalla and Watson (1988) examined children's responses to neutral and negatively valenced interruptions in their pretend play. Primary school age children, who are assumed to be more mature in their development of emotion regulation skills, continued their pretence in the negatively valenced condition by smoothly incorporating the interruption into the game context, while preschool children stopped play. Preschool age children were more likely to continue play when faced with a neutral interruption.

Observational reports by Curran (1999) and Lloyd (1995) have shown that there are implicit social rules in pretend play. These include engaging all players in the game and maintaining the sequence of the game by adding to and accepting others' proposals. De Lorimier and colleagues (1995) found that when engaged in pretend play, children used more sophisticated social skills in sharing and conflict negotiation compared to non-pretend play. Children who fail in this process persistently use statements that set play according to their own agenda, and are rated as maladaptive on current indices of social and emotional functioning

(Black, 1992). Flannery and Watson (1992) found that children who engaged in more intense episodes of pretend play were rated lower on measures of peer-acceptance by teaching staff. Flannery and Watson suggested that this group of children focused on their own play agenda to the exclusion of other children's social participation.

How Does Pretend Play Act as a Context for Learning about Emotion and Emotion Regulation?

The research described above highlights the potential for emotion and emotion regulation in pretend play, and a question to consider is how structuring this experience could be beneficial. Bretherton and Beeghly (1989) described Piaget's (1962) perspective on pretence as a period where children "rearrange reality in line with momentary desires, in short, to subordinate reality to the ego" (p. 240). This only lasts until a child's cognitive development enables him/her to adapt to the real world, at which point he/she no longer needs to distort reality in play. In contrast, Vygotsky (1978) saw value in pretend play as a vehicle for development, and in particular, self-regulation. Vygotsky described play as a context in which a child appears "a head taller than himself" (p. 102).

Vygotsky (1978) proposed that learning will occur in a "zone of proximal development", which provides a child with experiences that are just above those that he/she could produce spontaneously, and approximates his/her potential level of functioning. Within this context a more sophisticated individual will enhance learning by providing support or "scaffolding" for a less sophisticated individual to develop skills. An efficient zone of proximal development is characterised by adult responsivity, active collaboration, negotiation, and compromise to reach

shared goals (Berk & Winsler, 1995). In addition, the adult participant aims to monitor and maintain appropriate task demands, while encouraging self-regulation (Berk & Winsler, 1995). An important question is how pretend play can be utilised as a zone of proximal development so that a child stands "a head taller than himself" in emotion and emotion regulation.

Adult-child pretend play. Pretend play improves in quality and quantity when it is social (Farver & Wimbarti, 1995; Lytinen, 1995; Youngblade & Dunn, 1995). Children with sophisticated play skills have been observed to assist children with fewer skills by suggesting what event may come next in play sequences (Curran, 1999). However, the quality and duration of pretend play is improved when the play partner is a parent, and in particular when it is a mother (Bornstein & Tamis-Le Monda, 1995; Damast, 1996; Haight & Miller, 1992; Kavanaugh & Engel, 1998; Lindsey & Mize, 2001). Howes (1992) found that when mothers' suggestions for pretence were within their child's zone of proximal development, play was more likely to be maintained. Berk and Winsler (1995) advocated that adult enhance children's play by being responsive and providing guidance in the form of demonstrations and suggestions. The finding that adults can facilitate pretend play is important as high quality pretend play is more likely to engage a child in socio-emotional themes (Fein, 1989; Niec & Russ, 1996).

Current play training approaches consist of informal adult-initiated intervention in children's play activities, with the purpose of facilitating pretence, and/or social competence during pretence. Trawick-Smith (1998) identified the common elements of play training methods as an adult joining in the pretence scenario, and facilitation of play from within that context. For example, an adult might pretend to be a character such as a kind princess, and then use that

character's role to model desirable behaviour such as helping others. Play training has been shown to increase the frequency of pretend play, and to enhance positive social-emotional outcomes following intervention with children in low socio-economic groups (Berk & Winsler, 1995; Johnson, Bruhn, Winek, Krepps, & Wiley 1999; Trawick-Smith, 1998). What is not clear in the method of facilitated pretence described above is how the child's experience of emotion and emotion-regulation is enhanced at that time.

Advantages of Structured Pretend Play. Theoretical descriptions of pretend play highlight three main advantages of this context that support the experience of emotion and emotion regulation (Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Bretherton & Beeghly, 1989; Fein, 1981; Fein, 1989). Firstly, the content of pretend play does not have the same practical constraints as reality, stories, and games with rules. For instance, if a child wants to choose a plot with ferocious dinosaur, he/she can. If he/she then wants to change the dinosaur into a "not-so-ferocious one", he/she can do that too. In contrast, a book is less flexible as someone other than the child previously determines the plot. Secondly, in pretend play the child has an active or first-person role (Kot et al., 1998). The content can be manipulated so it is significant to the child, who can determine whether the play will involve characters that are fear-provoking or not. In a book the characters are described to the child, rather than created by the child. Thirdly, the content of pretend play is "safe" or free from the real life consequences that may follow an action (Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Fein, 1981; Fein, 1989; Lillard, 2001). For example, a child can engage in a variety of fear-provoking activities such as swimming in shark-

infested waters without incurring negative consequences that would be likely to follow in reality.

An argument for giving special consideration to adult-child structured play comes from evidence that naturally occurring pretend play does not always provide opportunities for learning. Research by Dunn and Hughes (2001) investigated the naturally occurring pretend play of children who were categorised as "hard to manage" preschoolers. The pretend play of this group of children was characterised by significantly more violent themes, and significantly less social coordination than other children. For children with such characteristics, structured pretend play may be more likely to provide a context for learning than naturally occurring pretend play.

Summary

Emotion regulation is an important aspect of development, and research examining children's play posits that characteristics of dyadic pretend play could be used to create a zone of proximal development for the diverse set of skills that enable emotion regulation. It is widely accepted that emotion is elicited by pretend entities. This experience has been observed in children's naturally occurring pretend play, as well as structured contexts that use pretence elements such as experimental studies and clinical interventions. Pretence is characterised by less practical restraints on the content of the child's activity. It allows a child to actively manipulate his/her own experience in an environment that is safe from potentially aversive consequences. With these features, pretend play could be a zone of proximal development for the diverse set of skills that support emotion regulation. It is plausible that an adult play partner could effectively structure

pretend play to provide an opportunity to experience emotion and emotion regulation.

It is difficult to find studies that have investigated how to intentionally structure pretend play so that it facilitates children's experience of emotion and emotion regulation. It can be argued that empirical investigations of the links between pretend play and emotion regulation stop short of addressing the important question of how pretend play might be structured to provide these particular learning opportunities for children. The current research programme was designed to explore emotion and emotion regulation in structured pretend play. Study 1 attempted to create the experience of negative emotion tone in pretend play, and challenged the children to regulate this emotion with the goal of sustaining the game. Study 2 was derived from the findings of Study 1. Again in a pretend game, children were challenged to regulate the anticipatory arousal elicited by uncertainty with the goal of sustaining the pretend game. The process of developing a specific pretend play context that facilitated these studies of emotion and emotion regulation is presented in Chapter 2.

CHAPTER TWO

Study 1: Emotion Regulation in Positively and Negatively Valenced Pretend Play

Introduction

The aims of the initial study were derived from the concepts presented in Chapter 1. The first aim was to examine children's quality of pretend play and concurrent experience of emotion. The second aim was to systematically vary a pretend play context to direct children's experience of negative emotion, and observe individual differences in regulation of that emotion. With reference to the theories on emotion and emotion regulation outlined in Chapter 1, and the practicalities of studying these phenomena outlined in the current chapter, I chose the "pretend creature in a box" scenario used by Harris et al. (1991) and Golomb and Galasso (1995) as a starting point to develop a structured pretend play context to create the experience of negative emotion. The "pretend creature in a box" scenario has been reported to elicit negative emotion, which potentially undermines children's ability to engage in the approach, appraisal, and modulation of the negatively valenced play theme. The initial structure of this play scenario was adapted to specifically include a task that relied on children's ability to regulate negative emotion.

Observing Emotion and Emotion Regulation in Pretend Play

Issues in investigating emotion. A challenge to investigating emotion and emotion regulation is the observation and measurement of these processes in a

social context. Adults are frequently asked to report on their experience of emotion and emotion regulation. In contrast, young children's reports of emotion and emotion regulation are considered to be less reliable, as the skills that support self-monitoring and self-report are still developing (Barrett, 2000; Harris & Saarni, 1989; Saarni, 1999; Salisch, 2001). Measures of physiological indices of emotion have been used with very young children (e.g., Fox, 1989; Scarpa & Raine, 1997; Sifter & Braungart, 1995; Stifter & Grant, 1993; Sykes et al., 1997). However, this methodology can be unsuitable when the activity being observed requires repeated exposure to a stimulus, freedom of movement, and sound (Blascovich, 2000).

Direct observation is a popular way to document children's experience of emotion, and has been used in a variety of settings. This technique has been used to document infant emotional expression (e.g., Belsky, Heish, & Crinic, 1996; Camras, 1998; Galati, 1997; Sifter & Braungart, 1995), children's emotional responses to films (e.g., Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996), children's distress during aversive medical procedures (e.g., Axia, 1999), and expression of emotion during social interactions (e.g., Bridges, Grolnick, & Connell, 1997; Eisenberg, Gershoff et al., 2001; Eisenberg, Losoya et al., 2001; Grolnick, Bridges, & Connell, 1996; Guthrie et al., 1997).

Observation schedules typically rely on three overt indicators of emotion in a person-environment transaction: facial expression, vocal expression, and concurrent behaviour. A reliable description of an individual's experience of emotion will combine information from all three indicators, and interpret the indicators with reference to the environmental context in which they occur (Barrett, 1993; Campos, Mumme, Kermoian, & Campos, 1994; Russell, 2003).

The temporal features of emotion are derived from timing the onset and duration of facial expression, vocal expression, and/or concurrent behaviour (Thompson, 1990). The intensive features of emotion are rated on scales where increased facial muscle contraction and increased volume of vocalisation are indicative of increased arousal (Barrett, 1993). While observation schedules have practical advantages, they also pose challenges to reliability. Interpretation of what is occurring is subject to the biases of the individual making inferences about the components of an emotion episode (i.e., antecedents, and the relevance of those antecedents to the person).

Issues in investigating emotion regulation. The skills that support emotion regulation are diverse, and can be used at various points in an emotional episode (Campos et al., 1994). A challenge to observing this process is that some aspects are covert (e.g., cognitive reappraisal of an antecedent, or evaluation of the implications of an antecedent for the individual). Emotion regulation cannot be judged as effective or ineffective independently from the context in which it occurs (Campos et al., 1994; Sroufe, 1996; Thompson, 1994). It can be inferred from examining the outcome of a person-environment transaction in terms of how the pattern of antecedents, concomitants, and consequences promote or preclude a child's competence in his/her interactions with the environment (Sroufe, 1996). Events that elicit negative emotion have the potential to discontinue a person-environment transaction. A child who is showing indications of frustration (negatively valenced emotion), in response to a challenging puzzle (antecedent) could respond with persistence (concomitant), which may result in success (consequence). In contrast, a child could respond by discontinuing the puzzle completely. Discontinuing may reduce the child's frustration, but does not

advance his/her competence with the environment. The first instance implies effective regulation of frustration, whereas the second does not. Alternatively the child could respond by discontinuing the puzzle and starting a less challenging puzzle. Not only does this response regulate frustration, but it also promotes a child's competence with puzzles. In a structured context an adult may provide this "scaffold" if the child does not do so independently.

What is effective emotion regulation in pretend play? Studies that have examined emotion regulation within a pretend play context have observed naturally occurring episodes of dyadic pretend play. Chapter 1 introduced two compatible hypotheses about the particular pattern of antecedents, concomitants, and consequences in pretend play that is indicative of emotion regulation: play theme and play process. Fein's (1989) examination of the relevance of play *theme* indicated that resolution of conflicting themes is not necessarily the most useful indicator of emotion regulation in this context. A key piece of evidence against using resolution of theme includes the finding that negatively valenced events are rarely resolved within a naturally occurring pretend play context (Bretherton & Beeghly, 1989; De Lorimier, Doyle, & Tessier, 1995; Fein, 1989). Fein's conclusion was that emotion regulation in pretence is primarily concerned with approach, appraisal, and modulation of the arousal associated with emotionally arousing events. This implies that effective emotion regulation is reflected in a child's ability to *continue* play with themes that pose emotional challenges.

The idea that *continuation* of play reflects emotion regulation is also emphasised in theories that emphasise the *process* of play. The pattern of antecedents, concomitants, and consequences that indicate effective emotion

regulation in pretend play is successful initiation and maintenance of social pretend play (De Lorimier et al., 1995; Fein, 1989).

Constructing a Pretend Play Context to Study Emotion Regulation

A functionalist perspective posits that the phenomena of emotion and emotion regulation are usefully examined in relation to the context they occur in (Barrett, 1993; Campos, Campos, & Barrett, 1989; Campos et al., 1994; Thomas, 1999; Thompson, 1994). A suitable play context to investigate emotion and emotion regulation must elicit a high degree of arousal, provide children with motivation to modify that level of arousal, and the opportunity to do so (Kobak & Ferenz-Gillies, 1995).

Naturally occurring pretend play has been shown to meet this criteria, however, for the purposes of this study it was necessary to examine structured experimental approaches that allowed manipulation of the variables of interest. This study aimed to compare children's responses across positively and negatively valenced conditions and an experimental method affords the degree of control required to standardise a pretend play context. Observations by researchers who have included a pretence element in their experimental methodology provide some guidelines as to how an experimental pretend play environment might be constructed to include these elements.

In a series of experiments using structured pretend play, Harris et al. (1991), Johnson and Harris (1994), and Golomb and Galasso (1995) developed a "pretend creature in a box" scenario that created individual differences in children's responses to a negatively valenced pretend creature. As part of their

methodology the authors manipulated the content of the play to create an emotional response. The details of these studies are described below.

Harris et al. (1991) originally designed the "pretend creature in a box" scenario to investigate why children who can reliably distinguish between pretence and reality still report strong emotional reactions in response to imaginary entities. In two initial experiments, children's ability to report what is real and what is imaginary was tested. The imaginary entities were characterised by negative emotional valence (i.e., a scary witch), and were relevant to the child (i.e., a scary witch that chases you!). Harris and colleagues examined children's emotional responses by interviewing the child after the experimental manipulation was complete. Fifty percent of the participants reported fear in response to the imaginary entity, despite being able to verbally report that it was not real.

These findings were further examined in two experiments using the "pretend creature in a box" scenario. In the first experiment children were initially seated, and shown two black boxes across the room. They were asked to pretend there was a puppy was in one box, and a monster in the other. The monster was given a negative valence via a verbal description of its scary characteristics. The verbal description was given in a negatively valenced vocal tone and accompanied by a negatively valenced facial expression. Children were asked hypothetically which box they would approach first and second. They were given the choice of either putting a finger in, or poking a stick into the boxes. Subsequently, children were asked to physically demonstrate to the experimenter how they would approach the boxes. The hypothetical and actual first choice of box was the puppy box for the majority of children. Harris et al. (1991) observed "wariness" as children approached the boxes. Children were described as experiencing wariness

based on behavioural indicators. These indicators were the choice of a stick to explore the boxes, or reluctance to explore the boxes at all. Some children responded with wariness to both boxes. When wariness was only shown toward one box, it was the box with the pretend monster.

An adapted version of the "pretend creature in a box" was used in a fourth experiment, designed to address the methodological limitations of Harris et al.'s (1991) experiment three. Children were shown that the boxes were empty prior to the start of the pretend manipulation, and were left alone to explore the boxes to minimise experimenter influence on their behaviour. Again children were initially seated and then presented with two boxes across the room. Half of the children were asked to pretend that there was a rabbit in one box, and half were asked to pretend there was a monster. The second box was considered to be neutral, and it was not subject to pretend transformations. Again the pretend entities were given an emotional valence as described in experiment three. Subsequently, children's approaches to the box were observed. Children who approached the box were more likely to approach the box with the pretend entity faster, and more frequently than the box without the pretend entity. Children were equally likely to approach the box in the monster and rabbit conditions. No description of how the children approached the box as in experiment three was given. At the point at which the experimenter left the room, four children expressed fear. They asked the experimenter not to leave the room because they were afraid. Three of these four children had verbally reported that the monster was not real a few minutes prior. All had looked in the box and seen that it was empty. Unfortunately, in this last experiment Harris and colleagues did not report the emotional responses of the other children.

Johnson and Harris (1994) replicated the "pretend creature in a box" scenario to further investigate the findings of Harris et al.'s (1991) experiment four. In this version children were again initially seated and presented with two boxes across the room. Half of the participants were asked to pretend there was a fairy in one box. The other children were asked to pretend there was an ice cream in one box. The second box was considered to be neutral, and it was not subject to pretend transformations. Children's behaviour was recorded after the experimenter had left the room. In this experiment the box containing the pretend element was opened faster and more frequently than the box that did not have a pretend entity. Unfortunately Johnson and Harris did not report children's concurrent emotional responses to the pretend entities.

Golomb and Galasso (1995) challenged Harris et al.'s (1991) and Johnson and Harris's (1994) conclusions on the basis that in their version of the "pretend creature in a box" the pretend game was not clearly terminated before children's responses were observed. Thus when children approached the box, they were doing so as part of an ongoing pretend game, rather than confusion about the pretend/reality status of the creature. In Golomb and Galasso's first experiment the "pretend creature in a box" was redesigned to address the methodological flaws in Harris et al.'s procedure. Their initial study replicated Harris and colleagues fourth experiment, but in this version the experimenter stayed in the room and engaged in an alternative activity, thus clearly ending the pretend game. Children's approaches to the box were then observed. In Golomb and Galasso's version of this experiment Harris et al.'s results were not replicated, as very few children voluntarily approached the boxes. The game had been discontinued and the boxes held little appeal without the pretend element. Unfortunately in Golomb

and Galasso's initial experiment no information on children's emotional responses is reported, as there was no interaction with the box.

From these repeated administrations of the "pretend creature in a box" scenario by Harris et al. (1991), Johnson and Harris et al. (1991), and Golomb and Galasso's (1995) experiment one, it can be concluded that the pretend element is what influences children's responses. The children in Harris et al.'s experiment four and Johnson and Harris's experiment three children explored the pretend box before the non-pretend box, which is consistent with the idea that the boxes are only interesting because of the pretend element. When the pretend element was removed in Golomb and Galasso's experiment one, children's interest in and exploration of the boxes were significantly decreased. Secondly, there was no significant difference in the behaviour of children in the monster condition and the bunny condition in both of these experiments. This implies that both negatively and positively valenced pretend entities elicit some response from children.

In addition, there is evidence in the reports by Harris et al. (1991) that although children show an interest in both positively and negatively valenced pretend entities; the two differently valenced creatures elicit different emotional responses. Children in experiment three were wary in response to the monster, and children in experiment four reported fear. Children's emotional response to the creatures in the boxes was further investigated in a second experiment by Golomb and Galasso (1995). The authors aimed to move beyond the descriptions of children's cognitive and behavioural responses to the "pretend creature in a box" scenario, and "provide a more detailed account of children's strategies when faced with affectively charged imagery during pretence" (p. 803).

The "pretend creature in a box" procedure was adapted by Golomb and Galasso (1995) so that it was embedded within the context of a larger pretend play format. While on a pretend picnic in a pretend forest, children were introduced to two closed boxes. Half were told there was a pretend monster in one and the others were told there was a pretend bunny. The second box remained neutral, and was not subject to pretend transformation. Children's interactions with the boxes were again observed. Within the pretend context 38% of four-year-olds spontaneously investigated the pretend box. Following termination of pretence only 13% investigated the box, which further supports the above conclusion that it is the pretence element of the experiment that influenced children's responses.

Golomb and Galasso's (1995) description of children's emotional responses during pretence is based on behavioural indicators and verbal self-report. In response to the box with the monster, children were observed to "cling to the back of the experimenters skirt, clutch her hand or hide behind her back" (p. 806). No equivalent expression of negative emotion was observed in the bunny condition. This is consistent with Harris et al.'s (1991) findings in experiment three that some children respond to the negatively valenced pretend creature with the expression of negative emotion (i.e., wariness). This is also consistent with the fear response of some children in Harris et al.'s experiment four, and with the self-report of fear in response to negatively valenced imaginary entities in Harris et al.'s experiment two.

Golomb and Galasso's (1995) experiment two went one step further than simply observing children's emotional experience. The authors also reported children's attempts to modify the emotional valence of the monster and bunny theme. Children in the negatively valenced condition modified the scenario by

changing the characteristics of the monster so it was not as threatening (i.e., saying the monster had "no teeth"), or by giving their own character features to protect themselves from the monster (i.e., saying "monsters like me"). An equivalent behaviour was observed in the positively valenced condition. Children modified the scenario by making the rabbit more fantastical or increased the number of fun creatures in the closed box.

These behaviours were hypothesised by Golomb and Galasso (1995) to reflect a process of emotion regulation, where children responded to the emotional valence of the scenario and regulated that response by modifying the scenario. This is consistent with Fein's (1989) conceptualisation of emotion regulation as the approach, appraisal, and modulation of the play theme. It is also consistent with the functionalist perspective; where emotion regulation is hypothesised to support children to sustain involvement in the pretence activity. Children's emotional expression and modification of the theme were unrelated to their verbal report of whether the creature was real or pretend. In all administrations of the "pretend creature in a box" children's emotional responses were independent of their verbal self-report of the pretend reality status of the creature.

To summarise, an experimental methodology was required to compare children's responses in two differently valenced pretend play contexts. In the "pretend creature in a box" scenario, the pretend element can be manipulated to create specific emotion tone, and it is a reliable antecedent for negative emotion. Observation comparing children's responses to the monster show that it reliably elicits a negative emotion in accordance with the intended emotional valence of the creature. When emotion is experienced, the opportunity for regulation of the tone, temporal and intensive features of emotion presents itself (Campos et al.,

1994). There are two indications from previous studies using the "pretend creature in a box" scenario that this process of emotion regulation is occurring for at least some children. Firstly, individual differences in how children approach the negatively valenced box indicates that children are experiencing negative arousal in varying degrees, and that for some children this arousal has the potential to undermine ongoing play. Secondly, the modifications to the pretend scenarios observed by Golomb and Galasso (1995) are examples of children modifying their environment to influence antecedents of emotion. The general characteristics of pretend play as presented in Golomb and Galasso's experiment two provide children with motivation to modify their level of arousal. Children are motivated to maintain the social interaction in order to continue access to this reinforcing activity. In addition, the procedure by Golomb and Galasso has a degree of flexibility within the structured context that allows children to use modification of the theme as an emotion regulation strategy.

Aims of Study 1

The initial phase of Study 1 examined children's quality of pretend play and concurrent experience of emotion during adult-child pretend play where the child was free to choose the content of play. This tested the assumption raised in Chapter 1; that the sophistication of pretend transformations underlies the quality of opportunities children have to experience emotion in pretend play. *Variability* in children's emotion tone and intensity was recorded using a combination of facial, vocal, and behavioural cues. Variability of emotion expression indicates change in the tone, temporal and intensive features of children's experience, thus providing a broader experience. It was expected that children would express

varying intensity of positive and/or negative emotion, rather than neutral. It was also expected that children with more sophisticated pretend play skills would create a context that supported greater variation in emotion tone and intensity.

In the second phase of Study 1, the "pretend creature in a box" scenario used by Harris et al. (1991) was integrated into each child's pretend game sequence. Each child's level of interest and engagement was ascertained to ensure his/her participation in the scenario. Interest is a behavioural indicator of children's experience of emotion in response to the pretend element of the "pretend creature in a box" scenario, and was chosen due to the limitations of self-report and physiological methods. It was expected that children's interest in the box would significantly increase once it was populated with a pretend creature.

To create a context that required children to regulate negative emotion the "pretend creature in a box" scenario included a task where children were asked to approach the pretend creature in order to continue play. When Harris et al. (1991) asked children to approach a pretend monster they observed individual differences in the degree of caution used. They found that the pretend monster creature elicited negative emotion that had the potential to undermine approach behaviour. This is consistent with Fein's (1989) position that "approach, appraisal, and modulation" of a pretend theme is an indicator of concurrent regulation of negative emotion. In Study 1, approach to the box was hypothesised to reflect the regulation of negative emotion elicited by the pretend monster.

Judgements of children's approach responses were based on the functionalist perspective that emotion regulation cannot be determined independently of the context in which it occurs (Campos et al., 1994). Consequently, responses that enhanced children's participation in a pretend play

context were considered to be more effective. The "pretend creature in a box" scenario and set emotion regulation task were intended to demonstrate that a pretend play context could be manipulated so that it elicited individual differences in the regulation of negative emotion.

Children participated in both a negatively valenced and positively valenced version of the scenario, allowing comparison of children's approach to the box across both conditions. I hypothesised that individual differences in the ability to regulate negative emotion tone and intensity would be demonstrated in the negatively valenced condition, where children with effective emotion regulation skills would approach the box, interact with the creature, and continue play. I hypothesised that the positively valenced condition would not present a challenge to emotion regulation and consequently I expected that all children would be able to approach the box, interact with the creature, and continue play in this condition.

It is important to consider the experience of emotion in more detail than the broad categories of positive and negative tone used here (Lewis & Haviland, 1993). However, differentiating between molecular categories of positive (i.e., joy) and negative (i.e., fear) affect using observation has proven to be difficult (Barrett, 1993; Polivy, 1981). For the purposes of this study, a change in children's expression of negative emotion tone during the negatively valenced "pretend creature in a box" scenario and set emotion regulation task was a key variable of interest. I did not make a specific prediction as to which particular category of negative emotion children might express.

From observations made by Golomb and Galasso (1995), I expected that children would make modifications that changed the intended emotional valence

of the pretend creature. I expected that children would increase or decrease the intensity of negative emotion tone, and/or increase positive emotion tone in the negatively valenced condition. In contrast, I expected that children would increase the intensity of positive emotion tone in the positively valenced condition. To extend previous studies, modification of the scenarios was observed in conjunction with the set emotion regulation task. I hypothesised that children who modified the "pretend creature in a box" scenario in the negatively valenced condition would be more likely to make an effective response to this task than children who did not modify the scenario.

Method

Participant Selection and Characteristics

Children were invited to participate if they were aged between four and five years, and attended a kindergarten five mornings per week. Teaching teams from three kindergartens were contacted via the local kindergarten association, and provided with information about the project (see Appendix A). They all agreed to participate. All three kindergartens were based in the city of Hamilton, and have the same teaching curriculum and educational policy. Hamilton is New Zealand's largest inland city, with a population of approximately 115,000 (Statistics New Zealand, n.d.).

All parents of children who attended these three kindergartens were provided with information about the project. I distributed information sheets and consent forms through the usual mailing systems in each kindergarten. A six-sided brochure format was used to present the information sheet and consent form (see Appendix B). The information sheet encouraged parents to ask questions about

the research, and they were able to contact me by phone, e-mail, or a meeting. If parents chose to be involved they then returned the consent form to a box in their kindergarten. Parents also provided information about their child's age and ethnicity using a questionnaire sent directly to their home address (see Appendix C).

The final sample consisted of 18 boys and 12 girls (M = 55.03 months, SD = 3.32 months). Four children were not included in the study due to difficulties in the data collection process. Three of these children were absent from kindergarten during data collection, and one child had missing data. Socio-economic characteristics of this sample were taken from the New Zealand Ministry of Education ratings of the socio-economic characteristics of families in the area zoned for each kindergarten (see Appendix D). This sample consisted of children from areas of medium (80.0%) to high (20.0%) socioeconomic status. The majority of children came from families identifying as Pākehā (New Zealand European, 97.0%). All other families identified as Māori (indigenous people of New Zealand, 3.0%).

Materials

Pretend play materials. Each play session was conducted using a variety of everyday toys including building blocks and figurines (see Appendix E). The toys used had a variety of themes including farm, house, emergency services, and action figures. All interactions were recorded using a Sony EMC-T110 camera and tripod stand.

Boxes. Boxes with lids were used in the "pretend creature in a box" scenario. These were made from unmarked natural coloured cardboard (see Appendix E). Each side was 25 X 25 centimetres.

Procedure

Ethical approval was obtained for Study 1 from the Human Research and Ethics Committee, Psychology Department, University of Waikato. Consent to conduct this study was also obtained from the Waikato Kindergarten Association, and the parents/caregivers of the children involved.

The children participated in one unstructured and two structured play sessions during their regular kindergarten programme. The sessions were conducted in an open but quiet part of the kindergarten building. As the primary researcher, I conducted all play sessions. Teachers were asked to introduce me to all the kindergarten children during group mat-time, and explain that some of the children's parents had given permission for them to spend some time with me.

Each child was seen individually. Before the initial play session I informed each child that he/she "could play a game with me if they would like to." I also informed them that the game was going to be videotaped, and reassured them that videotaping was easy. Children who did not want to participate on the day were told that it "was all right if they did not have a turn now, but if they changed their mind later on they could still have a turn." Children who gave their verbal permission completed one unstructured and two structured play sessions within the next seven days.

Unstructured play session. Children were introduced to the play materials in the initial unstructured play session. This session began with the child being

invited to have a look at the "stuff" I brought from home. I asked if he/she "had toys like this at home?", and did he/she know "how the building blocks went together?" I demonstrated some of the toys (e.g., "Tigger™ bounces"), and then asked the child to demonstrate how he/she would work the toy. I then asked each child what game he/she would like to play. If he/she did not nominate a game, I suggested building a boat and playing a treasure hunt game. Unstructured play continued for 20 to 25 minutes. At the end of this time each child was praised, complimented on his/her play skills, and given a sticker as a thank you for sharing play activities. The primary aim of this session was for each child to become familiar with me.

Structured play sessions. Each child subsequently completed a negatively valenced pretend play session and a positively valenced pretend play session on separate days. These sessions were structured to include the "pretend creature in a box" scenario, and the set emotion regulation task. In the negatively valenced session children were asked to pretend there was a scary monster in a closed box (Monster Condition). In the positively valenced session children were asked to pretend there was a nice kitten in a closed box (Kitten Condition). As children completed both the Monster and Kitten Condition, the order in which these sessions were presented was randomised. I guided the play in each session through the six stages presented in Figure 2.1.

Stage 1 introduced the neutral box. In the first few minutes of the session each child was oriented to a neutral brown box and encouraged to look inside. Once it had been established that there was nothing in the box, I moved it to the side of the play area. The child could still see the box throughout stage 2.

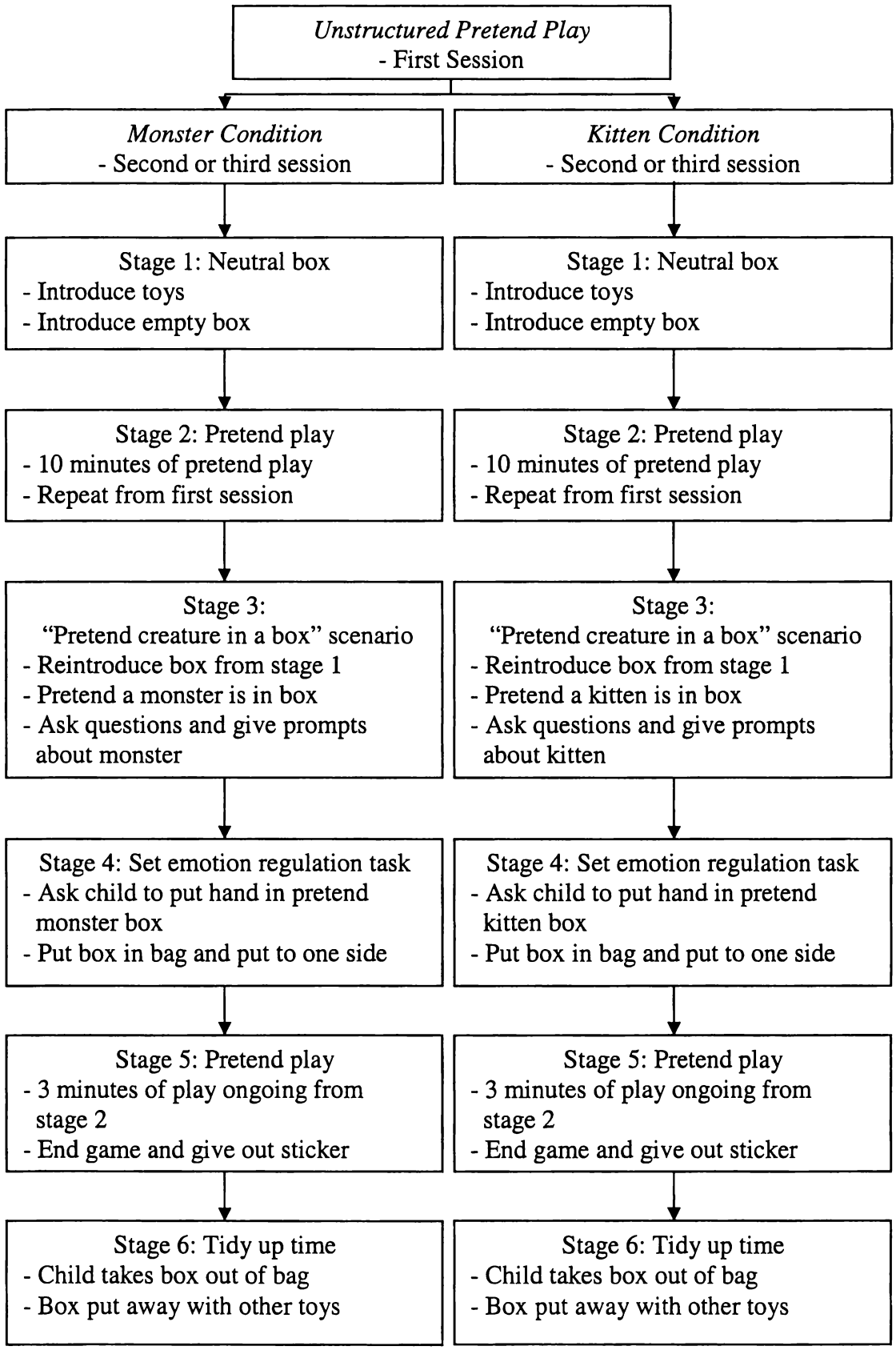

Figure 2.1. The six stages of the experiment in Study 1.

Stage 2 consisted of pretend play between the child and myself. The same set of toys and theme was used as in the previous unstructured play session. After 10 minutes the neutral box was reintroduced into the context of this game according to the "pretend creature in a box" scenario.

Stage 3 began the "pretend creature in a box" scenario with my character "finding" the box and pretending to hear a noise inside. In the Monster Condition, children were encouraged to pretend there was a monster in the box, and in the Kitten Condition, children were encouraged to pretend there was a kitten in the box (see Appendix F). To minimise the impact of experimenter bias on the children's behaviour a standardised script was used to guide my behaviour during the "pretend creature in a box" scenario and the set emotion regulation task. To further minimise the potential for bias I did not review any videotaped data until collection was complete.

My character told the child she could hear growling (Monster Condition) or purring (Kitten Condition). My character then suggested it was a monster/kitten, and proceeded to ask the child's character questions about the creature in the box. My character listened to each answer and responded with a prompt that defined the emotional valence of the creature (see Table 2.1).

The emotional valence of the pretend creature was further emphasised by using exaggerated vocal expression and facial cues. For example, my character feigned negative emotion when suggesting the monster was slimy. If the child disagreed with the prompts, his/her response was listened to, and then the same information was repeated.

Table 2.1

Scenario Questions and Prompts

	Prompt	
Question	Monster Condition	Kitten Condition
What do you think it looks like?	I think it's slimy and yucky!	I think it's nice and furry!
Do you think it's friendly?	No, it's not friendly.	Yes, it's friendly.
What would it do if it got out?	I think it would chase us!	I think it would play with us!

Stage 4 introduced the set emotion regulation task. After the questions about the characteristics and possible actions of the creature, the child's character was asked to put a hand into the box without looking inside. My character told the child's character that she would open the box just a little so the creature would not get out. My character then asked the child's character to put a hand into the box and confirm that it was the monster/kitten. Regardless of the whether the child agreed or disagreed, I continued the game by putting a hand into the partially open box and pretending that my character touched the creature. The box was then placed in a bag under the premise that this would prevent the creature from escaping. The child assisted in putting the box in bag, and placed it to one side of the play area. My character then redirected the child's attention back to the pretend play game.

Stage 5 consisted of a further three minutes of the pretend play game from stage 2. After three minutes I brought the game to an end by offering the child a choice of stickers as a reward for playing so well.

Stage 6 began when the child and I packed up the toys. I asked the child to approach the box again, and specifically to pack up the monster/kitten box by taking it out of the bag.

Development of the game format. The "pretend creature in a box" scenario was piloted with 10 children and then reviewed. Children enjoyed the task, answered the questions, and so were considered to be engaging with the idea of a pretend creature in a box. Initially, children were presented with differently valenced creatures at the same time. I decided that it was too confusing to ask children to remember what was in both boxes at the same time. In addition, a practical disadvantage of having two boxes at once was that I could not control whether or not a child would spontaneously open a box. The task was made simpler by presenting only one box with one creature at a time.

Observational Variables

A list of the variables observed at each stage of the experiment is presented in Appendix G. The variables are described in detail below.

Pretend play coding schedule. Each child's level of pretend play was assessed in stage 2 of the structured play sessions only (see Figure 2.1). The last five minutes of play in stage 2 (prior to the "pretend creature in a box" scenario in stage 3), was divided into 30-second intervals. Each interval was rated according to whether the child was engaged in pretend play, non-pretend play, or no play. Pretend play was operationalised as any non-literal treatment of objects, setting, and/or identity (De Lorimier et al., 1995). The level of pretend play was rated according to McLoyd's (1980) scale of object modes of transformation, and ideational modes of transformation (see Table 2.2). McLoyd's scale is focused on

pretence transformations initiated by the child. The eight modes of transformation are ranked from lower (object transformations) to higher (ideational transformations), in accordance with the relative level of abstract thinking required. For example, pretending a block is a toaster (substitution) is a greater deviation from reality than pretending tea is in an existing cup (reification).

The scoring of this scale is based on a child's pretend transformations in the immediate play context only. It does not rely on a child's social behaviour during pretend play, which is advantageous in a contrived social situation such as an experiment. For example, pretend play scales such as those by Slimansky and Shefta (1990; as cited in Elias and Berk, 2002) give higher scores for shared play between children. In an experiment where adult-child play was structured to include just two people, and the adult aimed to share the child's play interests a rating scale that allocated higher scores for sharing would be potentially biased.

Children were awarded a credit if they engaged in any of these categories of transformations during the 30-second interval, which were then summed to give a total score for object and ideational transformations. Each pretend act made by a child could hypothetically consist of several categories of transformation, and in this case the child was awarded a credit for each transformation they made. Consequently, a high score reflects more frequent and more complex transformations.

A female graduate psychology student, who was unaware of the purpose of this study, coded object and ideational transformations. I served as a reliability coder by rating 20% of the sample selected at random. Interrater reliability was established using Cohen's kappa. Interrater reliability was .97 for the object transformation scale, and .94 for the ideational transformation scale.

Table 2.2

List of Object and Ideational Transformations from McLoyd (1980)

Object modes of transformation
Attributes an imaginary property of identity to a concrete object.
Animation: Attributing living characteristics to an inanimate object. For example, while holding a dog the child said, "She's going to run away."
Reification: Acknowledging an imaginary object that is functionally related to an existing object. For example, pretending to pour tea into a cup, and then offering someone tea.
Attribution of object property: A property is attributed to an existing object that is functionally related to that object. For example, a child picks up a toy dog and makes barking noises.
Substitution: A new identity is assigned to an existing object. For example, a play block will become a toaster.
Ideational modes of transformation
Assigning a theme that is independent of the concrete objects.
Object realism: Pretence that an imaginary object exists. For example, child says, "I'm off to the supermarket, do you want to come?"
Attribution of non-existent object property: A non-existent object property is attributed to an imaginary object. For example, child says "we are going to paint the house with this red paint."
Situational attribution: pretence that an imaginary situation exists. For example, child says "it's raining now and we're getting wet."
Role attribution: Portraying an imaginary character or role. For example, child pretends to be a teacher and says, "you can all go home now, it's home time."

Expression of emotion. Children's expression of emotion was observed during stages two, three, and four of the experiment. Emotion tone and intensity were coded using a schedule adapted from Cole et al. (1996), which relied on a combination of facial and vocal cues to identify categories of positive or negative emotion in children's expression (see Table 2.3).

Children's emotion tone was observed in 10-second intervals. All noticeable changes were recorded. If during the interval the child's emotion tone varied from one category to another, this was marked as a change. For example, when a child's brow changed from relaxed to frowning, this was coded as a change from neutral to negative tone. Children's expression did not change more than once during a 10-second interval. To derive a score for variation in emotion tone, children were rated in accordance with how many categories of emotion tone they expressed. For instance, children with a lower rating expressed positive emotion tone only, and children with a higher rating expressed positive and negative emotion tone.

Children's emotion intensity was also rated in 10-second intervals using the coding schedule in Table 2.3. If during the 10-seconds the child's intensity of emotion tone varied, this was marked as a change. Changes were further categorised as increased or decreased intensity of emotion tone. For instance, if a child's mouth changed from a broad open mouth smile to a narrow closed mouth smile, this was coded as a noticeable decrease in intensity of positive emotion tone. To derive a total score for variation in emotion expression, children were given an overall rating in accordance with their frequency of changes in emotion tone and changes in emotion intensity. For instance, children with a score of seven

would have changed their expression of emotion tone and/or intensity seven times.

Emotion tone, and variability in emotion expression were examined in stage 2 (pretend play) of the experiment (see Figure 2.1). The two 5-minute samples of pretend play described above were divided into 10-second intervals, and rated to provide scores for this stage. Emotion tone was also examined across stage 3 ("pretend creature in a box" scenario) and stage 4 (set emotion regulation task). The total time taken to complete stage 3 and stage 4 was divided in 10-second intervals, and then rated. These scores were used to compare the expression of negative emotion across the two Conditions.

Table 2.3

Main Characteristics for Each Category of Emotion Tone

Tone	**Face**	**Voice**
Positive	Eyes wide: Relaxed to creased at corners Smile: Narrow closed mouth to broad open mouth	Variable or loud Laughing
Neutral	No frown or smile Relaxed facial expression	Even tone, medium pitch No laughing
Negative	Frown: Minimal to vertical ridges between brows Lips: Compressed/biting to mouth corners constrained or pulled down	Variable, wavering or quiet Whining or protesting

A female graduate psychology student, who was unaware of the purpose of this study, was trained to code emotion expression. I served as a reliability coder. Interrater reliability was established by my independent ratings of 20% of

the sample. Cohen's kappa for these data was .51, which is considered fair (Bakeman, 2000). Interrater agreement was at a level of 91%, however an 81% agreement would have been expected by chance. Children expressed positive emotion for the majority of the play session with infrequent and short intervals of negative or neutral expression. The low frequency of observations in the neutral and negative emotion categories limited the reliability of the Cohen's kappa calculation. Disagreement was between neutral, and changes in the intensity of positive expression. Bakeman (2000) notes that when there are very few codes and the simple probabilities quite skewed, reasonable observer accuracy may yield quite low values of kappa.

Level of interest in the box. Children were rated on their level of interest in the neutral box during stage 1 of the experiment using the 6-point Likert scale shown in Table 2.4. Children were also rated on the level of interest they expressed in the valenced box during stage 3 of this experiment. Interest in the valenced boxes was rated using the 6-point Likert scale shown in Table 2.5.

I initially rated all of the children's responses. A graduate psychology student independently rated 20% of the sample selected at random. An interrater agreement of 91% was established for the neutral box, and 100% for the valenced boxes. In the one case of a disagreement between the graduate student and myself, we both re-rated the child's response and reached a consensus.

Table 2.4

Rating Scale for Level of Interest in the Neutral Box

	Rating	Definition
0	Ignores	Does not look or touch.
1	Minimal	Removes lid and looks briefly, then ignores the box or answers prompted questions only.
2	Mild	Removes lid and looks briefly, then make spontaneous comment.
3	Moderate	Removes lid and sustains looking when box is taken away. Makes spontaneous suggestion for play with box and/or puts toys in.
4	Quite	Removes lid and sustains looking when box is taken away. Makes spontaneous suggestion for play with box and/or puts toys in. Tries to continue activity when box is taken away, then moves onto new play.
5	Extremely	Removes lid and sustains looking when box is taken away. Makes spontaneous suggestion for play with box and/or puts toys in. Actively resists by saying no and or trying to hold onto the box when it is taken away.

Table 2.5

Rating Scale for Level of Interest in the Valenced Boxes

	Rating	Definition
0	Ignores	Does not look at box despite prompting.
1	Minimal	Looks briefly then continues with same activity.
2	Mild	Looks briefly between box and other items. Follows prompts only. No spontaneous comments related to box.
3	Moderate	Sustained looking with consistent responding to prompts. Spontaneous comments related to the box are made.
4	Quite	Sustained looking with consistent responding to prompts. Tries to open the box and/or asks for box to be opened.
5	Extremely	Sustained looking with inconsistent responding to prompts as they are ignored while the child is trying to open the box, or asking for the box to be opened.

Level of engagement in the "pretend creature in a box" scenario. Answers to the questions my character posed in stage 3 about the monster's/kitten's appearance, friendliness, and possible actions were used to rate the child's level of engagement in the scenario. Children's answers were rated in accordance to the quality of information they gave. A low rating indicated no response and a higher rating indicated an answer with relevant information. Ratings for the three questions were then summed to give an overall score. Whether the child agreed or disagreed there was a creature throughout the scenario was also noted.

Modifications to the "pretend creature in a box" scenario. Responses that modified the intended valence of the scenario were recorded during stage 3 of the experiment. The responses that children provided to the questions my character asked about the creature's appearance, friendliness, and possible actions, as well as any spontaneous comments, were rated in terms of whether they increased or decreased the intensity of the intended emotional valence of the scenario. A comment was considered to be a moderating statement if it changed the type, appearance, and actions of the monster/kitten; for example, a child might increase the number of kittens in the box. A comment was also considered a moderating statement if a child attributed any features to his/her character that moderated the creature's possible interaction. For example, saying that "all monsters like me" limits the creature's interactions to friendly encounters.

Responses to the set emotion regulation task. The children's response to the set emotion regulation task presented in stage 4 of the experiment was the primary dependent variable in this study. The goal of this task was to approach the box, put a hand into the box, and continue the pretend play game. This task began

in stage 4 of the experiment, when my character asked the child's character to put a hand into the box and confirm there was a creature. Responses were rated according to whether or not the child approached the box and put a hand inside. Approach to the box was considered to be a physical move toward the box on request. A hand inside the box was considered to be the child placing his/her own hand into the box. Whether or not children put other objects into the box was recorded. Children's comments about the monster/kitten as they put a hand into the box were also recorded.

Responses to the box post pretend play. The second point at which children were asked to approach the box was during stage 6 (see Figure 2.1). At this point the pretend game had ended, and the child and I were engaged in tidying away the toys. During this process I prompted the child to approach and tidy away the box. Responses were rated according to whether or not the child approached the box and attempted to put the box away. Approach to the box was considered to be a physical move toward the box on request. Children's comments about the monster/kitten were recorded.

Results

For all analyses conducted using parametric tests the assumptions of normal distribution and homogeneity of variance were evaluated as satisfactory. The majority of testing in this study was conducted using non-parametric procedures. All statistical tests were conducted with a significant level of .05. The programme Statistica was used to calculate all statistics.

Observations of Pretend Play

All children began the play session by exploring the toys. For instance, they picked up toys they found interesting, and asked question about them such as "where did you get this?" They quickly moved on to constructing a pretend game. Children typically chose plots involving castles, houses, aeroplanes, and dinosaurs. If the child did not initiate a pretend play game within the first few minutes they agreed to my suggestion of a treasure hunt theme. The content of each child's play in stage 2 did not differ between the second and third sessions. At the beginning of the second and third sessions the majority of children asked to play the same game, and then went about constructing a game with the same characters. Brief episodes of non-pretend play were observed at intermittent intervals. During an episode of non-pretend play children typically continued to explore the toys as described above.

Quality of pretend play. There were no significant differences in the number of object transformations made between pretend play in the second and third sessions, $t(28) = .60, p > .05$. Similarly, there were no significant differences in the number of ideational transformations made between the two samples of play, $t(28) = .62, p > .05$. Consequently, the totals from each sample were summed to form a composite score. A percentage score was derived by calculating the total number of credits divided by the possible number of credits for object transformations ($M = 31.2\%$, $SD = 8.7\%$) and ideational transformations ($M = 11.3\%$, $SD = 9.2\%$).

Variation in emotion expression during pretend play. During stage 2 pretend play children expressed mainly positive emotion tone, with variation in emotion intensity. Some children also displayed brief episodes of negative

emotion tone. There were no significant differences in expression of emotion tone in pretend play between the second and third sessions, Pearson $\chi^2(1, N = 30) = .30$, $p > .05$. Consequently, emotion expression was combined across the two samples. Sixty-seven percent of children expressed positive emotion tone only. Thirty-three percent of children expressed both positive and negative emotion tone. There were no significant differences in the frequency of changes in emotion expression in stage 2 play between the second and third sessions, Wilcoxon $z = 1.4, p > .05$. Consequently, frequency of changes in emotion expression across the two samples was combined to create a composite score. Scores for total variability in emotion expression during play were derived by calculating the number of 10-second intervals with marked changes in emotion tone and/or intensity, ($M = 19.78$, $SD = 5.93$).

Children's emotion tone was not related to quality of their pretend play. Children who expressed both positive and negative emotion tone did not have significantly different object transformation scores than children who expressed positive tone only, $t(28) = .05, p > .05$. Similarly, these two groups did not differ in scores for ideational transformation scores, $t(28) = 1.47, p > .05$. There was no relationship between total variability in expression during play and object transformations, $r(30) = -.12$, or ideational transformation scores, $r(30) = -.06$.

Neutral Boxes

The majority of children commented that there was nothing in the neutral box during stage 1 and willingly engaged in exploring an alternative toy. Children typically showed minimal interest in the neutral box presented before the Kitten Condition and the neutral box presented before the Monster Condition. The

responses of five children indicated possible carry-over effects from the first condition they completed. Three children who had completed the Kitten Condition first pretended there was a kitten in the neutral box. One of these children did not want the box to be put away. Two children who had completed the Monster Condition first pretended there was a monster in the neutral box.

Valenced Boxes

Level of interest. The majority of children's interest in the "pretend creature in a box" scenario presented in stage 3 ranged from "quite" to "extreme" in the Monster and Kitten Condition. Children attended to the box, approached and tried to open it. There was a significant difference in the level of interest expressed in the neutral box and the level of interest expressed in the valenced box in the Monster Condition, Wilcoxon $z = 4.74$, $p < .001$, and the Kitten Condition, Wilcoxon $z = 4.62$, $p < .001$. There were no significant differences between children's level of interest in the valenced box in the Monster Condition and the Kitten Condition, Wilcoxon $z = .78$, $p > .05$. As children participated in both the Monster and Kitten Conditions (see Figure 2.1, p. 38), the possibility of order effects on children's interest in the box was considered and tested. In the Kitten Condition, the level of interest expressed by children who completed this scenario first was not significantly different from children who completed it after the Monster Condition, Mann-Whitney *U*, $z = .91$, $p > .05$. Similarly, in the Monster Condition, the level of interest was not significantly different between children who completed this scenario first and second, Mann-Whitney *U*, $z = .49$, $p > .05$.

Engagement in the "pretend creature in a box" scenario. Engagement in the scenario was also ascertained from children's responses during stage 3 of the experiment. Children tended to disagree that there was a monster/kitten in their initial responses and then changed their pattern of responding. Twenty-three percent of children disagreed that there was a creature at some stage of the Monster Condition. In the "pretend monster in a box" scenario, there was no significant difference in the proportion of children who disagreed there was a creature between the group who completed this scenario first and second, Pearson $\chi^2(1, N = 30) = .05, p > .05$. Thirty percent of children disagreed that there was a creature at some stage of the Kitten Condition. In the "pretend kitten in a box" scenario, there was no significant difference in the proportion of children who disagreed there was a creature between the group who completed this scenario first and second, Pearson $\chi^2(1, N = 30) = .29, p > .05$.

All children responded to my character's prompt to listen to a sound in the box. The children included in the following analysis agreed there was a creature for the majority of the "pretend creature in a box" scenario. Two children were excluded from further analysis of the Kitten Condition, as although they were interested in the box they did not engage in the "pretend kitten in a box" scenario. The majority of children gave an answer to all three questions asked by my character. Children who did not answer the questions were focused on trying to open the box, or asking for it to be opened.

Sixty-three percent of children answered the question *"What did the monster/kitten look like?"* in the Monster Condition, and 48% of children answered this question in the Kitten Condition. They typically gave a short description of the physical characteristics, such as the colour, shape, and texture of

the creature. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(4, N = 28) = 8.89, p > .05$.

Ninety-seven percent of children answered the question *"Was the monster/kitten friendly?"* in the Monster Condition and 90% of children answered this question in the Kitten Condition. Children typically said it was friendly. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(2, N = 28) = .12, p > .05$.

Sixty-seven percent of children answered the question "*What would the monster/kitten do if it got out?"* in the Monster Condition and 72% of children answered this question in the Kitten Condition. Children typically responded by saying that the creature would be part of the pretend game. For example, they said that the kitten would come out and play with us. In the Monster Condition, some children said the creature would bite or scratch. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(4, N = 28) = 4.42, p > .05$.

Ratings of responses to each of these three questions were summed to give an overall score for level of engagement in the Monster Condition and the Kitten Condition. Lower scores indicated less engagement in terms of how many questions were answered and the quality of those answers. Higher scores indicated more engagement with more questions answered to a higher quality. There was no significant difference in children's overall level of engagement in the Monster Condition and children's overall level of engagement in the Kitten Condition,

Wilcoxon $z = .78$, $p > .05$. In the Monster Condition, overall level of engagement was not significantly different between children who completed this condition first and children who completed it second, Mann-Whitney U, $z = .83$ $p > .05$. Similarly, in the Kitten Condition, the level of engagement was not significantly different between children who completed this condition first and second, Mann-Whitney U, $z = .11$ $p > .05$.

Attempts to investigate the content of the boxes. During the "pretend monster in a box" scenario, 60% of children asked for the box to be opened. During the "pretend kitten in a box" scenario, 62% of children asked for the box to be opened. There was no significant difference in the proportion of children who asked for the box to be opened between the Monster and Kitten Conditions, Pearson $\chi^2(1, N = 28) = 2.44$, $p > .05$. In the Monster Condition, there was no significant difference in the proportion of children who asked for the box to be opened between the group who completed this condition first and second, Pearson $\chi^2(1, N = 30) = 3.13$, $p > .05$. Similarly, in the Kitten Condition there was no significant difference in the proportion of children who asked for the box to be opened between the group who completed this condition first and second, Pearson $\chi^2(1, N = 28) = 3.21, p > .05$.

The majority of children either touched or tried to open the valenced boxes (see Table 2.6). Of the children who attempted to investigate the box by touching, one child in the Monster Condition and three children in the Kitten Condition persisted to the point where the box was opened. There was no significant difference in the proportion of children who investigated the box by touching between the Monster and Kitten Condition, Pearson $\chi^2(9, N = 28) = 16.00, p > .05$. In the Monster Condition, there was no significant difference in the proportion of

children who investigated the box by touching between the group who completed this condition first and second, Pearson $\chi^2(1, N = 30) = .09, p > .05$. Similarly, in the Kitten Condition, there was no significant difference in the proportion of children who investigated the box by touching between the group who completed this condition first and second, Pearson $\chi^2(1, N = 28) = .48, p > .05$.

Table 2.6

Proportion of Children Who Investigated the Box by Touching in the Monster and Kitten Condition

	Condition	
Type of Touch	Monster (%)	Kitten (%)
Did not touch	23.0	14.0
Some touching	20.0	25.0
Attempted to open/opened	57.0	61.0

Modification of the Scenario

Overall, 37% of children modified the intended valence of the "pretend creature in a box" scenario by modifying the theme in the Monster and/or Kitten Condition (see Table 2.7). In the Monster Condition, 15% of children modified the scenario to increase positive emotion tone and intensity, and 15% modified the scenario to decrease negative emotion tone and intensity. In the Kitten Condition, 44% of children modified the scenario to increase emotion intensity. There was no significant difference in the proportion of children who modified the scenario in

the Monster Condition and in the Kitten Condition, Pearson $\chi^2(2, N = 29) = 2.3, p > .05$.

Eighty percent of children who modified the scenario in the Monster Condition had already completed the Kitten Condition. This proportion was significantly higher than children who completed the Monster Condition first, Pearson $\chi^2(2, N = 30) = 7.3, p = .007$, Cramér's $V = .49$. In the Kitten Condition, there was no significant difference in the proportion of children who modified the scenario between the group who completed the scenario first and the group who completed it second, Pearson $\chi^2(2, N = 28) = 1.83, p > .05$.

Table 2.7

Percentage of Children Who Modified the Intended Valence of the Monster and Kitten Scenario

	Modification of Valence		
Condition	None (%)	Decreased (%)	Increased (%)
Monster	70.0	15.0	15.0
Kitten	56.0	0.0	44.0

Set Emotion Regulation Task

Patterns of responding in the Monster and Kitten Condition. The set emotion regulation task was conducted during stage 4 of the experiment. I initially categorised all of the children's responses to the set emotion regulation task. To establish reliability, a graduate psychology student independently rated 20% of the

sample selected at random. Because the children's responses were clear and easily coded there was complete interrater agreement.

All children approached the box with the pretend monster and the box with the pretend kitten. When asked to put a hand into the box, children made one of three responses. They refused to put a hand in, put a hand in and disagreed there was a creature, or put a hand in and pretended there was a creature. Disagreement consisted of comments about the absence of the creature once the child had put a hand in. For example, children made comments such as "it's nothing", "it's not in there there", and "it's just an empty box". Agreement consisted of contrasting comments such as "Oh oh it's biting me", and actions such as taking the pretend creature out of the box to "look" at it.

The children's response was rated in terms of how it promoted or precluded continuation of pretence. Children who did not put a hand into the box, or put a hand in and disagreed there was a creature were considered to be the least effective groups, as these responses ended the pretence. Children who approached the box and agreed there was a creature were considered to be a more effective group, as this response continued the pretence. The same two children refused to put a hand into the box in both the Monster and the Kitten Condition (see Table 2.8). These children were interested and engaged in the "pretend creature in a box" scenario, however, they would not put a hand into the box. All other children approached the box and put a hand in. Of these children, the proportion of children who agreed or disagreed there was a creature was not significantly different between the Monster and Kitten Conditions, Pearson $\chi^2(1, N = 26) = .25$, $p > .05$. There was a group of ten children who differed in their response between the Monster and Kitten Conditions; however they did not show a consistent

pattern. Fifty percent of these children disagreed in the Monster Condition, and 50% disagreed in the Kitten Condition.

Table 2.8

Proportion of Children Who Refused, Disagreed, or Agreed in the Set Emotion Regulation Task

	Kitten Condition		
Monster Condition	Refused (%)	Disagreed (%)	Agreed (%)
Refused (%)	7.4	0.0	0.0
Disagreed (%)	0.0	48.1	18.5
Agreed (%)	0.0	18.5	11.1

There was no significant relationship between children's level of interest in the "pretend creature in a box" and how they responded when they put hand into the box in the Monster Condition, Mann-Whitney *U*, $z = .95$, $p > .05$, or the Kitten Condition, Mann-Whitney *U*, $z = .95$, $p > .05$. Similarly, there was no significant relationship between the children's engagement in the "pretend creature in a box" scenario and how they responded when they put a hand in the box in the Monster Condition, Mann-Whitney *U*, $z = -1.91$, $p > .05$, or the Kitten Condition, Mann-Whitney *U*, $z = -1.39$, $p > .05$.

In the Monster Condition, children's responses to the set emotion regulation task were not significantly different between the groups who completed this condition first and second, Pearson $\chi^2(2, N = 30) = 1.17, p > .05$. Similarly, in the Kitten Condition children's responses to the set emotion regulation task were not significantly different between the groups who completed this condition first and second, Pearson $\chi^2(2, N = 28) = .72, p > .05$.

Expression of Negative Emotion Tone During the "Pretend Creature in a Box" Scenario and the Set Emotion Regulation Task

In the Monster Condition, 70% of children expressed positive emotion, and 30% of children expressed both positive and negative emotion. In the Kitten Condition, 79% of children expressed positive emotion, and 21% of children expressed both positive and negative emotion. All children displayed variability in intensity of emotion tone in both conditions. There was no significant difference in the proportion of children who expressed negative emotion tone between the Monster Condition and the Kitten Condition, Pearson $\chi^2(4, N = 28) = 6.2, p > .05$. There were no significant differences in the total variation in expression between the Monster and Kitten Conditions, Wilcoxon $z = .16, p > .05$.

In the Monster Condition, variation in emotion tone was not related to the whether the children completed this condition first or second, Pearson $\chi^2(1, N = 30) = .41, p > .05$. In the Kitten Condition, variation in emotion tone was also not related to the order in which children completed the condition, Pearson $\chi^2(1, N = 28) = .01, p > .05$.

Modification of the Scenario and Responses to the Set Emotion Regulation Task

The children who refused to put a hand into the box did not attempt to modify the intended emotional valence of the scenario in the Monster Condition or the Kitten Condition. In the Monster and Kitten Condition, all of the children who modified the scenario approached the box and put a hand in. There was a significant relationship between modification of the intended valence of the scenario and agreeing/disagreeing there was a creature in the Monster Condition,

Pearson $\chi^2(2, N = 28) = 7.73, p < .05$, Cramér's $V = .50$. The same relationship was significant in the Kitten Condition, Pearson $\chi^2(1, N = 26) = 3.86, p < .05$, Cramér's $V = .39$. Specifically, the proportion of children who did not modify the intended valence of the scenario was higher in the group of children who discontinued the pretence by disagreeing there was a creature in the box (see Table 2.9).

Table 2.9

Proportion of Children Who Modified the Scenario in Each Set Emotion Regulation Task Response Category

	Monster Condition			**Kitten Condition**		
Modification	Refuse (%)	Agree (%)	Disagree (%)	Refuse (%)	Agree (%)	Disagree (%)
Not modified	7.0	11.0	61.0	7.0	7.0	43.0
Modified	0.0	18.0	11.0	0.0	21.0	21.0

Pretend Play and Responses to the Set Emotion Regulation Task

The pretend play of the group of children who refused to approach the box in the set emotion regulation task was compared to the sample mean. Due to the small size of this group statistical testing was not appropriate. The children who refused to put a hand into the box scored within one standard deviation below the sample mean for object transformations. They scored within two standard deviations below the sample mean for ideational transformations. For the children who did put a hand in the box in the Monster Condition, object transformation scores were not significantly different between children who agreed and disagreed

there was a creature, $t(26) = -1.18$, $p > .05$. Similarly, ideational transformation scores were not significantly different between these two groups, Mann-Whitney *U*, $z = -1.07$, $p > .05$. For children who put a hand into the box in the Kitten Condition, object transformations scores were not significantly between children who agreed and disagreed there was a creature, $t(26) = -1.59$, $p > .05$. Similarly, ideational transformation scores were not significantly different between these two groups, Mann-Whitney *U*, $z = -1.28$, $p > .05$.

Approaches to the Box in a Non-Pretend Play Context

Children were asked to approach the box again in stage 6 of the experiment. During tidy up time, 90% of children approached and uncovered the box in the Monster Condition. Forty percent continued to pretend there was a monster in the box. Eighty-six percent of children approached and uncovered the box in the Kitten Condition. Forty-six percent continued to pretend there was a kitten in the box. Children who did not approach the box either asked me to assist them in putting the box away, or said they had to move onto another activity back at the classroom. The two children, who did not put a hand into the box during the set emotion regulation task in stage 4, did so when asked to tidy the box away.

There was no significant difference in the proportion of children who did or did not approach the box at tidy-up time in the Monster and Kitten Condition, Pearson $\chi^2(4, N = 28) = .36$, $p > .05$. There was also no significant difference in the proportion of children who pretended there was a creature in the box at tidy-up time in the Monster and Kitten Condition, Pearson $\chi^2(4, N = 28) = 1.78$, $p > .05$.

Discussion

Observations of pretend play transformations and concurrent expression of emotion tone did not support the hypothesis that children who made more sophisticated pretend transformations would create more opportunities for diverse emotion tone and intensity in play. Children did respond to the "pretend creature in a box" scenario with increased interest. As hypothesised, there was variation in how the children responded when asked to put a hand into the valenced box, with some children approaching the box and some refusing. Contrary to expectations, there were no differences in children's patterns of responding between the Monster and Kitten Condition. This suggested that the intended positive and negative valence of the scenarios was not the most influential variable in children's emotional and behavioural responses.

Emotion Expression and Quality of Pretend Play

Throughout the unstructured pretend play children expressed predominately positive emotion with minimal negative emotion cues. I was interested in the variability of children's expression, and found that that the main point of variability was not emotion tone (positive vs. negative), but in the intensity of children expression. Children's expression of positive emotion ranged from smiles at some points, through to laughter at others. The pretend play transformations children made were not related to concurrent variation in emotion expression. The lack of variability in emotion tone during unstructured pretend play appears contrary to the proposal that pretence transformations can provide a broad range of antecedents that elicit a broad range of emotion (Bornstein,

Haynes, O'Reilly, & Painter, 1996; Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Fein, 1989; Flannery & Watson, 1992).

A methodological issue that may have influenced variability of emotion expression is that this activity occurred between a child and an adult whom the child had recently met. Familiarity with a pretend play partner has been found to influence children's exploration of psychosocial themes in play (De Lorimier et al., 1995). Children may not have voluntarily engaged in themes that elicit negative emotion tone with a relatively unfamiliar adult play partner. However, this study aimed to control for familiarity by conducting the play at kindergarten, where children are expected to interact in adult-child play sequences with adult kindergarten staff. There was an introductory play session, and the same theme was repeated across three sessions, which provided the opportunity for children to extend the theme of their play. To check for effects of familiarity on children's unstructured play, it would have been useful to observe each child with a familiar play partner. This could have provided the opportunity for comparison of children's emotion in pretend play under the conditions of a familiar play partner, and unfamiliar play partner.

As well as observation of emotion expression in unstructured play, a primary goal of this study was to compare children's emotion expression across two contexts that were designed to elicit specific emotion tone. Contrary to expectations, children were no more likely to express a negative emotion tone in the negatively valenced Monster Condition than in the positively valenced Kitten Condition. I had not expected that children would express continuous negative emotion during the Monster Condition. This condition was not designed to elicit a distressing level of negative arousal, and indeed the procedure would have been

discontinued had this been the case. However, the lack of even a minimally perceptible level of negative emotion in the Monster Condition is not consistent with the reports by Golomb and Galasso (1995) and Harris et al. (1991).

Previous reports of children's emotional responses to pretend monsters are based on verbal reports and avoidance behaviour. In contrast, evaluation of children's emotional responses in the current study was based on facial and vocal cues such as smiling and frowning. This study rated expression of emotion only, and can conclude that expression was not consistent with what might be expected for a particular stimulus. The difficulty with this procedure is that expression is only one part of the whole experience of emotion, and does not necessarily reflect the whole reaction accurately (Barrett, 1993; Harris, 1989; Harris & Saarni, 1989). For example, children do experience multiple emotion categories simultaneously at this age, despite their lack of developmental ability to report on this experience (Harris, 1989). Experiences of this kind are not necessarily detected in vocal and facial cues (Barrett, 1993). It is possible that children experienced a degree of negative emotion tone that was not captured by the schedule used to detect and categorise emotion.

Overt expression of negative or positive emotion may or may not occur depending on the social contingences present during a person-environment transaction (Saarni, 1997; Zeman & Shipman, 1996; 1998). For example, to avoid the consequences of bad manners, a child who is given a disappointing gift may not overtly indicate their disappointment in front of the giver (Cole et al., 1994). In the current study, children's expression was positive, and this response is consistent with the functionalist model of emotion. During play, expression of a positive emotion tone is a signal to the other players that this activity is enjoyable

and that the child would like to continue (Barrett, 1993). Prolonged negative or neutral emotion tone would have disengaged the play partner from the game (De Lorimier et al., 1995). In the context of an unstructured pretend play activity (stage 1) all children appeared to be able to achieve this level of monitoring and modulation of expression. The short instances of negative emotion tone or neutral expression did not impair the game. During the Monster Condition, the expression of positive emotion tone served to continue the pretend game, despite any concurrent negative emotion tone that may have been experienced.

Responses During the Presentation of the "Pretend Creature in a Box" Scenarios

Children's interest in the box increased markedly once the pretend creature was added. This indicates that it was the element of pretence that created meaningful changes in emotion, as there were no other differences between the two boxes. Consequently, the pretence constructed in this experiment was considered to meet the criteria for a suitable context to elicit emotion (Kobak & Ferenz-Gillies, 1995). Children's scores for engagement indicated that they were also participating in the "pretend creature in a box" theme of the scenario. Responses to the negatively and positively valenced scenario were similar. In both scenarios, children expressed positive emotion tone, were interested, and engaged. They tried to investigate the content of the box when it contained a pretend kitten and when it contained a pretend monster. The only difference in behaviour between the positively and negatively valenced conditions was how the children modified the intended valence of each scenario.

Modification of the "Pretend Creature in a Box" Scenario

Modification of the valence of the scenario was hypothesised to be an overt strategy to regulate the emotion tone and/or intensity elicited by the pretend creature (Golomb & Galasso, 1995). The different patterns of modification across the Monster and Kitten Conditions indicated that some children were responding to the intended valence of the scenario. Efforts to modify negative valence were only observed in the Monster Condition. This is consistent with Golomb and Galasso, who found children decreased the negative valence of a monster, and increased the positive valence of a rabbit. Not all children made modifications to the scenarios. It is possible that children who did not modify the intended valence of the scenario did not have the pretend play skills to do so. This is unlikely, as the quality of pretend play did not differ between children who made modifications, and children who did not.

It is plausible that these modifications are merely extensions to the theme of the game rather than the child's attempt to regulate emotion. As meta-emotion is difficult to determine without self report (Russell, 2003), children's intentions were inferred from the whole emotion context, and in particular from the function of their modifications within the context of the current pretend play game. In the Kitten Condition, changes to the theme of the scenario increased the positive valence, and were accompanied by the expression of positive emotion tone. In the Monster Condition, there were increases in the negative valence of the scenario, but these were also accompanied by the expression of positive emotion tone. It appears that some children can tolerate greater levels of negative arousal, and the modifications intended to increase negative valence are functionally equivalent to modifications that increase positive valence. Increased intensity of positive

emotion elicited by modifications would support participation in the game (Campos et al, 1994); however, several children were able to sustain play without doing so. Decreased intensity of negative emotion elicited by modifications would also support participation in the game, and this process was reflected in modifications that made the monster less aversive. These modifications appear more purposeful than changes to increase positive valence. For example, changing the "scary" monster to a "friendly-baby-one" has significantly more impact on the emotional valence of the creature than changing the colour from "green" to "blue."

The flexibility of a play partner is important in whether or not strategies such as modifying the intended valence of the scenario are successful. In the current "pretend creature in a box" scenario, children's modifications were not directly disagreed with, and consequently their strategy was effective in changing the valence of play. If children's modifications to the valence of the scenario had not been as functional, the proportion of children who refused to approach the box in the set emotion regulation task may have increased. In an everyday play context it is possible a play partner may insist on pretending there *is* a *very scary* creature. In this context, the same modifications would not function to decrease arousal and children may be more likely to discontinue the game.

Children were more likely to modify the "pretend monster in a box" scenario if it was the second scenario they completed. This finding was unexpected, and indicates that previous experience with the box influenced whether or not children modified the negatively valenced scenario. This group of children (who completed the Monster Condition second) had more trials of the box being empty and therefore possibly perceived the activity as low risk for

aversive outcomes. Children are more likely to engage in pretence when the possibilities of aversive outcomes are low (Woolley, 1997). Engagement in pretence facilitates increased emotion intensity, and regulation of that intensity using strategies such as modifying the intended valence of the scenario may be more likely.

Spontaneous Approach to the Box During the Presentation of the Scenario.

During the presentation of the scenario many children physically approached the box with the intent of exploring the contents. Approach is a key dependent variable in the set emotion regulation task, however many children spontaneously approached the box while talking about the characteristics of the creature, before the task was introduced. Harris et al. (1991) and Johnson and Harris (1994) did not report any equivalent behaviour, whereas Golomb and Galasso (1995) did. Differences in the physical context may explain the increased rate of approach to the box in Study 1 and Golomb and Galasso's experiment two, as in these studies the box was within reach of the child when the pretend creatures were introduced. Permission to touch may also explain the increased rate of approach to the box. Study 1 and Golomb and Galasso's experiment two embedded the "pretend creature in a box" scenario in a pretend play game, where children were free to explore all of the materials as they wished. Permission to explore the boxes during the presentation of the scenario may not have been as free in the Harris et al. and Johnson and Harris studies, as children were seated away from the box. The rate of spontaneous approach in Study 1 was greater than that reported by Golomb and Galasso. Difference in theme may explain why less

children in the Golomb and Galasso's experiment two approached the box as the creatures were introduced. Children were asked to pretend to hide from the monster, which precludes approaching the box.

Common Responses Across the Set Emotion Regulation Task in Each Condition

The Kitten Condition was designed to be a comparison context, where there was no challenge for children in approaching the box when prompted. However, the majority of children made the same response to the set emotion regulation in the two conditions. Children who refused to approach the box did so in both conditions. Children who did approach the box tended to agree or disagree there was a creature in both conditions. There was a group of children who disagreed there was a creature in one condition, but agreed in the other. This group did not have a consistent pattern of responses across conditions. Half disagreed in the Monster Condition and half disagreed in the Kitten Condition, which suggests that neither scenario was consistently more influential. The similarity in patterns of responses for the Monster and Kitten Condition suggests that individual differences cannot be attributed to regulation of the intended positive or negative valence of the scenarios.

The standardised presentation of the two scenarios meant they had several common features and it is possible that there was an unintended common element in both conditions, which influenced children's emotion during the "pretend creature in a box" scenario. It is more likely that the scenarios present a common challenge for children. For possible explanations as to what that challenge might

be, it is necessary to further understand children's responses at the major point of individual differences.

Set Emotion Regulation Task in the Monster Condition

Responses when asked to approach the box. Approach was again examined when children were specifically asked to approach the box and put a hand in. The purpose of the set emotion regulation task in the Monster Condition was to elicit individual differences in the regulation of negative emotion tone and intensity. How children approached the box in the set emotion regulation task was hypothesised to be the focal point of individual differences; however, this was not the case. In their version of the "pretend creature in a box" scenario, Harris et al. (1991) found individual differences in wariness when children were asked to approach the box. Similar responses were expected in the current study, however, only a small proportion of children made responses that matched those described by Harris and colleagues. The majority of children did not hesitate to put a hand in the box without looking.

The high rate of spontaneous approach behaviour during the presentation of the scenario, and the high rate of approach behaviour on request implies that the Monster Condition did not elicit negative emotion that potentially undermined "approach, appraisal, and modulation" as described by Fein (1989). As discussed above, there was a group of children who made modifications to decrease the negative valence of the scenario and all of these children approached the box on request, which indicates that this was a usefully regulation strategy to support approach for some children. The group of children who refused to approach the box on request did not make similar modifications.

Responses when exploring the box. A possibly more revealing focal point for individual differences is how children responded when they put a hand into the box. At this point, the majority of children in each condition discontinued the pretence by disagreeing there was a pretend creature. Harris et al. (1991) and Johnson and Harris (1994) did not report the behaviour of children after they had explored the box. Golomb and Galasso (1995) reported that the children in their study kept playing the pretend game after they had explored the box. It was not expected that children would discontinue pretence at this point, and in the Kitten Condition it was not expected that children would discontinue pretence at all. In a sense children appeared to complete half of the set emotion regulation task. They continued the game by approaching the negatively valenced creature, but then ended the pretence. Which raises the question, why did they end the pretence at this second point?

If lack of interest explained children's behaviour at this point I would have expected lack of interest and/or engagement was related to disagreeing there was a creature, however they were not. All children who disagreed there was a creature were interested and engaged in the theme prior to this point. Children remained engaged in the pretend treasure hunt game after the set emotion regulation task. They did not move to an alternative activity, ask to leave or stop interacting with me, which implies they did not intend to end shared play at this point. Further evidence against lack of interest of engagement is the finding that children could be repeatedly engaged in the "pretend creature in a box" scenario. Many children spontaneously engaged in this game while tidying away the box. Children's interest and engagement did not decline the second time they participated in the scenario.

Continuing pretence once a child had put his/her hand in the box did require that the children had the ability to make an ideational transformation to create the creature. Children's quality of pretend play was not related to the type of response they made on the set emotion regulation task, and so all children were assumed to have the ability to make the transformation. A lack of pretend skill cannot readily account for the responses of children who discontinued pretence.

Children disagreed there was a creature by spontaneously commenting on its absence. The ongoing pretend theme was not designed to elicit comments on the presence/absence of the creature. In the studies by Harris et al. (1991) and Johnson and Harris (1994) children were specifically asked about the pretend/reality status of the creature. No such questions were included in this study as children's ability to distinguish between pretend/reality was not the focus of this research. As in the study by Golomb and Galasso (1995), it was expected that children would maintain pretence while interacting with the box.

Children's modification of the theme of the scenario was related to disagreeing there was a creature in the box. However, modification of the scenario was proposed by Golomb and Galasso (1995) to support *approach* to the task, and it is unclear how modification of the scenario would relate to children's response once they had put a hand into the box. It seems unlikely that an overwhelming experience of negative emotion could explain the responses of children who discontinued pretence when they put a hand into the box.

Cognitive Responses in the "Pretend Creature in a Box" Scenario

As described above children disagreed there was a creature in the box by spontaneously commenting on the absence of the creature. Harris et al. (1991) and

Johnson and Harris (1994) reported comments on the presence/absence of the creature. A new study by Bouchier and Davis (2000) reported spontaneous comments about the presence/absence of the creature in their version of the "pretend creature in a box" scenario. In experiment three of Bouchier and Davis' study, children were asked to either open or discard two boxes, one containing a positively valenced pretend entity, and the other a negatively valenced pretend entity. When asked the reasons for opening of discarding, children gave justifications that included the possible presence and/or absence of the pretend entities.

Research examining children's cognition about real and pretend creatures has clearly demonstrated that four-year-old preschool children can accurately identify what is real and what is not when asked (e.g., Golomb & Galasso, 1995; Harris et al. 1991; Johnson & Harris, 1994). However, it is entirely possible that there are multiple cognitive responses to the "pretend creature in a box" scenario as it was presented here. Evidence for multiple cognitive responses to the "pretend creature in a box" can be found in both Harris et al.'s (1991) and Johnson and Harris' (1994) experiments. Children answered correctly when asked if the creature was real, however, some children admitted to wondering if there might have been a real creature at some point during the experiment. Some children gave magical explanations for how a creature may have entered the box.

In the current study, I did not directly question children as to what they thought about the real/pretend status of the creature. It is possible that children were at least changing their thinking during the scenario, given that approximately one third of children in each condition changed from initial disagreement that the box contained a pretend creature, to agreement that it did. Although children had

seen that the box was empty shortly before the "pretend creature in a box" began, more than half of the children in each condition asked for the box to be opened. More than half of the children in each condition then tried to open the box themselves.

Why do children wonder about the pretend/reality status of the creature? Lillard (1994) described certain conditions in which children's behaviour seems as though they wondered if something that is pretend might be real. Children who suspect they are being deceived by an experimenter may behave as though a pretend entity was real. In Study 1 children were familiar with me. The experiment was conducted in a setting where familiar adults often engage children in play. In addition children were given the empty box to explore and the box remained within their view throughout play. These contextual variables were thought to lessen the possibilty that children would react with suspicion to the "pretend creature in a box" scenario.

One explanation for multiple cognitive responses to the "pretend creature in a box" presented by Harris et al. (1991) includes transmigration, where children are unsure about the causal links between imagination and reality. However, Johnson and Harris (1994) did not find any support for this explanation. Children's responses in this experiment did not reveal any mistaken beliefs about "pretend" turning into "real" or vice versa. Harris et al. (1991) also put forward the hypothesis that children experience multiple responses to the "pretend creature in a box" due to cognitive availability. According to this explanation, when pretend entities are brought to mind with ease, the subjective probability that the entity might actually exist increases. Children respond to the subjective probability by investigating the creature in the box.

Aspects of how the scenarios were presented could have increased the likelihood that children's cognitive responses included "magical thinking", where the possibility, however small, that a real creature had somehow made its way into the boxes was considered. Magical thinking is defined as hypothesising about the occurrence of events that contradict the laws of nature (e.g., making a wish) (Nemeroff & Rozin, 2000). All children, regardless of their ability to distinguish between real and pretend entities, engage in magical thinking (Woolley, 1997). Magical thinking is more likely under the conditions where someone else has thought of it first, where there is no contradictory evidence, and where entertaining the idea will not have any aversive outcomes (Woolley, 1997). Pretend play is a safe and appropriate context to entertain the idea of impossible events. In the current study "safety" was further enhanced by showing the child that the box was empty before play, and informing them that the creature was pretend during play. Despite this prior evidence, the fact that the creature was obscured in a box during the pretence meant the children did not have any immediate information that would contradict magical thinking.

The role of emotional reactions in wondering. The "pretend creature in a box" scenario elicited a meaningful change in emotion, as seen by the significant interest shown in the valenced box. This interest was shown only when a pretend element was introduced. Consequently the scenario was characterised by high emotional intensity, which Woolley (1997) also posited to be a condition that increases magical thinking. Lillard (1994) highlighted that confusion about the pretend/reality distinction is more likely to occur in situations where the pretence elicits an intense emotional response in a child. Possible explanations for confusion in this context include emotion cuing. In accordance with the

functionalist perspective introduced in Chapter 1, emotions provide a child with information that assists to co-ordinate responses to his/her immediate environment. Russell's (2003) model of emotion incorporates the link between cognition and emotion. When emotion is elicited during pretence, children may attribute that emotion to a particular pretend entity. It could be that intense arousal is interpreted by the child as indicating a genuine entity, thus making it more likely that children entertain the possibility that the creature is real.

The pretend play literature emphasises that a genuine experience of emotion is not necessarily accompanied by a belief in what is causing the emotion (Golomb & Galasso, 1995). For example, an adult who can report that movies are fiction may still cry during a tragic film. Woolley (1997) proposed that children's reports on the pretend/reality status of objects or events may reflect conceptual knowledge of the situation, however their behavioural responses may reflect emotion elicited by the situation. This is supported by Lillard (1994), who emphasised that the experience of emotion elicited by fiction can influence subsequent behaviour. For example, "watching the movie *Psycho,* in which a person is killed in a shower, can leave one feeling nervous the next few times one is in a shower" (p. 220).

The anecdotes presented by Lillard (1994), and description of children's responses by Harris et al. (1991) and Golomb and Galasso (1995) described children's experience of fear in response to pretend monsters. In Study 1 there were no facial, vocal or behavioural indications that children were experiencing fear in response to the pretend monster. There were no significant differences in children's responses to the emotion regulation task in the Monster and Kitten

Condition. Thus it is unlikely that children's cognitive responses were influenced by the specific emotion of fear.

To understand children's behaviour in the scenario it is important to consider other possible sources of emotion and behaviour. As described above, it is possible that there are multiple cognitive responses to the pretend creature in a box scenario. Individual differences in how children responded to the set emotion regulation task presented in the current study could be attributed to the conflicting ideas about the pretend/reality status of the creature, and the emotion that this conflict elicited. It is possible that the children were experiencing a degree of negative emotion commonly associated with situations that have an element of *uncertainty,* in conjunction with the positive or negative emotion tone that the scenario intended to elicit.

The Influence of Uncertainty

In a context with incompatible ideas and two possible outcomes children are faced with uncertainty (Kagan, 1972). Unresolved uncertainty can be a potent stressor (Greco & Roger, 2001; Kagan, 1972; Lazarus, 1991; Monat, Averill, & Lazarus, 1972). Physiological indicators of anticipatory arousal, such as heart-rate, skin conductance, and hormonal changes, are elevated in situations of high uncertainty (e.g., Greco & Roger, 2001; Monat et al., 1972). Decision-making under conditions of risk and uncertainty is influenced by this anticipatory arousal in the form of immediate visceral reactions seen in emotion categories of fear, anxiety, and dread (Lowenstein et al., 2001). The negative tone and intensity of this emotional experience can be at odds with the cognitive appraisal of the situation. For example, some people will have an intense emotional reaction to

harmless spiders. Lowenstien and colleagues proposed that emotional responses could influence behaviour in situations of uncertainty, independently of cognitive evaluations. For example, the possibility of an aversive outcome can create intense anticipatory anxiety, despite having very low probability.

There are individual differences in cognitive and behavioural responses in uncertain situations (Sorrentino, Holmes, Hanna, & Sharp, 1995; Sorrentino & Short, 1984). High reactivity to ambiguous situations has been associated with impaired performance on cognitive processing tasks (Calvo & Castillo, 2001; Ebeling & Spear, 1980). Maladaptive cognitive and behavioural responses in ambiguous situations are key features in maintaining clinically significant anxiety (Dugas, Freeston, & Ladouceur, 1997; Freeston, Rheaume, LeTarte, Dugas, & Ladouceur, 1994; Salkovskis, 1991, 1999). Responses to uncertainty have been found to be mediated by the stable personality trait, tolerance of ambiguity (Ebeling & Spear, 1980; Furnham & Ribchester, 1995; Sorrentino et al., 1995; Sorrentino & Short, 1984). Goira (1994) found that magical thinking was more likely to emerge when people who were highly reactive to uncertainty were experiencing distress.

An Information Seeking Response

Resolution of uncertainty is a primary source of motivation (Kagan, 1972), gaining information functions to regulate the experience of anticipatory emotion associated with doubt. Adults who orient to the ambiguous aspects of a situation are more likely to explore those aspects (Sorrentino & Hewitt, 1984; Sorrentino et al., 1995; Sorrentino & Short, 1984). For example, adults who react with intense arousal to ambiguity will solicit feedback in a situation of uncertainty more

frequently than adults who have a less intense reaction (Bennet, Herold, & Ashford, 1990).

Children's approaches to negatively valenced pretend entities have been assumed to reflect a lack of negative emotion, effective regulation of negative emotion, or positive emotion paradoxically associated with the negatively valenced play content (Golomb & Galasso, 1995; Harris et al., 1991). It seems illogical that children will approach a stimulus that is genuinely aversive. In the cases of pretend/reality confusion and fear described by Lillard (1994) children responded with avoidance. However, in the event of uncertainty, approaching the negative stimulus performs an emotion regulation function. To regulate the negative arousal associated with uncertainty, humans and animals will engage in compensatory behaviour such as information seeking.

In the current study, children sought information about the content of the box throughout the presentation of the scenarios. They asked for the box to be opened and/or tried to open it themselves. When children were offered a chance to put their hand inside the box they were provided with an opportunity to gain information about the pretend/reality status of the creature. It is possible the children who put a hand into the box and commented on the absence of the creature were putting their hand in with the implicit purpose of seeking information, which reduced the element of uncertainty. The first chance they had to gain this information was in the set emotion regulation task. Disagreeing that there was a creature implies the child was seeking disconfirming information about the pretend/reality status of the creature.

While not highlighted by the authors, differences in information provided to children may explain differences in proportion of children who approached the

box in the studies by Harris et al. (1991) and Golomb and Galasso (1995). A subtle but fundamental difference in the procedures of these two studies was the provision of visual information about the pretend/reality status of the creature. Golomb and Galasso allowed children to explore the boxes and gain visual information about the pretend/reality status of the creature. Consequently, the subjective probability that there was a real creature is dramatically reduced. Harris and colleagues did not give the children an opportunity to access this information until after the researchers had observed children's responses to the "pretend creature in a box". It was this section of the experiment that Harris et al. (1991) described approach behaviour that was thought to indicate confusion about the pretend/reality status of the creature.

Bourchier and Davis (2000) investigated the influence of information about the pretend/reality status and emotional valence on children's approaches to pretend entities. They presented children with three opaque boxes that contained a negatively valenced pretend item, a positively valenced pretend item, and a neutral pretend item. The children were then asked to approach the boxes in any order they wanted to. In this condition they found a group of children who preferred to approach the monster box before the positive or neutral box. When the same experiment was conducted with transparent boxes this pattern of responding did not appear. They hypothesised that the combination of lack of information and the negative valence of the monster in the first experiment created a situation of uncertainty and possible risk.

Uncertainty and Information Seeking in Study 1

The individual differences observed in this study occurred as only some children wonder, engage in magical thinking, experience uncertainty and concurrent anticipatory emotion. Of the group of children who experience uncertainty only some will regulate this experience by seeking information. In the current study there were individual differences in information seeking. The children who did not put a hand into the box in either the Monster or Kitten Condition asked for the box to be opened, but when given an opportunity to gain information arose they did not take it. In contrast, the other children did put a hand into the box. Some children disagreed there was a creature in one condition only. The majority of children disagreed in both conditions.

If children indicated their experience of uncertainty by disagreeing, then what explains the relationship between children's modifications of the scenario and this response? It is possible the differences occurred in the aspects of the game to which children attributed changes in core affect. Children who modified the scenarios attributed the changes in core affect to the pretend creature in the box and consequently focused on the theme of the pretend game. Alternatively, children who attributed the changes in core affect to the indications of uncertainty focused on gaining information. It appears unlikely the modification of the theme had a direct role in regulating the children's experience of uncertainty since this behaviour did not provide information about the pretend/reality status of the creature. It is also possible that uncertainty provides an explanation for order effects found in children's modifications of the negatively valenced theme. Previous learning may have decreased the influence of uncertainty. Decreased uncertainty may have allowed children to engage in the intended negative valence

of the scenario. Consequently, these children may have been more likely to engage in regulation of the intended valence of the scenario.

Summary

As expected, children became interested and engaged with the box once a pretend creature had populated it. They approached both the positively and negatively valenced boxes spontaneously or when prompted. These results indicated that the "pretend creature in a box" scenario was a useful imaginary context to elicit meaningful changes in emotion. However, its features appeared to elicit an emotional response that was different to what would be expected from the intended valence of the creature. The literature on pretence/reality confusions and uncertainty provides a plausible common element across the two scenarios. It is possible that children were experiencing multiple cognitive responses to the scenario. Likely explanations for these responses include cognitive availability, emotional cueing, and magical thinking. Less likely explanations include suspicion of deception and transmigration. Multiple cognitive responses create a context of uncertainty. Regulation of anticipatory arousal associated with uncertainty could underlie individual differences in spontaneous attempts to investigate the box throughout the scenario, and responses to gaining information about the pretence/reality status of the creature during the set emotion regulation task. To confirm this interpretation of the results of Study 1, it was necessary to investigate the hypothesis that the procedure contained an element of uncertainty that elicited anticipatory arousal.

CHAPTER THREE

Study 2: Regulation of Anticipatory Arousal Elicited by Uncertainty

Introduction

The focus of Study 2 was decided by the results from Study 1, which highlighted the potential role of uncertainty in the "pretend creature in a box" scenario. I hypothesised that uncertainty had a pervasive influence on how children responded to this scenario. The relative effect of the intended valence of the scenario was minimal by comparison. In order to better understand the experience of emotion and emotion regulation in Study 1, further investigation of the role of uncertainty was warranted.

The source of uncertainty in the "pretend creature in a box" scenario is two conflicting ideas (Kagan, 1972): one, that the creature is pretend; and/or two, that the creature might be real. Children have been shown to entertain the idea that the creature might be real in previous work (Bouchier & Davis, 2000; Harris et al., 1991; Johnson and Harris 1994). This idea is hypothesised to be generated by phenomena such as cognitive availability (Bouchier & Davis, 2000), magical thinking (Woolley, 1994), and/or emotion cueing (Lillard, 1994). All of these phenomena are probable in an adult-child pretend play context. Anticipatory arousal associated with uncertainty is proposed by Kagan to be a powerful influence in human behaviour. Knowing how to include or exclude the element of uncertainty is potentially valuable in structuring adult-child pretend play. Inclusion of uncertainty is useful if that is the key experience of interest to a clinician. However, as the anticipatory arousal associated with uncertainty can

have a pervasive influence over some children, exclusion is essential in order to investigate an alternative experience.

Key Differences Between Study 1 and Study 2

For the second study, the design of Study 1 was varied to include the hypothesis that the "pretend creature in a box" scenario created an experience of uncertainty for a group of children. A new variable was introduced; the provision of information about the content of the box. In Bourchier and Davis's (2000) study the provision of visual information about the pretend/reality status of the creature changed how children interacted with the box. Based on those observations, I introduced a condition where children received visual information about the contents of the box, which provided a context with no uncertainty. In Study 1, children did have some information, in that they were told the creature was pretend in the context of a pretend game. Verbal information is potentially another variable that mediates uncertainty, and so I also introduced a condition where the child was reminded that the creature was pretend. This provided a context with some uncertainty. These two conditions were compared with a third condition in which the child was not given any information about the pretend/reality status of the creature. This provided a context of high uncertainty. In accordance with Study 1, children were further allocated to a positively valenced condition (Kitten Condition) and a negatively valenced condition (Monster Condition). This was intended to provide an opportunity to review the influence of the valence of the scenario on children's responses.

Three further aspects of the procedure used in Study 1 were changed. Firstly, the set emotion regulation task presented could not be repeated since the

addition of the component where a child puts a hand in the box provides all children with information. Secondly, my role in the scenario changed from providing information about the characteristics the creature to providing prompts in the form of questions only. Consequently, the only information that children received about the creature was whether it was a kitten or a monster, and the visual, verbal, or no information given in each condition. Thirdly, this experiment did not use a repeated measure design. Children completed either the Monster or the Kitten Condition. Consequently there could be no carry-over effects of information gained in previous experience with the box.

The dependent variable in this study was the children's spontaneous interactions with the emotionally valenced box. I expected that a greater proportion of children in the no information condition would spontaneously investigate the contents of the box, than in the two information conditions. I also expected that the children who were motivated by information seeking would approach the box more quickly than children who were not. I did not make a specific prediction as to the influence of the emotional valence of the scenario, given that there were no significant differences between these two conditions in Study 1.

Modification of the Scenario

Study 2 also aimed to further explore the finding from Study 1 that children's modifications of the scenario were related to their responses to the creature in the box. The original hypothesis was that modifications to the intended valence of the scenario had an emotion regulation function supporting approach behaviour. Study 1 raised a further hypothesis about how these same

modifications were related to children's experience of uncertainty. In Study 2, I expected that children who did not modify the scenario would be more likely to approach the box in the conditions of uncertainty.

Pretence Skill and Responses During the Scenario

In Study 1 engagement in the scenario proved to be unrelated to the ability to make object and ideational transformations. This was further examined in Study 2 by directly assessing children's ability to pretend that there was a creature in an empty box. After the experiment was completed, children were asked to pretend there was a creature in the empty box, show it to me, and answer my questions about the creature's appearance, friendliness, and possible activities.

Method

Participant Selection and Characteristics

The participants in Study 2 were selected from the same population as Study 1. Children were invited to participate if they were aged between four and five years, and attended a kindergarten five mornings per week. Teaching teams from six kindergartens were contacted via the same kindergarten association as in Study 1. They were provided with information about the project (see Appendix H), and agreed to participate.

All parents of children who attended these six kindergartens were provided with information about the project. I distributed information sheets and consent forms through the usual mailing systems in each kindergarten. A six-sided brochure format was used to present the information sheet and consent form (see Appendix I). The information sheet encouraged parents to ask questions about the

research, and they were able to contact me by phone, e-mail, or a meeting. If parents chose to be involved they then returned the consent form to a box in their kindergarten. Parents also provided information about their child's age and ethnicity using a questionnaire sent directly to their home address (see Appendix C).

The final sample consisted of 22 boys and 32 girls (M = 56.2 months, SD = 2.7 months). Four children were absent from kindergarten for part of the data collection. One child was omitted from the study, as he did not want to participate in the task. One child who had recently immigrated from Russia was omitted, as there was some doubt as to whether her receptive and expressive language skills were sufficient to participate in the task. Socio-economic characteristics of this sample were taken from the New Zealand Ministry of Education ratings of the socio-economic characteristics of families in the area zoned for each kindergarten (see Appendix D). This sample consisted of children from areas of medium (75.1%) to high (11.1%) socioeconomic status, with one kindergarten in a low socioeconomic area (14.8%). The majority of children came from families identifying as Pākehā (66.7%). Other families identified as Māori, Māori-Pākehā or Cook Island Māori, (16.7%), and Asian (11.1%). Data on ethnicity were not available for three children.

Materials

Pretend play materials. Each play session was conducted using a variety of everyday toys including building blocks and figurines as presented in Study 1 (see Appendix J). The toys used had a variety of themes including farm, house,

emergency services and action figures. All interactions were recorded using a Sony EMC-T110 camera and tripod stand.

Boxes. The box and lid used in Study 2 were the same colour and style as those used in Study 1 (see Appendix J). In Study 2 it was decided to use a smaller size (15cm X 15cm) box it was easier for me to maintain control over the box while presenting the emotionally valenced scenarios.

Procedure

Ethical approval was obtained for Study 2 from the Human Research and Ethics Committee, Psychology Department, University of Waikato. Consent to conduct this study was also obtained from the Waikato Kindergarten Association, and from parents/caregivers of the children involved.

The procedure for initiating contact with the children in the kindergarten in Study 2 was the same as in Study 1. As primary researcher, I conducted all play sessions. The children participated in two structured play session during their regular kindergarten programme. The sessions were conducted in an open, but quiet part of the kindergarten building. Teachers were instructed to introduce me to all the kindergarten children during group mat-time, and explain that some of the children's parents had given permission for them to spend some time with me.

Each child was seen individually. Before the initial play session I informed each child that he/she "could play a game with me if they would like to." I also informed them that the game was going to be videotaped, and reassured them that videotaping was easy. Children who did not want to participate on the day were told that it "was all right if they did not have a turn now, but if they changed their

mind later on they could still have a turn." Children who gave their verbal permission completed two structured play sessions within the next three days.

Structured play session one. Children were introduced to the play materials and the theme of a pretend treasure hunt game in an initial play session. This session began with the child being invited to have a look at the "stuff" I had brought from home. Children were asked if they "had toys like this at home?", and did they know "how the building blocks went together?" I demonstrated some of the toys (e.g., "Tigger™ bounces"), and then asked the child to demonstrate how he/she would work the toy. To begin pretend play I said, "I like to play pretend treasure hunt games" and asked the child if he/she would join in this game.

Play then continued for 10 to 15 minutes. The theme of the treasure hunt game involved identifying pretend characters, making a pretend boat and associated items such as pretend treasure maps. The actual timing of the introduction of each of these prompts was flexible to maintain a useful level of responsitivity between players in the game. Children's own suggestions for play were incorporated into the game. The play session was designed to be as reciprocal as possible without compromising the standardisation of the experimental context. I gave set prompts for the treasure hunt game (see Appendix K). The children's responses to those prompts were followed, thus introducing variability in the play format. At the end of this time each child was praised, complimented on his/her play skills, and given a sticker as a thank you for sharing play activities.

Structured play session two. In the second play session each child was allocated to one of six conditions. Children were divided into the Monster or

Kitten Condition, and then allocated to a No Information, Visual Information, or Verbal Information Condition. I guided the play sessions through the six stages presented in Figure 3.1.

Stage 1 introduced the neutral box. In the first few minutes of the second session each child was oriented to a neutral brown box and encouraged to look inside. Once it had been established that there was nothing in the box, I moved it to the side of the play area. Stage 2 began immediately after this. It consisted of a re-enactment of the treasure hunt game that had been played in the first session. Stage 3 began after 7 to 10 minutes of play, when the neutral box was reintroduced into the context of this game according to the "pretend creature in a box" scenario. In stage 3 the children were divided into two groups. One group completed the Monster Condition, where the child was encouraged to imagine there was a pretend monster in the box. The other group completed the Kitten Condition, where the child was encouraged to imagine there was a pretend kitten in the box (see Appendix L). Children were randomly allocated to each condition. Unlike Study 1, each child only completed one condition.

The box was introduced by my character finding the box and pretending to hear a noise inside it. My character told the child she could hear growling (Monster Condition) or purring (Kitten Condition). My character suggested it was a monster/kitten, and proceeded to ask the child questions about the creature in the box. The questions were the same as in Study 1: "What does it look like?" "Do you think it's friendly?", and "What would it do if it got out?" I increased the emotional valence of the scenario using exaggerated facial and vocal expression when asking the questions. Unlike Study 1, my character did not provide prompts.

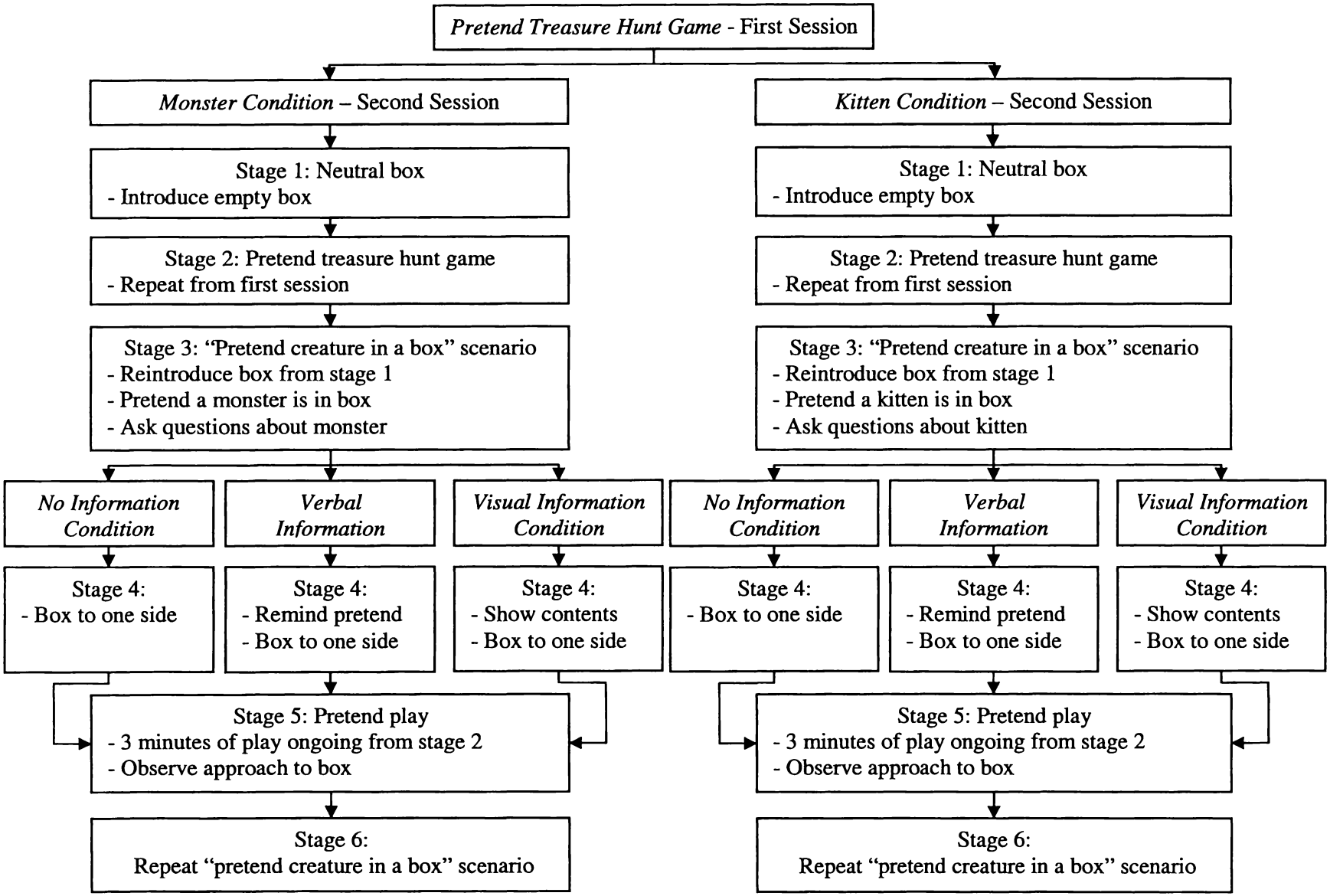

Figure 3.1. The six stages of the experiment in Study 2.

Stage 4 began after the child had answered the question "what would it do if it got out?" In this stage each child was allocated to a No Information, Visual Information, or a Verbal Information Condition. Again children were randomly assigned to each condition. If the child was not given any information, my character told him/her that the monster/kitten was not making any noise, and was asleep. The box was then put to one side. If the child was given verbal information, my character told him/her that the creature was not making any noise and was asleep; I then reminded the child that the creature was pretend, and the box was put to one side. This reminder was given in a non-pretend way (i.e., without any pretend voices or pretend actions). If the child was given visual information the lid was removed from the box, and my character asked the child's character to look inside. My character told him/her that the monster/kitten was asleep. If the child disagreed that there was a creature in the box, I continued the game by repeating that the creature was asleep. The lid was put back on the box before it was put to one side. The closed box was kept within the view of the child in all conditions. The box was kept the same distance from the play area in all conditions. To minimise the impact of experimenter bias on the children's behaviour a standardised script was adhered to during the pretend treasure hunt game, the presentation of pretend creature, and in what information was provided for the children. To further minimise the potential for bias I did not review any videotaped data until collection was complete.

Stage 5 began after the box was put to one side. There was a 5-second pause before my character directed attention back to the pretend play game. Play continued for another three minutes according to the script presented in Appendix K. After three minutes, play was stopped and a sticker was presented to signal the

end of the game. Stage 6 was conducted while tidying away the toys. The box was again presented to the child, who was free to remove the lid. I asked the child to pretend there was a monster/kitten the box and show it to me. I then asked the same three questions about the monster/kitten as before: "What does it looks like?" "Is it friendly?", and "What would it do if it got out?"

Observational Variables

A list of the variables observed at each stage of the experiment is presented in Appendix G. The variables are described in detail below.

Pretend play coding schedule. Each child's level of pretend play was assessed in the second structured play session. The pretend play coding schedule used in Study 1 was also used in Study 2 (Table 2.2, p. 42). Two samples of pretend play were taken. The first sample was taken from stage 2. It consisted of the last three minutes of pretend play prior to the "pretend creature in a box" scenario in stage 3. The second sample was taken from stage 5. It consisted of the three minutes of play after the information about the pretend/reality status of the creature had been given in stage 4. Each sample was divided into 30-second intervals. Each interval was rated according to whether the child was engaged in pretend play, non-pretend play, or no play. Pretend play was operationalised as any non-literal treatment of objects, setting, and/or identity (De Lorimier et al., 1995). The level of pretend play was rated according to McLoyd's (1980) scale of object modes of transformation, and ideational modes of transformation (Table 2.2, p.53). Children were awarded a credit if they engaged in any of these categories of transformations during the 30-second interval, which were then summed to give a total score for ideational and object transformations. I initially

rated all of the children's object and ideational transformations. To establish reliability, a graduate psychology student concurrently rated 20% of the sample selected at random. Interrater reliability was established using Cohen's kappa. Interrater reliability was .94 for the object transformation scale, and .97 for the ideational transformation scale.

Level of interest in the box. As in Study 1, children were rated on the level of interest they displayed in the neutral box during stage 1 of the experiment using the 6-point Likert scale shown in Table 2.4 (p. 57). Children were also rated on the level of interest they expressed in the valenced box during stage 3 of this experiment. Interest in the valenced boxes was rated using the 6-point Likert scale shown in Table 2.5 (p. 57). I initially rated all of the children's responses. A graduate psychology student independently rated 20% of the sample selected at random. An interrater agreement of 87% was established for the neutral box, and 100% for the valenced box. In the one case of a disagreement between the graduate student and myself, we both re-rated the child's response and reached a consensus.

Level of engagement in the "pretend creature in a box" scenario. Answers to the questions my character posed about the monster's/kitten's appearance, friendliness, and possible actions during stage 3 were used to rate the child's level of engagement in the "pretend creature in a box" scenario. Children's answers were rated in accordance to the quality of information they gave. A low rating indicated no response and a higher rating indicated an answer with relevant information. Ratings for the three questions were then summed to give an overall score. Whether the child agreed or disagreed there was a creature throughout the scenario was also noted.

Modifications to the "pretend creature in a box" scenario. As in Study 1, responses that modified the intended valence of the scenario during stage 3 were recorded. The responses that children provided to the questions my character asked about the creature's appearance, friendliness, and possible actions, as well as any spontaneous comments, were rated in terms of whether they increased or decreased the intensity of the intended emotional valence of the scenario. A comment was considered to be a moderating statement if it changed the type, appearance, and actions of the monster/kitten; for example, a child might increase the number of kittens in the box. A comment was also considered a moderating statement if a child attributed any features to his/her character that moderated the creature's possible interaction. For example, saying that "all monsters like me" limits the creature interactions to friendly encounters.

Responses to information about the pretend/reality status of the creature. Children's responses when information was given about the pretend/reality status of the creature during stage 4 were recorded. Of interest were the comments that they made about the creature, and how they interacted with the box. The transition between ending the "pretend creature in a box" scenario and resuming the hunt for pretend treasure was also observed. This transition was rated in terms of whether or not children remained orientated to the box.

The dependent variable of interest in Study 2 was whether or not children approached the box during stage 5, after the "pretend creature in a box" scenario was ended and information had been given. Children were engaged in the treasure hunt game for three minutes after the box was put to one side of the play area. For children who approached the box, two observations were made. Firstly, the time elapsed since the "pretend creature in a box" scenario was ended. Secondly, how

the children interacted with the box as they approached. Any comments about the pretend/reality status of the creature were recorded.

When the treasure hunt game was over and children had tidied away the toys, they were asked to hold the box and pretend there was a monster/kitten inside. During stage 6, a variable of interest was whether or not children were able to make the ideational transformation necessary to do this task. I asked each child the same three questions my character had asked during the "pretend creature in a box" scenario in stage 3. Answers were rated as in stage 3, and then summed to give an overall score for engagement in the scenario.

Results

For all analyses conducted using parametric tests the assumptions of normal distribution and homogeneity of variance were evaluated as satisfactory. The majority of testing in this study was conducted using non-parametric procedures. All statistical tests were conducted with a significant level of .05. The programme Statistica was used to calculate all statistics.

Observations of Pretend Play

Children typically agreed to play the pretend treasure hunt game using the cues I presented. They selected a variety of characters, often choosing to be superheroes, a type of animal, a pirate, or a family member. Brief episodes of non-pretend play were observed. As in Study 1, children typically asked questions about the toys or explored new toys when they stopped pretend play.

Quality of Pretend Play. A percentage score was derived by calculating the total number of credits divided by the number of possible credits for ideational

transformations (M = 18.0%, SD = 10.8%), and object transformations (M = 32.6%, SD = 11.0%). Overall, children made significantly more object transformations than ideational transformations, t (54) = 9.84, $p < .001$.

Neutral Box

The majority of children stated there was nothing in the box in stage 1, and willingly engaged with an alternative toy. Three children suggested an activity to do with the box. Of these children, one did not want the box put away. Children typically showed minimal to mild interest in the neutral box.

Valenced Box

Level of interest. Children typically showed quite to extreme interest in the valenced box presented in stage 3. There was a significant difference in the level of interest shown in the neutral box and the valenced box, Wilcoxon z = 6.10, $p < .001$. The level of interest shown in the valenced box was not significantly different between children in the Monster Condition and children in the Kitten Condition, Mann-Whitney U, $z = .43$, $p > .05$.

Engagement in the "pretend creature in a box" scenario. All but two children responded to my character's prompt to listen to a sound in the box. The two children who did not respond were focused on trying to open the box. As in Study 1, children tended to disagree in their initial responses and then change their pattern of responding. Overall, 22% of the children disagreed that there was a creature at some point during the presentation of the scenario. There was no significant difference in the proportion of children who disagreed there was a creature in the Monster Condition and proportion of children who disagreed there

was a creature in the Kitten Condition, Pearson $\chi^2(1, N = 54) = .25, p > .05$. All children included in this analysis agreed there was a creature for the majority of the "pretend creature in a box" scenario. The majority of children gave an answer to all three questions asked by my character. Children who did not answer the questions were focused on trying to open the box, or asking for it to be opened.

Sixty-two percent of the children answered the question *"What did the monster/kitten look like?"* They typically gave a short description of the physical characteristics of the colour, shape, and texture of the creature. For example, monsters were green with three eyes, and kittens were multi-coloured and fluffy. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(3, N = 54) = 2.40, p > .05$.

Ninety-four percent of children answered the question *"Was the monster/kitten friendly?"* Children typically said it was friendly. In the case of the monster they added information such as "it's a baby monster so it's a friendly one." No children disagreed there was creature at this stage. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(2, N = 54) = 3.80, p > .05$.

Seventy-six percent of children answered the question "*What would the monster/kitten do if it got out?"* Typical answers were consistent with the behaviour of monsters and kittens. For example, monsters would "scare the whole kindergarten" and kittens would "play with us." Several answers related to the previous pretend game. For example, the creature might "steal our treasure" or "go on our boat." Three percent of children disagreed there was creature at this

stage. There was no significant difference in the proportion of children who answered this question between the Monster Condition and the Kitten Condition, Pearson $\chi^2(3, N = 54) = 2.94, p > .05$.

Ratings of responses to each of these three questions were summed to give an overall score for level of engagement in the "pretend creature in a box" scenario. Lower scores indicated less engagement in terms of how many questions were answered and the quality of those answers. Higher scores indicated more engagement with more questions answered to a higher quality. There was no significant difference in level of engagement in the scenario between children in the Monster Condition and children in the Kitten Condition, Mann-Whitney *U*, $z = .46, p > .05$.

Children were asked to pretend there was a creature in the empty box again in stage 6, after the experiment was complete. Eighty-five percent of children made a pretend transformation and 15% of children did not. Of the 15% who did not make the transformation, all had pretended there was a creature at some point during the initial presentation of the scenarios in stage 3. This group was not significantly different from children who did pretend there was a creature in terms of their level of engagement in the scenario, Mann-Whitney *U*, $z = 1.59$, $p > .05$. There were no significant differences between these groups of children in scores for object transformations, $t(52) = 1.27$, $p > .05$, or ideational transformations, Mann-Whitney *U*, $z = 1.15, p > .05$.

Attempts to investigate the content of the box. Throughout the valenced box scenario 50% of the children asked for the box to be opened (see Table 3.1). There was no significant difference in the proportion of children who asked for the box to be opened between the Monster Condition and the Kitten Condition,

Pearson $\chi^2(2, N = 54) = .001, p > .05$. Sixty-seven percent of children either touched or tried to open the valenced box. There was no significant difference in the proportion of children who investigated the box by touching between the Monster Condition and the Kitten Condition, Pearson $\chi^2(3, N = 54) = 3.39, p > .05$.

Table 3.1

Proportion of Children Who Investigated the Box by Touching in the Monster and Kitten Condition

	Condition	
Type of Touch	Monster (%)	Kitten (%)
Did not touch	31.0	25.0
Some touching	7.0	4.0
Attempted to open/opened	62.0	71.0

Modification of the Scenario

Overall, 46% of children changed the emotion tone and/or intensity of the scenario by modifying the theme (see Table 3.2). Eleven percent of the children in the Monster Condition modified the scenario to increase negative emotion tone and intensity, and 37% modified the scenario to decrease negative emotion tone and intensity. In the Kitten Condition, 46% of children modified the scenario to increase positive emotion tone and intensity. The proportion of children who decreased intensity was significantly higher in the Monster Condition, Pearson $\chi^2(2, N = 54) = 15.23, p < .001$, Cramér's $V = .53$.

Table 3.2

Proportion of Children Who Modified the Intended Valence of the Monster and Kitten Scenario

	Modification of Valence		
Condition	None (%)	Decreased (%)	Increased (%)
Monster	52.0	37.0	11.0
Kitten	54.0	0.0	46.0

The proportion of children who asked for the box to be opened during the presentation of the scenario was not significantly different between the group who modified the scenario, and the group who did not, Pearson $\chi^2(1, N = 54) = .04, p > .05$. Similarly, the proportion of children who tried to open the box during the presentation of the scenario was not significantly different between the group who modified the scenario, and the group who did not, Pearson $\chi^2(1, N = 54) = .67, p > .05$.

Information About the Pretend/Reality Status of the Creature

Responses to information. Of the children who were given verbal or visual information in stage 4 of the experiment, the majority did not make any identifiable response (see Table 3.3). Of the children who did make a response, the majority disagreed there was a creature. Children's responses were significantly related to the type of information they were given, Pearson $\chi^2(2, N = 35) = 8.48, p < .001$, Cramér's $V = .79$. The proportion of children who disagreed there was a creature was significantly larger in the Visual Information Condition

than the Verbal Information Condition. There was no significant difference in the child's response to information given between the Monster Condition and the Kitten Condition, Pearson $\chi^2(3, N = 54) = 1.62, p > .05$.

Table 3.3

Proportion of Children Who Made a Response to Verbal or Visual Information

	Response		
Condition	None (%)	Agreed (%)	Disagreed (%)
Verbal	50.0	43.8	6.2
Visual	15.8	36.8	47.4

I initially rated all of the children's responses to information given in stage 4. To establish reliability, a graduate psychology student independently rated 20% of the children in the Visual and Verbal Information Conditions selected at random. An interrater agreement of 89% was established. In the one case of a disagreement between the graduate student and myself, we both re-rated the child's response and reached a consensus.

Responses when the box was put to one side. After the "pretend creature in a box" scenario had ended and children had been given information, the box was put to one side. At this point some children resumed the pretend treasure hunt game (43%) and some children did not. Twenty-two percent of children focused on an alternative activity, and 35% of children remained focused on the box. Responses at this point were related to the level of interest shown in the valenced box, Pearson $\chi^2(3, N = 54) = 7.9, p < .05$, Cramér's $V = .39$. Children who stayed oriented to the box expressed interest in the extreme range, whereas children who

moved on expressed interest in the moderate to quite range. There was no significant difference in the proportion of children who stayed oriented to the box in the Monster Condition and the Kitten Condition, Pearson $\chi^2(3, N = 54) = .37, p > .05$. Similarly, responses at this point did not vary with conditions of uncertainty, Pearson $\chi^2(3, N = 54) = .37, p > .05$.

I initially rated all of the children's responses in stage 4. To establish reliability, a graduate psychology student independently rated 20% of the sample selected at random. An interrater agreement of 91% was established. In the one case of a disagreement between the graduate student and myself, we both re-rated the child's response and reached a consensus.

Approach to the Box after the "Pretend Creature in a Box" Scenario

Two variables of interest were recorded during stage 5. After the "pretend creature in a box" scenario had ended and the box was put to one side whether or not children approached the box, and if they did so, how they interacted with the box was recorded. Fifty-nine percent of children did not approach the box, and remained focused on the pretend treasure hunt game. Forty-one percent of children approached the box within the three minutes of play after the "pretend creature in a box" scenario had ended (see Figure 3.2). Children who approached the box interacted with it in one of two ways: They either played with the box, or checked the content of the box. Fifty-nine percent of children who approached the box included it into the context of the pretend treasure hunt game. For example, one boy said, "let's lock the baddies in that box" and put his toy into the box without looking in or commenting on the content. Forty-one percent of children who approached the box did so outside the context of the pretend treasure hunt

game. They directly investigated the content of the box. For example, one girl said "I think we should open it now", removed the box lid, looked inside, and commented, "the monster is gone." This group of children appeared to check on the content of the box.

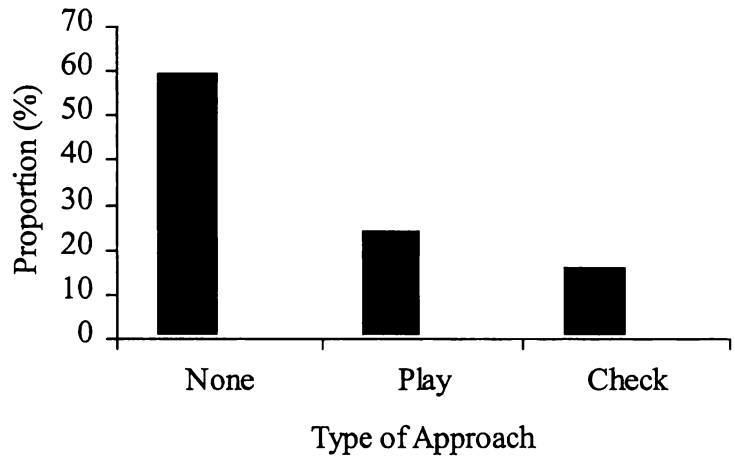

Figure 3.2. Proportion of children who approached the box during stage 5.

I initially rated all of the children's responses. To establish reliability, a graduate psychology student independently rated 20% of the children who approached the box at random. Because the children's responses were clear and easily coded there was complete interrater agreement.

The number of seconds before children approached the box ranged from 1 to 93 ($Mdn = 10.56$, $LQ = 3.89$, $UQ = 28.33$). Of the children who approached the box, 86% did so within 60 seconds of the end of the "pretend creature in a box" scenario. Children who investigated the content of the box approached the box significantly more quickly than children who incorporated the box into play, Mann-Whitney U, $z = 1.9$, $p = .057$.

There was no significant difference in the proportion of children who approached the box between the Monster Condition and the Kitten Condition, Pearson $\chi^2(1, N = 54) = .06, p > .05$. Similarly, there was no significant difference in the proportion of children who approached the box between the Visual Information, Verbal Information, and No information Conditions, Pearson $\chi^2(2, N = 54) = .96, p > .05$. There was no significant difference in the time taken to approach the box between the Monster Condition and the Kitten Condition, Mann-Whitney *U*, $z = -1.24, p > .05$, or between the Visual, Verbal, and No Information Conditions, Kruskill-Wallis $H(2, N = 22) = 2.41, p > .05$.

In contrast, how children interacted with the box was significantly related to what information they had received about the pretend reality/status of the creature (see Figure 3.3).

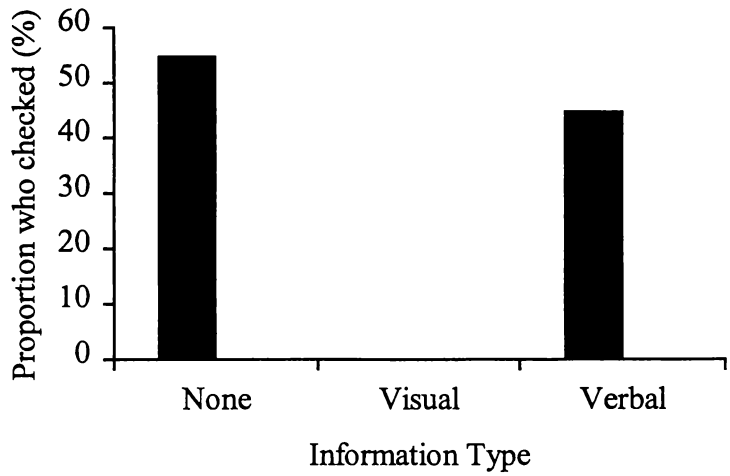

Figure 3.3. Proportion of children who checked the content of the box in each information condition.

A significantly greater proportion of children in the No Information and Verbal Information Conditions investigated the content of the box, than in the

Visual Information Condition, Pearson $\chi^2(2, N = 54) = 9.50, p < .001$, Cramér's $V = .66$. All of the children in the Visual Information Condition who approached the box after it was put to one side did so within the context of play.

Children who stayed oriented to the box at the end of the scenario were more likely to approach the box than those who returned to play, Pearson $\chi^2(6, N = 54) = 26.98, p < .001$, Cramér's $V = .66$. Of the children who approached the box, those who had stayed oriented to the box approached it sooner than those who had resumed play, Kruskill-Wallis $H(3, N = 22) = 28.00, p < .001$. While orientation to the box was related to children's approach to the box, it did not predict how they approached the box. Orientation to the box at the end of the scenario was independent of whether children investigated the content of the box or played with the box, Pearson $\chi^2(3, N = 22) = 5.45, p > .05$.

Interest and engagement in the scenario. The level of interest expressed by children who approached the box was significantly higher than those who did not, Mann-Whitney $U, z = 3.77, p < .001$. For those children who approached the box, there was no significant difference in level of interest between the group who incorporated the box into play and those who investigated the content, Mann-Whitney $U, z = -.30, p > .05$. Level of engagement shown by children who approached the box was not significantly different from children who did not, Mann-Whitney $U, z = -1.25, p > .05$. Disagreement that there was a creature in the box at some point during the presentation of this scenario was also unrelated to whether or not children approached the box, Pearson $\chi^2(2, N = 54) = .50, p > .05$. Of the children who approached the box, disagreement that there was a creature at some point during the presentation of the scenario was unrelated to how children interacted with the box, Pearson $\chi^2(3, N = 22) = 5.45, p > .05$.

Modification of the intended valence of the scenario. Given the significant differences in children's modifications of the intended valence of the scenario in the Monster and Kitten Conditions, the following analysis was conducted separately for each condition. In the Monster Condition, modification of the scenario was independent of whether or not children approached the box, Pearson $\chi^2(4, N = 26) = 5.67, p > .05$. Modification of the scenario was also independent of whether or not children investigated the content of the box, Pearson $\chi^2(2, N = 22) = 1.32, p > .05$. Modification was also unrelated to how quickly children approached the box, Kruskill-Wallis $H(2, N = 22) = .33, p > .05$.

Analysis of the Kitten Condition showed the same results. Modification of the scenario was independent of whether or not children approached the box after it was put to one side, Pearson $\chi^2(2, N = 28) = 2.73, p > .05$, and how they interacted with the box, Pearson, $\chi^2(1, N = 22) = .23, p > .05$. Modification was also unrelated to how quickly children approached the box, Mann-Whitney $U, z = -1.22, p > .05$.

Discussion

This second study adapted the procedure used in Study 1 to investigate the influence of uncertainty on children's responses to the "pretend creature in a box" scenario. The results support the proposal that this pretend context elicits an intense degree of arousal that is related to the experience of uncertainty for a group of children. The provision of visual information had a significant influence over how this group of children interacted with the box. Children who were given visual information did not check on the pretend/reality status of the creature. The intended valence of the scenario did not impact on how children interacted with

the box. It was possible that children who did not modify the intended valence of the scenario would be more likely to check on the pretend/reality status of the creature, however this was not found.

Comparison of Scenarios in Study 1 and Study 2

Repetition was useful to confirm initial observations of how children responded to the box during the presentation of the scenario. Again, children focused intensely on the box, talked about the creature, and tried to look inside. This further supports previous findings that the pretend element of the "pretend creature in a box" scenario elicits meaningful changes in emotion. Again, during the presentation of the scenario many children spontaneously approached the box. In Study 1 and Study 2 there was a similar proportion of children who tried to gain information about the box, who responded to the questions, and who disagreed there was a creature at some point in the scenario. Study 2 confirmed that children generally did not differ in their responses to the positively and negatively valenced pretend creatures.

In Study 1 it was assumed that all children were able to make the cognitive transformation necessary to pretend there was a creature in the box and to answer questions about its characteristics. Lack of skills was an unlikely explanation for the behaviour of children who disagreed that there was a creature in the box. All children who were interested in the box pretended there was a creature at some point during the presentation of the scenarios. Study 2 tested this assumption by examining children's ability make the pretend transformation. There was a small group of children in Study 2 who did not make the pretend transformation when prompted, however, they engaged in the scenario during pretend play to the same

level as the other children. They were also equal to their peers in their scores for object and ideational transformations. This indicates that these children had equivalent pretence skill, but did not respond to the prompt at that time.

Modification of the Scenario

Repetition of the scenarios in this study also confirmed initial observations of how children modified the theme in Study 1, and in how children modified the theme in the study reported by Golomb and Galasso (1995). Consistent with Study 1, some children modified the scenarios, and modification to decrease negative arousal was observed in the Monster Condition only. The proportion of children who modified the positively valenced scenario in Study 2 was similar to Study 1. In contrast, the proportion of children who modified the negatively valenced condition was greater in Study 2. A methodological concern in Study 1 was the possible effect of previous experience on modification of the negatively valenced scenario. Previous experience appeared to increase the proportion of children made modifications in Study 1, however the finding of increased modification with no order effects in study 2 is at odds with this.

A possible explanation for order effects in Study 1 was that the interactions between the experience of uncertainty and valence determined the likelihood that children would modify the negatively valenced scenario. Previous experience was hypothesised to decrease the element of uncertainty, which allowed for increased focus of the valence of the scenario. Changes in core affect were more likely to be attributed to the valence of the pretend creature, and modification of the theme to decrease negative arousal was thought to reflect this change. Therefore, it was expected that without previous experience there would

be fewer modifications to decrease negative arousal. However, the opposite was observed, which negates the idea that uncertainty influences modifications. Further evidence against the idea that either valence or uncertainty is dominant is that information seeking, which regulates uncertainty, was not increased in the group of children who did not modify the scenario.

An alternative explanation for the larger proportion of children who decreased negative arousal in the Monster Condition could be the influence of the social context of children's use of that particular emotion regulation strategy. A methodological difference between Study 1 and Study 2 is the provision of information about characteristics of the creature. There were more direct contextual cues as to the negative characteristics of the creature in Study 1, however attempts to modify this were fewer. It appears that children in Study 1 were unwilling to negate these direct contextual cues from a play partner. If children disagreed, but did not make any modifications, the cues were repeated rather than adapted. In Study 2 there were no direct contextual cues and thus children were able to incorporate their own play theme without the possibility of conflict negotiation between play partners. Children who had the scenario the second time in Study 1 may have been more willing to negate the play partner, as they were more familiar with the game at this time.

Modifications that increase the positive valence of a play theme can be additions to the current game. For instance, changing the kitten to a brown fluffy one adds to the already accepted theme of "pretend kittens". Modifications that add to the current game do not have the same potential for conflict between players as modifications that negate the other player's suggestions. For instance, changing the monster from fear-evoking to friendly creates the potential for

conflict between players as it changes a key characteristic of the monster. The strategy that a child may use to influence his/her internal experience is governed by the wider social characteristics of the situation in which it occurs. Modification of the emotional valence of the play in a way that minimises the potential for conflict between players is an example of what Thompson (1994) would rate as an excellent emotion regulation strategy. It demonstrates a diverse set of skills that are situationally responsive to the contingencies at the time. It promotes a child's engagement with his/her environment, rather than precludes it.

Immediate Responses to the Information Given About the Pretend/Reality Status of the Creature

The type of information given had a significant effect on whether or not children agreed or disagreed there was a creature in the box, and thus continued or discontinued the game at this point. In the Visual Condition, several children disagreed there was a creature when shown the contents of the box. This would have had the effect of discontinuing pretence at this point if I had not kept on pretending. Visual information provided the same type of feedback as putting a hand into the box since it confirmed a lack of physical presence. Children who disagreed at this point were similar to the children who disagreed once they put a hand into the box, as they spontaneously commented on the absence of the creature. These children were responding to cues about the pretend/reality status of the creature at this point, whereas children in the other conditions still had the opportunity to experience anticipatory emotion associated with uncertainty.

Children who disagreed that there was a creature when shown the content of the box still remained attentive. Information did not immediately diminish their

interest and they continued to stay oriented to the box. Two aspects of the scenario are likely to underlie the children's continued orientation to the box. Firstly, when a child disagreed, I continued the pretence, which signalled that the game was ongoing and the box was still important. Secondly, it appeared that children who had been intensely interested in the box to begin with were more likely to continue to be interested under these conditions.

When the box was put to one side, children who had displayed an intense interest in the box were required to shift their attention back to the previous theme of hunting treasure. There were considerable individual differences in children's ability to do this, and children who responded with strong interest to the scenario were less likely to shift their attention back to the previous play. The temporal and intensive features of emotion for children who showed intense interest are likely to be characterised by higher arousal with a longer time to return to baseline (Thompson, 1994). Consequently, this group of children did not shift their attention and activity back to the previous game as quickly as the less interested children.

Intense interest appeared to influence children's orientation to the box at the time it was put to one side and in the following three minutes. Children who displayed intense and persistent interest in the box were significantly more likely to approach the box within the next minute of play. This pattern was not influenced by information about the pretend/reality status of the creature. Intensely interested children who received visual information about the pretend/reality status of the creature were equally likely to incorporate the box into play within the following three minutes. This is consistent with the findings of Study 1, where children maintained their interest in the box across two play

sessions. This indicates that the box maintained its quality of an object that produces meaningful change in the experience of emotion, even when play had been briefly discontinued.

Children's ongoing interest in the box despite visual confirmation of the pretend/reality status of the creature is also consistent with the idea that emotion will occur independently of a belief in what is causing the emotion (Bourchier & Davis, 2000; Brenner, 2000; Bretherton, 1989; Fein, 1981; Fein, 1989; Lillard, 1993; Lillard, 2001; Sanna, 2000). Cues from a play partner appeared sufficient to maintain children's interest in the box. Interested children who disagreed there was a creature were just as likely to play with the box as interested children who did not disagree there was a creature. This pattern highlights the advantages of the flexibility of a pretend play context. When a game is potentially discontinued, resetting the parameters of pretence can simply begin the process again. For children who are interested in the game this appears to be an easy process to do.

Investigation of the Valenced Box

The major dependent variable in this study was children's approach and interaction with the box after the "pretend creature in a box" scenario had ended, and information had been given about the pretend/reality status of the creature. The interest and sustained orientation to the box predicted which children would approach the box during the subsequent three minutes of play. However, these factors did not predict how children interacted with the box. The group of children that approached the box was broken down into two distinct groups; those who "played" with the box, and those who "checked" the content of the box.

The group who "played" with the box were assumed to be continuing their initial interest and sustained attention to the object. The group who "checked" the content of the box were assumed to be responding to continuing anticipatory emotion associated with uncertainty about the pretend/reality status of the creature. These assumptions were confirmed by the absence of checking behaviour in the group of children in the no uncertainty condition. When seeking information, children approached the box faster and investigated the content of the box. This behaviour was present in the groups of children who received verbal information or no information about the pretend/reality status of the creature.

It was expected that verbal information would have some impact on anticipatory emotion associated with uncertainty; however this was not the case. In accordance with the model of anticipatory emotion presented by Lowenstein et al. (2001), children will respond to the possibility of an event rather than the probability. Reminding children that the creature is "just pretend" did not provide them with more information than they already have from their own observation that the box was empty some minutes before, and that they are involved in a wider context of pretend. This information may lower the probability, but it does not negate the possibility. Only the addition of visual information appears to provide certainty. Children were seeking visual information during the presentation of the scenario. They did not ask for confirmation that the creature was pretend. Instead they attempted to see the creature for themselves.

Over half of the sample sought information by trying to open the box or asking me to open it during the presentation of the scenario. Not all children who sought information went on to check the content of the box. Considerably less sustained this behaviour and went on to seek information after the box was put to

one side. Changing between disagreement and agreement that there was a creature during the presentation of the scenario could have been indicative of the children who were experiencing uncertainty, however, not all children who changed their mind went onto "check" the content of the box. In Study 1, approach and exploration was a request whereas in Study 2 it was left up to the child. The difference in the proportion of children who "checked" suggests that more children investigated the box in the set condition than would have done so spontaneously. Overall, these findings indicate that a greater proportion of children entertained the idea that there was a real creature, than went on to act on this idea.

It could have been the case that all children experienced a degree of uncertainty, but only children who did not regulate their experience of anticipatory emotion went on to seek information. The literature clearly shows that some people are more sensitive to conditions of uncertainty than others, or are not as satisfied by what evidence they have available (Kagan, 1972; Sorrentino & Hewitt, 1984; Sorrentino, Holmes, Hanna, & Sharp, 1995; Sorrentino & Short, 1984). These findings are consistent with Bourchier and Davis's (2000) observations that only some children respond to situations of uncertainty. The proportion of children in the study by Bourchier and Davis who responded to uncertain pretend entities as if they were real was 20%. The proportion of children who responded to the possibility that the pretend creature was real in the current study was 26% in the conditions that were uncertain, and 0% in the condition that was certain.

Positive and negative valence. Consistent with Study 1, the valence of the scenario did not influence how children investigated the "pretend creature in a

box" scenario. Children's responses in the two conditions were compared in situations where the pretend/reality status of the creature was certain (Visual Information) and uncertain (Verbal or No Information). No significant differences where found, which indicates that positive and negative valence did not impact on how children interacted with the box when the pretend/reality status was certain or uncertain.

Modification of the scenario as emotion regulation. Study 1 supported the hypothesis that children who did not engage in emotion regulation would be more likely to discontinue play. However, they discontinued play at the point of receiving information about the pretend/reality status of the creature rather than when asked to approach the box. As discussed above, the hypothesis that increased uncertainty changes the likelihood that children will modify the scenario was not supported. The current study did not have a set emotion regulation task, however children's ability to make an adaptive response that continued the game was taken from their voluntary approaches to the box. Children who experienced increased uncertainty and "checked" the contents of the box were just as likely to have modified the scenario as those who did not. This finding further negates the hypothesis that uncertainty influenced how children experienced the intended valence of the box.

Summary

Study 2 attempted to explore the relative influence of anticipatory emotion associated with uncertainty, positive valence, and negative valence on children's experience of emotion in pretence. In general, all of these variables impacted on some children at some point in the pretence. The most interesting question is at what point they influenced children's experience, and what impact that influence

had on adaptive behaviour? At the point where children were voluntarily interacting with the box, uncertainty was influential for a small group of children, who are possibly less tolerant of anticipatory arousal associated with uncertainty. These children were more likely to make a response that discontinued pretence. Modification to the theme during the presentation of the scenarios was independent of children's experience of uncertainty. While this behaviour could have reflected the process of emotion regulation in pretend play, it functioned to regulate the intended valence of the scenario rather than anticipatory emotion associated with uncertainty. Information seeking has also been hypothesised to reflect the process of emotion regulation. Information seeking did function to regulate anticipatory emotion associated with uncertainty. Differences in regulatory behaviour between Study 1 and Study 2 suggested that this behaviour was influenced by the wider social context of the pretend play game.

CHAPTER FOUR

Summary and Conclusions

As outlined in the introduction to this thesis, the diverse set of skills that facilitate emotion regulation are now considered by development and clinical psychologists to be crucial for adaptive developmental outcomes (Southam-Gerow & Kendall, 2002). During the preschool years, children begin to recognise the components that make up the experience of emotion in themselves and others. In particular, children begin to recognise that important people in their lives have social expectations that they will regulate emotions, and they begin to behave in accordance with those expectations. Children are expected to wait patiently, accept aversive medical intervention without a fuss, and spend the night in their own bedroom – with the closet monsters. Both Vygotsky (1978) and Piaget (1962) observed that pretend play emerges at a similar time to when children are presented with the challenge of self-regulation, and posited that pretend play can provide an opportunity for children to experience and regulate emotion. Vygotsky further posited that pretend play is a context within which children learn to self-regulation skills for everyday life. The research described in this thesis set out to explore emotion and emotion regulation in structured pretend play. Previous empirical investigations of emotion in pretend play stops short of investigating how adult-child pretend play can be structured to provide opportunities for emotion and emotion regulation.

Overall pretend play is a context that creates emotion, the opportunity for emotion regulation and the intrinsic motivation to do so. These are characteristics that make pretend play a unique condition for emotion regulation. Observations of

children's emotional responses to fiction highlight that children can be engaged in the experience of both positive and negative emotion (Golomb & Galasso, 1995; Lillard, 1994; Russell, 2003). By structuring play, an adult can potentially guide the child as an active participant to regulate this emotion. Active involvement, flexibility, and safety characteristics make pretend play an advantageous context for learning (Bornstein & Tamis-Le Monda, 1995; Bretherton, 1989; Fein, 1989), and creates the potential to use play as a zone of proximal development (Vygotsky, 1978). Yet another advantage is the hedonistic reinforcement generated by pretend play that provides children with motivation to engage in this activity. However, access to this reinforcement is dependent on interpersonal contingencies. For example, insisting that the other children imagine the monster that you are excited about may discontinue play.

Study 1 attempted to create a context of negative emotion using pretend play, and compared children's responses in this context with positively valenced pretend play. The antecedent for negative emotion was a pretend monster hiding in a box. This stimulus was derived from a series of studies by Harris et al. (1991), Johnson and Harris (1994), and Golomb and Galasso (1995), who reported that children responded with the expression of negative emotion to the monster. A useful aspect of the "pretend creature in a box" scenario was the ease with which children become involved in the pretence. Children's interest in the box markedly increased when I pretended that there was a monster or a kitten inside. Children listened to and engaged in descriptions of how the creature looked, felt, and the noises it made. They added their own descriptions of monsters and kittens and predicted what the pretend creatures might do if they came out of the box. Children responded to both the pretend monster and the

pretend kitten with equal enthusiasm, indicating that both positively and negatively valenced pretend stimuli elicit a change in emotion intensity.

Of interest was that children's expression of emotion was not significantly different across the two contexts, implying that the monster did not elicit the intended experience of negative emotion. This was inconsistent with reports of children's expression by Harris et al. (1991) and Golomb and Galasso (1995). The current study and that by Golomb and Galasso employed different methodologies to examine the expression of negative emotion. Interrater reliability of the scale used in Study 1 was poor. It was not designed to capture the whole experience of emotion, and concentrated of children's expression. Expression of emotion is mediated by social contingencies (Cole et al., 1994; Saarni, 1997; Zeman & Shipman, 1996, 1998). Expression of positive emotion signals that the child would like to continue play and it is an expected feature of this context, despite any competing negative emotion.

Children's regulation of emotion in the negatively valenced context was examined in terms of how they modified the emotional valence of the scenario. In Golomb and Galasso's (1995) study children took advantage of the flexibility that pretend play offers and changed the theme of the game to increase the positive features of the positively valenced creature, and decrease the negative features of the negatively valenced creature. This behaviour was observed in Study 1 and Study 2 of this thesis. However, the frequency of modification increased across Golomb and Galasso's experiment two, Study 1, and Study 2. Of note is that Study 1 used a repeated measures design, and children were significantly more likely to modify the negatively valenced condition if they completed it second. The key difference between these three studies is the social contingencies in play.

To modify the theme in the negatively valenced condition children were required to contradict what I had said, which has the potential to bring an end to play. They were more likely to do so under the condition of increased familiarity in Study 1. They were also more likely to do this under the condition of less adult direction of play in Study 2. This suggests that in adult-child structured play, direction from an adult will influence how a child uses the pretend play context to regulate emotion. It is possible that a child is less likely to take advantage of the flexibility this context provides by changing the theme if doing so challenges the adult's direction of play. A useful aspect of a procedure such as the "pretend creature in a box" scenario is that is can be administered with varying degree of adult direction.

Study 1 also aimed to examine the relationship between emotion and emotion regulation in play, and a set emotion regulation task. Fein's (1989) conceptualisation of emotion regulation in pretend play as approach, appraisal, and modulation of negatively valenced events guided the selection of this task. At the end of the "pretend creature in a box" scenario children were asked to approach the box, put a hand in, and explore the pretend creature in order to continue the game. This task was designed to challenge children's ability to continue the pretend play game with a negatively valenced pretend element. "Continuing" is an effective outcome in a play context, and is not dependent on the *type* of emotion regulation strategy, if any, the child may use. The child can reach this goal with whatever resources they have available to them, including modification of the pretend play scenario. In a previous study, I had found that the operationalistion of emotion regulation in this way was useful to demonstrate individual differences in children's ability to sustain play with the introduction of a negatively valenced pretend element (Galyer & Evans, 2001).

When asked to put a hand into the box, all but a few children successfully completed this task. This was unexpected, as in the studies by Golomb and Galasso (1995) and Harris et al. (1991) children had shown wariness in their approach to the box. This also implied that the monster did not elicit the intended experience of negative emotion. All children who had earlier modified the scenario to decrease the negative valence of the creature successfully approached the box and put a hand in on request. However, due to the small numbers in the group of children who refused the task, further exploration of the relationship between earlier emotion regulation and responses in the set emotion regulation task was not possible. I learned that although "approach to continue the game" can be a source of individual differences in a negatively valenced context, it does not reflect the main effect of the scenario.

The failure of the valence of the pretend creature to influence children's willingness to approach the box and place a hand in the box was interesting, since it implied that neither scenario challenged the children's emotion regulation ability. In particular, the Monster Condition failed to elicit an intensity of negative emotion that challenged children's ability to continue the pretend play game. Safety is an implicit characteristic of pretence, thus it is unlikely that children would expect to be confronted with a truly distressing stimulus while playing at kindergarten. Within this context the potential for intense negative emotion is limited, practically as well as ethically.

However, there was one interesting point in how children responded to the "pretend creature in a box" scenario. Instead of discontinuing the game at the point of approach to the box, children unexpectedly did so at the point of exploration of the box. Children's responses to the set emotion regulation task

must be considered in conjunction with their overall behaviour during the presentation of the scenarios. Prior to placing a hand in the box children were intensely interested and engaged in the pretend game. They were unusually insistent, in action and in words, that they should see the contents of the box. Even the group of children who refused the set emotion regulation task behaved in this way. Children were equally insistent on seeing the contents of the box with the pretend monster as with the pretend kitten. Finally, when they were given the chance to explore the content of the box, the majority of children discontinued the pretend game by spontaneously commenting on the absence of the creature.

In earlier versions of the "pretend creature in a box", children's comments about the possible presence or absence of the pretend creature had been associated with spontaneous information seeking about the content of the box (Harris et al. 1991; Johnson and Harris, 1994). A new version of the "pretend creature in a box" by Bouchier and Davis (2000) found support for previous conclusions that children "wonder" about the pretend/reality status of the creature. The likelihood that children would make such comments, investigate the content of the box, was reduced when they were given visual information about the pretend/status of the creature (Golomb & Galasso, 1995). Bouchier and Davis also found support for the hypothesis that visual information about the pretend/reality status of the creature changes how children behave towards the box. I learned that the main effect of the set emotion regulation task was reflected in the child's response to being provided with information about the pretend/reality status of the creature when they put a hand into the box. I hypothesised that the emotional properties of the "pretend creature in a box" scenario included anticipatory arousal associated with uncertainty. For some children, placing a hand into the box provided

information that regulated their experience of uncertainty about the pretend/reality status of the creature.

The developmental literature discusses children's ability to distinguish between reality and pretence in terms of children's ability to self report on what is real and what is not (Woolley, 1997). When questioned, children in the four to five year age group can reliably report that monsters are not real. If children in this study had been certain the creature was real, it is very unlikely they would have placed a hand into a box containing the monster that was described to them. However, particular conditions in the "pretend creature in a box" scenario may prompt children to consider the possibility that the creature *might* not be pretend (Bouchier & Davis, 2000; Harris et al. 1991; Lillard, 1994; Woolley, 1997). Children in this study were not making a cognitive error, but instead they were entertaining a possibility, however small, that there just might be a creature in the box. Although the probability was minimal, the intensity of emotion associated with that possibility was sufficient to motivate information seeking behaviour (Lowenstien et al., 2001). Preschool children are influenced by the emotional properties of imaginary entities, and in the "pretend creature in a box" scenario, it appeared that the emotional properties associated with the experience of uncertainty take precedence over the child's own empirical observations that the box was empty.

At the conclusion of Study 1, my perception of the "pretend creature in a box" scenario had changed. It did not present a challenge to regulate negative arousal that could undermine approach responses, but instead presented a challenge to regulate anticipatory emotion associated with uncertainty about the pretend/reality status of the creature. This interpretation was examined in Study 2

by manipulating information children received about the pretend/reality status of the creature in the box, and observing further attempts to gain information. The results clearly demonstrated that information about the pretend/reality status of the creature was an influential variable in how children responded to the "pretend creature in a box" scenario. It appears that within the context of pretence the object and ideational transformations can also create an experience of uncertainty that in turn elicits aversive stimulation. For instance, as children imagined the monster they might have wondered if it was real. "Wondering" is a powerful enough stimulus to elicit the arousal that is associated with uncertainty. Some children, it seems, simply cannot stand "not knowing". A disadvantage of the "pretend creature in a box:" scenario in exploring the regulation of negative emotion is that it creates an unintended effect. This effect may influence the experience of children who are sensitive to conditions of uncertainty. As in Study 1, the emotional valence of the pretend stimuli did not influence children's responses.

This finding inadvertently linked emotion regulation in pretend play to another well known psychological phenomena, tolerance of uncertainty and information seeking (Bennet, Herold, & Ashford, 1990; Calvo & Castillo, 2001; Furnham & Ribchester, 1995; Goodman & Houck, 2001; Sorrentino, Holmes, Hanna, & Sharp, 1995). From Study 2, I learned that the anticipatory arousal associated with uncertainty could be reliably created and then regulated using the context of pretend play. Potential clinical applications of this process include providing children the opportunity to actively experience and regulate anticipatory arousal in a safe context. Everyday situations of uncertainty may be beyond a child's zone of proximal development due to the intensity of arousal and/or the

degree of difficulty in coordinating a successful emotion regulation strategy. For example, a child who is sensitive to spontaneous events may be quickly overwhelmed and required to utilise immediately available regulation strategies. In contrast, within structured play an adult can manipulate the contextual variables, and provide opportunities to shape adaptive responses to ambiguous stimuli. Ideally, structured pretend play would be part of a larger intervention programme that aimed to generalise new skills into the everyday environment. As the child is an active participant in play, and particularly in his/her zone of proximal development, generalisation can be planned for at this point. Similar concepts are found in successful clinical interventions that use imaginary stimuli to shape emotional responses with school-age children who are experiencing anxiety (Carr, 1999; Ginsburg & Silverman, 1998; Perrin, Smith, & Yule, 1998). There is a strong trend in the child clinical literature to consider both emotion experience and developmental sensitivity when structuring a therapeutic context for children (Southam-Gerow & Kendall, 2000; 2002). An adult with knowledge of a child's developmental characteristics has the opportunity to adapt this context within that child's zone of proximal development. During the preschool period pretend play is a more developmentally appropriate context to elicit emotion than cognitive induction methods used with older children. Younger children have significant difficulty engaging in the formats used in current interventions (Friedberg, Crosby, Friedberg, Rutter, & Knight, 2000).

Study 2 specifically examined information seeking as a response to uncertainty. Of the many responses that may function to regulate anticipatory arousal associated with uncertainty, information seeking provides the most convincing confirmation or disconfirmation of the possibility. Information

seeking is an important skill in the set of diverse skills that support emotion regulation. For example, it is useful as a tool in the process of selecting the best possible strategies in problem solving. Strategies such as distraction, seeking reassurance that an individual could cope with the scenario, and indeed modifying the scenario to reduce the risk associated with the object of uncertainty are all strategies that function to modulate the arousal associated with uncertainty. However, for children who are intolerant to even a low intensity experience of this kind, information seeking may be the only strategy that functions to alleviate distress.

From Study 2, I learned that the type of information that children seek is important. Verbal information in the form of reassurance the creature was pretend did not function to regulate this arousal for some children in that condition, and they went on to "check" the contents of the box anyway. As stated in the introduction, effective emotion regulation is characterised by strategies that are flexible and responsive to the social context in which they are required (Thompson, 1994). Information seeking as a strategy is only adaptive if it is situationally responsive. These research findings highlight that information seeking does regulate arousal, however is not necessarily an adaptive response. For some children, information seeking interfered with their ability to continue the pretend game. Children who sought information in Study 2 failed to reach the implicit goal in pretend play: they failed to maintain play.

Maladaptive information seeking is a well-established phenomenon in the clinical literature. There are numerous examples of children with impaired socio-emotional well-being that stems from dysfunction in the links between new information (such as verbal information) and reduction in anxiety (e.g., Alfano,

Beidel, & Turner, 2002; Barrett, 2000; Calvo & Castillo, 2001; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; Ollendick & Ollendick, 1997; Spence, Rapee, McDonald, & Ingram, 2001). For example, children who experience pathology such as obsessive compulsive disorder or specific phobia experience a breakdown in the link between cognitive evaluation of an event of object, and the intensity of negative emotion associated with that event or object. Children who check respond with intense arousal to the perception of low probability threat by seeking confirmatory information. Repeated checking does not alleviate distress and significantly impairs the child's everyday life (Bolton, 1998). In specific phobia, children experience fear despite verbal information from reassuring parents that objects such as spiders will not harm them (Ginsburg & Silverman, 1998).

Conclusions

This research programme stems from the challenge of structuring pretend play to provide preschool children with the opportunity to experience emotion and emotion regulation. The findings from these studies contribute to the complex answers to this challenge. I would argue that these studies support the proposal that pretend play is a context that provides preschoolers with the opportunity to experience emotion, and point to the potential for regulation using unique elements of pretend play. The initial aim of this research programme was to demonstrate this proposal by eliciting negative emotion that challenged children to use emotion regulation skills to continue the pretend game. Individual differences in children's ability do so were demonstrated in how they responded to an element of uncertainty in the game. These studies suggest that there is

variation in the usefulness of strategies that an adult may use to create emotion and direct the regulation of that emotion. If structured adult-child pretend play is to function as a zone of proximal development for important experiences such as the regulation of uncertainty, it needs to be carefully structured by a more experienced play partner. This investigation has provided a starting point for further research to elaborate on potentially useful strategies.

REFERENCES

Alfano, C. A., Beidel, D. C., & Turner, S. M. (2002). Considering cognition in childhood anxiety: Conceptual, methodological, and developmental issues. *Clinical Psychology Review, 578*, 1-30.

Athanasiou, M. S., & Gunning, M. P. (1999). Filial Therapy: Effects on two children's behavior and mothers' stress. *Psychological Reports, 84*, 587-590.

Axia, G., Bonichini, S., & Benini, F. (1999). Attention and reaction to distress in infancy: A longitudinal study. *Developmental Psychology, 35*, 500-504.

Bakeman, R. (2000). Behavioral observation and coding. In R. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 138-159). New York: Cambridge University Press.

Barrett, K. C. (1993). The development of nonverbal communication of emotion: A functionalist perspective. *Journal of Nonverbal Behavior, 17*, 145-168.

Barrett, P. M. (2000). Treatment of childhood anxiety: Developmental aspects. *Clinical Psychology Review, 20*, 479-494.

Barrett, P. M., & Healy, L. J. (2003). An examination of the cognitive processes involved in childhood obsessive-compulsive disorder. *Behaviour Research and Therapy*, 41, 285-299.

Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. *Psychological Inquiry, 7*, 1-15.

Bechara, A., Damasio, H., Tranel, D., & Damasio, A. R. (1997). Deciding advantageously before knowing the advantageous strategy. *Science, 275*, 1293-1295.

Bell Doran, D., & Wessler, A. E. (1994). Attributional style of anxious children: Extensions from cognitive theory and research on adult anxiety. *Journal of Anxiety Disorders, 8*, 79-96.

Belsky, J., Heish, K., & Crinic, K. (1996). Infant positive and negative emotionality: One dimension or two? *Developmental Psychology, 32*, 289-298.

Bennet, N., Herold, D. M., & Ashford, S. J. (1990). The effects of tolerance of ambiguity on feed-back seeking behaviour. *Journal of Occupational Psychology, 63*, 343-348.

Berk, L. E. & Winsler, A. (1995). *Scaffolding children's learning: Vygotsky and early childhood education.* Washington DC: National Association for the Education of Young Children.

Black, B. (1992). Negotiating social pretend play: Communication differences related to social status and sex. *Merrill-Palmer Quarterly, 38*, 212-232.

Blascovich, J. (2000). Using physiological indexes of psychological processes in social psychological research. In R. T. Reis & C. M. Judd (Eds.), *Handbook of methods in social and personality psychology* (pp.117-137). New York: Cambridge University Press.

Bolton, D. (1998). Obsessive-Compulsive Disorder. In A. S. Bellack & M. Hersen (series Eds.) & T. Ollendick (Vol Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulation and treatment* (pp. 367-390). London: Pergamon Press.

Bornstein, M. H., Haynes, M. O., O'Reilly, A. W., & Painter, K. M. (1996). Solitary and collaborative pretense play in early childhood: Sources of individual variation in the development of representational competence. *Child Development, 67*, 2910-2929.

Bornstein, M. H., & Tamis-Le Monda, C. S. (1995). Parent-child symbolic play: Three theories in search of an effect. *Developmental Review, 15*, 382-400.

Bourchier, A., & Davis, A. (2000). The influence of availability and affect on children's pretence. *British Journal of Developmental Psychology, 18*, 137-156.

Braaten, E. B., & Rosen, L. A. (2000). Self-regulation of affect in attention deficit-hyperactivity disorder (ADHD) and non-ADHD boys: differences in empathic responding. *Journal of Consulting and Clinical Psychology, 68*, 313-321.

Bratton, S., & Landreth, G. (1995). Filial therapy with single parents: Effects on parental acceptance, empathy, and stress. *International Journal of Play Therapy, 4*, 61-80.

Brenner, E. (2000). Mood induction in children: Methodological issues and clinical implications. *Review of General Psychology, 4*, 264-283.

Bretherton, I. (1989). Pretence: The form and function of make-believe play. *Developmental Review, 9*, 383-401.

Bretherton, I., & Beeghly, M. (1989). Pretense: Acting "as if". In J. J. Lochman & N. L. Hazen (Eds.), *Action in a social context* (pp. 239-271). New York: Plenum Press.

Bridges, L. J., Grolnick, W. S., & Connell, J. P. (1997). Infant emotion regulation with mothers and fathers. *Infant Behaviour and Development, 20*, 47-57.

Calkins, S. D. (1994). Origins and outcomes of individual differences in emotion regulation. In N. A. Fox (Ed.), *The development of emotion regulation: biological and behavioral considerations. Monographs of the Society for Research in Child Development, 58, (2-3, serial No. 240)* (Vol. 59, pp. 53-72). Chicago: Chicago University Press.

Calkins, S. D., Gill, K. L., Johnson, M. C., & Smith, C. L. (1999). Emotional reactivity and emotional regulation strategies as predictors of social behaviour with peers during toddlerhood. *Social Development, 8*, 311-335.

Calkins, S. D., Smith, C. L., Gill, K. L., & Johnson, M. C. (1998). Maternal interactive style across contexts: Relations to emotional, behavioral, and physiological regulation during toddler hood. *Social Development, 7*, 350-369.

Calvo, M. G., & Castillo, M. D. (2001). Selective interpretation in anxiety: uncertainty for threatening events. *Cognition and Emotion, 15*, 299-320.

Carr, A. (1999). *Child and adolescent clinical psychology.* London; Routledge.

Campos, J. J., Campos, R. G., & Barrett, K. C. (1989). Emergent themes in the study of emotional development and emotional regulation. *Developmental Psychology, 25*, 394-402.

Campos, J. J., Mumme, D. L., Kermoian, R. K., & Campos, R. G. (1994). A functionalist perspective on emotion regulation. In N. A. Fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development, 58, (2-3, serial No. 240)* (Vol. 59, pp. 251-303). Chicago: The University of Chicago Press.

Camras, L. A., Oster, H., Campos, J., Campos, R., Ujiie, T., Miyake, K., Wang, L., & Meng, Z. (1998). Production of emotional facial expressions in European American, Japanese, and Chinese infants. *Developmental Psychology, 34*, 616-628.

Chorpita, B. F., Yim, L., Moffitt, C., Umemoto, L. A., & Francis, S. E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. *Behaviour Research and Therapy, 38*, 835-855.

Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and Psychopathology, 7*, 1-16.

Cole, P. M., Michel, M. K., & O'Donnell-Teti, L. (1994). The development of emotion regulation and dysregulation: A clinical perspective. In N. A. Fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development, 58, (2-3, serial No. 240)* (Vol. 59, pp. 73-102). Chicago: The Chicago University Press.

Cole, P. M., Zahn-Waxler, C., Fox, N., Usher, B. A., & Welsh, J. D. (1996). Individual differences in emotion regulation and behavior problems in pre-school children. *Journal of Abnormal Psychology, 105*, 518-529.

Connolly, J. A., & Doyle, A. (1984). Relation of social fantasy play to social competence in preschoolers. *Developmental Psychology, 20*, 797-806.

Curran, J. M. (1999). Constraints of pretend play: Explicit and implicit rules. *Journal of Research in Childhood Education, 14*, 47-56.

Dadds, M. R., & Barrett, P. M. (1998). Bolton, D. (1998). Anxiety Disorders. In A. S. Bellack & M. Hersen (series Eds.) & T. Ollendick (Vol Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulation and treatment* (pp. 317-341). London: Pergamon Press.

Dahlquist, L. M. (1997). Decreasing children's distress during medical procedures. *In Session: Psychotherapy in Practice, 3,* 43-54.

Damast, A. M., Tamis-Le Monda, C. S., & Bornstien, M. H. (1996). Mother-child play: Sequential interactions and the relation between maternal beliefs and behaviours. *Child Development, 67*, 1752-1766.

Dawson, G. (1994). Frontal electroencephalographic correlates of individual differences in emotion expression in infants: A brain systems perspective on emotion. In N. A. Fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development, 58, (2-3, serial No. 240)* (Vol. 59, pp. 135-152). Chicago: The Chicago University Press.

De Lorimier, S., Doyle, A., & Tessier, O. (1995). Social coordination during pretend play: Comparisons with non pretend play and effects on expressive content. *Merrill Palmer Quarterly, 41*, 497-516.

Denham, S. A., Mitchell-Copeland, J., Strandberg, K., Auerbach, S., & Blair, K. (1997). Parental contributions to preschoolers' emotional competence: Direct and indirect effects. *Motivation and Emotion, 21*, 65-86.

Denham, S. A., Zoller, D., & Couchoud, E. A. (1994). Socialization of preschoolers' understanding about emotion. *Developmental Psychology, 30*, 928-936.

DiLilla, L. F., & Watson, M. W. (1988). Differentiation of fantasy and reality: preschoolers' reactions to interruptions in their play. *Developmental Psychology, 24*, 286-291.

DiPietro, J. A., Porges, S. W., & Uhly, B. (1992). Reactivity and developmental competence in pre-term and full-term infants. *Developmental Psychology, 28*, 831-841.

Dodge, K. A., & Garber, J. (1991). Domains of emotion regulation. In J. Garber & K. A. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 3-11). New York: Cambridge University Press.

Dugas, M. J., Freeston, M. H., & Ladouceur, R. (1997). Intolerance of uncertainty and problem orientation in worry. *Cognitive Therapy and Research, 21*, 593-606.

Dunn, J. & Hughes, C. (2001). "I got some swords and you're dead": violent fantasy, antisocial behavior, friendship, and moral sensibility in young children. *Child Development, 72,* 491-505.

Ebeling, K. S., & Spear, P. S. (1980). Preference and performance on two tasks of varying ambiguity as a function of ambiguity tolerance. *Australian Journal of Psychology, 32*, 127-133.

Eifert, G. H. (1987). Language conditioning: Clinical issues and applications in behavior therapy. In H. J. Esyenck & I. Martin (Eds.), *Theoretical foundations of behavior therapy* (pp. 167-163). New York: Plenum.

Eisenberg, N. (2002). Emotion-related regulation and its relation to quality of social functioning. In W. W. Hartup & R. A. Weinberg (Eds.), *Child psychology in retrospect and prospect* (pp. 133-172). New Jersey: Lawrence Erlbaum Associates.

Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*, 241-273.

Eisenberg, N., Fabes, R. A., Guthrie, I. K., Murphy, B. C., Mask, P., Holmgren, R., & Suh, K. (1996). The relations of regulation and emotionality to problem behavior in elementary school children. *Development and Psychopathology, 8*, 141-162.

Eisenberg, N., Fabes, R. A., Murphy, B. C., Shepard, S., Guthrie, I. K., Mask, P., Poulin, R., & Jones, S. (1999). Prediction of elementary school children's socially appropriate and problem behaviour from anger reactions at age 4-6 years. *Journal of Applied Developmental Psychology, 20*, 119-142.

Eisenberg, N., Fabes, R. A., Shepard, S. A., Murphy, B. C., Jones, S., & Guthrie, I. K. (1998). Contemporaneous and longitudinal prediction of children's sympathy from dispositional regulation and emotionality. *Developmental Psychology, 34*, 910-924.

Eisenberg, N., Gershoff, E. T., Fabes, R. A., Shepard, S. A., Cumberland, A. J., Losoya, S. H., Guthrie, I. K., & Murphy, B. C. (2001). Mothers' emotional expressivity and children's behaviour problems and social competence: mediation through children's regulation. *Developmental Psychology, 37*, 475-490.

Eisenberg, N., Guthrie, I. K., Fabes, R. A., Murphy, B. C., Holmgren, R., Mask, P., & Losoya, S. (1997). The relations of regulation and emotionality to resiliency and competent social functioning in elementary school children. *Child Development, 68*, 295-311.

Eisenberg, N., Losoya, S., Fabes, R. A., Guthrie, I. V., Reiser, M., Murphy, B., Shepard, S. A., Poulin, R., & Padgett, S. J. (2001). Parental socialization of children's dysregulated expression of emotion and externalizing problems. *Journal of Family Psychology, 15*, 183-205.

Eisenberg, N., Shepard, S. A., Fabes, R. A., Murphy, B. C., & Guthrie, I. K. (1998). Shyness and children's emotionality, regulation, and coping: Contemporaneous, longitudinal, and across-context relations. *Child Development, 69*, 767-790.

Elias, C. L., & Berk, L. E. (2002). Self-regulation in young children: is there a role for sociodramatic play? *Early Childhood Research Quarterly, 17*, 216-238.

Fabes, R. A., Eisenberg, N. A., Karbon, M., Bernzweig, J., Speer, A. L., & Carlo, G. (1994). Socialization of children's vicarious emotional responding and prosocial behavior: Relations with mother's perceptions of children's reactivity. *Developmental Psychology, 30*, 44-55.

Farver, J. M., & Wimbarti, S. (1995). Paternal participation in toddlers' pretend play. *Social Development, 4*, 17-31.

Fein, G. G. (1981). Pretend play in childhood: an integrative review. *Child Development, 52*, 1095-1118.

Fein, G. G. (1989). Mind, meaning and affect: Proposals for a theory of pretense. *Developmental Review, 9*, 345-363.

Flannery, K. A., & Watson, M. W. (1992). Are individual differences in fantasy play related to peer acceptance levels? *The Journal of Genetic Psychology, 154*, 407-416.

Forgas, J. P. (Ed.). (2000). *Feeling and thinking: the role of affect in social cognition*. New York: Cambridge University Press.

Fox, N. A. (1989). Psychophysiological correlates of emotional reactivity during the first year of life. *Developmental Psychology, 25*, 364-372.

Fox, N. A. (Ed.). (1994). *The development of emotion regulation: biological and behavioral considerations* (Vol. 59). Chicago: The University of Chicago Press.

Freeston, M. H., Rheaume, J., LeTarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17*, 791-802.

Friedberg, R. D., Crosby, L. E., Friedberg, B. A., Rutter, J. G., & Knight, K. R. (2000). Making cognitive behavioral therapy user-friendly to children. *Cognitive and Behavioral practice, 6,* 189-200.

Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current Psychology, 14*, 179-200.

Galati, D., Scherer, K. R., & Ricci-Bitti, P. E. (1997). Voluntary facial expression of emotion: comparing congenitally blind with normally sighted encoders. *Journal of Personality and Social Psychology, 73*, 1363-1379.

Galyer, K. T., & Evans, I. M. (2001). Pretend play and the development of emotion regulation in preschool children. *Early Child Development and Care, 166*, 93-108.

Ginsburg, G. S., & Silverman, W. K. (1998). Specific Phobias. In A. S. Bellack & M. Hersen (series Eds.) & T. Ollendick (Vol Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulation and treatment.* (pp. 343-366). London: Pergamon Press.

Goira, K. (1994). Effects of stress and tolerance of ambiguity on magical thinking. *Journal of Personality and Social Psychology, 67*, 48-55.

Golomb, C., & Galasso, L. (1995). Make believe and reality: Explorations of the imaginary realm. *Developmental Psychology, 31*, 800-810.

Golomb, C., & Kuerstien, R. (1996). On the transition from pretence play to reality: What are the rules of the game? *British Journal of Developmental Psychology, 14*, 203-217.

Goneu, A., & Gaskins, S. (1998). The role of pretence and language in the development of self. *Human Development, 41*, 200-204.

Goodman, A., & Houck, K. (2001). Anxiety and uncertainty in informed decision making. *Journal of Women's Health and Gender-Based Medicine, 10*, 93-94.

Gordon, D. E. (1993). The inhibition of pretend play and its implications for development. *Human Development, 36*, 215-234.

Greco, V., & Roger, D. (2001). Coping with uncertainty: the construction and validation of a new measure. *Personality and Individual Differences, 31*, 519-534.

Grolnick, W. S., Bridges, L. J., & Connell, J. P. (1996). Emotion regulation in two year olds: Strategies and emotional expression in four categories. *Child Development, 67*, 928-941.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271-299.

Gross, J. J., & Munoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, 2, 151-164.

Guthrie, I. K., Eisenberg, N., Fabes, R. A., Murphy, B. C., Holmgren, R., & Suh, K. (1997). The relations of regulation and emotionality to children's situational empathy related responding. *Motivation and Emotion, 21*, 87-108.

Haight, W., & Miller, P. J. (1992). The development of everyday play: a longitudinal study of mothers' participation. *Merrill-Palmer Quarterly, 38*, 331-349.

Hall, T. M., Schaefer, C. E., & Kaduson, H. G. (2002). Fifteen effective play therapy techniques. *Professional Psychology: Research and Practice, 33*, 515-522.

Harris, P. L. (1989). *Children and emotion: The development of psychological understanding*. Oxford: Basil Blackwell Ltd.

Harris, P. L., Brown, E., Marriot, C., Whittal, S., & Harmer, S. (1991). Monsters, ghosts and witches: Testing the limits of the fantasy-reality distinction in young children. *British Journal of Developmental Psychology, 9*, 105-123.

Harris, P. L., Kavanaugh, R. D., & Meredith, M. C. (1994). Young children's comprehension of pretend episodes: the integration of successive actions. *Child Development, 65*, 16-30.

Harris, P. L., & Saarni, C. (1989). Children's understanding of emotion: An introduction. In C. Saarni & P. L. Harris (Eds.), *Children's understanding of emotion* (pp. 3-28). Cambridge: Cambridge University Press.

Howe, N., Petrakos, H., & Rinaldi, C. M. (1998). "All the sheeps are dead. He murdered them": Sibling pretense, negotiation, internal state language, and relationship quality. *Child Development, 69*, 182-191.

Howe, N., Rinaldi, C. M., Jennings, M., & Petrakos, H. (2002). "No! The lambs can stay out because they got cozies": Constructive and destructive sibling conflict, pretend play, and social understanding. *Child Development, 73*, 1460-1473.

Howes, C. (1985). Sharing fantasy: Social pretend play in toddlers. *Child Development, 56*, 1253-1258.

Howes, C. (1992). *The collaborative construction of pretend: Social play functions*. Albany: State University of New York Press.

Howes, C., Unger, O., & Seider, L. B. (1989). Social pretend play in toddlers: Parallels with social play and with solitary pretend. *Child Development, 60*, 77-84.

Jarrols, C., Carruthers, P., Smith, P. K., & Boucher, J. (1994). Pretend play: Is it meta representational? *Mind and language, 9*, 444-468.

Jenkins, J. M., & Ball, S. (2000). Distinguishing between negative emotions: children's understanding of the social-regulatory aspects of emotion. *Cognition and Emotion, 14*, 261-282.

Johnson, C. N., & Harris, P. L. (1994). Magic: Special but not excluded. *British Journal of Developmental Psychology, 12*, 35-51.

Johnson, L., Bruhn, R., Winek, J., Krepps, J., & Wiley, K. (1999). The use of child-centered play therapy and filial therapy with head start families: A brief report. *Journal of Marital and Family Therapy, 25,* 169-176.

Josephs, I. E. (1994). Display rule behavior and understanding in pre-school children. *Journal of Nonverbal Behavior, 18*, 301-326.

Kagan, J. (1972). Motives and development. *Journal of Personality and Social Psychology, 22*, 51-66.

Katz, L. N., & Gottman, J. M. (1995). Vagal tone protects children from marital conflict. *Development and Psychopathology, 7*, 83-92.

Kavale, K. A., & Forness, S. R. (2000). What definitions of learning disability do and don't say. *Journal of Learning Disabilities, 33*, 239-271.

Kavanaugh, R. D., Eizenman, D. R., & Harris, P. L. (1997). Young children's understanding of pretense expressions of independent agency. *Developmental Psychology, 33*, 764-770.

Kavanaugh, R. D., & Engel, S. (1998). The development of pretense and narrative in early childhood. In O. N. Saracho & B. Spodek (Eds.), *Multiple perspectives on play in early childhood education* (pp. 80-99). Albany, NY: State University of New York Press.

Kavanaugh, R. D., & Harris, P. L. (1994). Imagining the outcome of pretend transformations: Assessing the competence of normal children and children with autism. *Developmental Psychology, 30*, 847-854.

Keenan, K. (2000). Emotion dysregulation as a risk factor for child psychopathology. *Clinical Psychology: Science and Practice, 7*, 418-434.

Knell, S. M. (1998). Cognitive-behavioral play therapy. *Journal of Clinical Child Psychology, 27*, 28-33.

Kobak, R., & Ferenz-Gillies, R. (1995). Emotion regulation and depressive symptoms during adolescence: A functionalist perspective. *Development and Psychopathology, 7*, 183-192.

Kochanska, G., Murray, K. T., & Harlan, E. T. (2000). Effortful control in early childhood: Continuity and change, antecedents, and implications for social development. *Developmental Psychology, 36*, 220-232.

Kochenderfer-Ladd, B., & Skinner, K. (2002). Children's coping strategies: Moderators of the effects of peer victimization? *Developmental Psychology, 38*, 267-278.

Kot, S., Landreth, G. L., & Giordano, M. (1998). Intensive child-centered play therapy with child witnesses of domestic violence. *International Journal of Play Therapy, 7*, 17-36.

Kramer, L. (1996). What's real in children's fantasy play?: Fantasy play across the transition to becoming a sibling. *Journal of Child Psychology and Psychiatry, 37*, 329-337.

Lagattuta, K. H., & Wellman, H. M. (2002). Differences in early parent-child conversations about negative versus positive emotions: implications for the development of psychological understanding. *Developmental Psychology, 38*, 564-580.

Laible, D. J., & Thompson, R. A. (1998). Attachment and emotional understanding in preschool children. *Developmental Psychology, 34*, 1038-1045.

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46*, 819-834.

Lengua, L. J., Sandler, I. N., West, S. G., Wolchick, S. A., & Curran, P. J. (1999). Emotionality and self-regulation, threat appraisal, and coping in children of divorce. *Development and Psychology, 11*, 15-37.

Lewis, M., & Haviland, J. M. (Eds.). (1993). *Handbook of emotions*. New York: Guilford Press.

Lillard, A. (2001). Pretend play as twin earth: A social-cognitive analysis. *Developmental Review, 21*, 495-531.

Lillard, A. S. (1994). Making sense of pretence. In C. Lewis & P. Mitchell (Eds.), *Children's early understanding of mind: Origins and development.* (pp. 211-234). Sussex: Lawrence Erlbaum associates, Ltd.

Lillard, A. S. (1993a). Pretend play skills and the child's theory of mind. *Child Development, 64*, 348-371.

Lillard, A. S. (1993b). Young children's conceptualization of pretense: Action or mental representational state? *Child Development, 64*, 372-386.

Lindsey, E. W., & Mize, J. (2001). Contextual differences in parent-child play: implications for children's gender role development. *Sex Roles, 44*, 155-176.

Lloyd, B., & Goodwin, R. (1995). Let's pretend: casting the characters and setting the scene. *British Journal of Developmental Psychology, 13*, 261-270.

Lopez, D. F., & Little, T. D. (1996). Children's action-control beliefs and emotional regulation in the social domain. *Developmental Psychology, 32*, 299-312.

Lowenstien, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin, 127*, 267-286.

Lytinen, P. (1995). Cross-situation variation on children's pretend play. *Early Childhood Development and Care, 105*, 33-41.

Malatesta-Magai, C. (1991). Development of emotion expression during infancy: General course and patterns of individual differences. In J. Garber & K. A. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 49-67). New York: Cambridge University Press.

Maughan, A., & Cicchetti, D. (2002). Impact of child maltreatment and interadult violence on children's emotion regulation abilities and socioemotional adjustment. *Child Development, 73*, 1525-1542.

McCune, L., Howes, C., Unger, O., & Matheson, C. C. (1994). The collaborative construction of pretend: Social pretend play functions. *Merrill Palmer Quarterly Journal of Developmental Psychology, 40*, 445-451.

McLoyd, V. C. (1980). Verbally expressed modes of transformation in the fantasy of black preschool children. *Child Development, 51*, 1133-1139.

Monat, A., Averill, J. R., & Lazarus, R. S. (1972). Anticipatory stress and coping reactions under various conditions of uncertainty. *Journal of Personality and Social Psychology, 24*, 237-253.

Nemeroff, C., & Rozin, P. (2000). The makings of a magical mind: The nature and function of sympathetic magical thinking. In K. S. Rosengren & C. N. Johnson & P. L. Harris (Eds.), *Imagining the impossible*. Cambridge: Cambridge University Press.

Niec, L. N., & Russ, S. W. (1996). Relationships among affect in play, interpersonal themes in fantasy, and children's interpersonal behaviour. *Journal of Personality Assessment, 66*, 645-649.

Ollendick, T. H., & Ollendick, D. G. (1997). General worry and anxiety in children. *In session: Psychotherapy in Practice, 3*, 89-102.

Oppenheim, D., Nir, A., Warren, S., & Emde, R. N. (1997). Emotion regulation in mother-child narrative co-construction: Associations with children's narratives and adaptation. *Developmental Psychology, 33*, 284-294.

Parkinson, B., & Totterdell, P. (1999). Classifying affect-regulation strategies. *Cognition and Emotion, 13*, 277-303.

Perrin, S. G., Smith, P. A. & Yule, W. (1998). Post-traumatic stress disorder. In A. S. Bellack & M. Hersen (series Eds.) & T. Ollendick (Vol Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulation and treatment* (pp. 393-418). London: Pergamon Press.

Phelps, K. E., & Woolley, J. D. (1995). The form and function of young children's magical beliefs. *Developmental Psychology, 30*, 385-394.

Piaget, J. (1962). *Play, dreams and imitation in childhood.* New York: Norton.

Polivy, J. (1981). On the induction of emotion in the laboratory: Discrete moods or multiple affect states? *Journal of Personality and Social Psychology, 41*, 803-817.

Rapee, R. M. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review, 17*, 47-67.

Ridgeway, D., & Waters, E. (1987). Induced mood and preschoolers' behavior: Isolating the effects of hedonistic tone and degree of arousal. *Journal of Personality and Social Psychology, 52*, 620-625.

Roberts, W., & Strayer, J. (1996). Empathy, emotional expressiveness, and prosocial behaviour. *Child Development, 67*, 449-470.

Roberts, W. L. (1999). The socialization of emotion expression: Relations with prosocial behaviour and competence in five samples. *Canadian Journal of Behavioural Science, 31*, 72-85.

Rosenberg, E. L., & Fredrickson, B. L. (1998). Overview to special issue: Understanding emotions means crossing cultural boundaries within psychology. *Review of General Psychology, 2*, 243-246.

Rothbart, M. K., & Hwang, J. (2001). Measuring infant temperament. *Infant Behaviour and Development, 25*, 113-116.

Rubin, K. H., Copland, R. J., Fox, N. A., & Calkins, S. D. (1995). Emotionality, emotion regulation and preschoolers' social adaptation. *Development and Psychopathology, 7*, 49-62.

Rudolph, K. D., Dennig, M. D., & Weisz, J. R. (1995). Determinants and consequences of children's coping in the medical setting: Conceptulization, review and critique. *Psychological Bulletin, 118*, 328-357.

Rushforth, H. (1999). Practitioner review: Communication with hospitalised children: review and application of research pertaining to children's understanding of health and illness. *Journal of Child Psychology and Psychiatry, 40*, 683-691.

Russ, S. W. (1998a). Play therapy. In A. S. Bellack & M. Hersen (series Eds.) & T. Ollendick (Vol Ed.), *Comprehensive clinical psychology: Vol. 5. Children and adolescents: Clinical formulation and treatment.* (pp. 221-244). London: Pergamon Press.

Russ, S. W. (1998b). Play, creativity, and adaptive functioning; Implications for play interventions. *Journal of Clinical Child Psychology, 27*, 469-480.

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110*, 145-172.

Saarni, C. (1997). Coping with aversive feelings. *Motivation and Emotion, 21*, 45-63.

Saarni, C. (1999). *The development of emotional competence*. New York: The Guilford Press.

Saarni, C., & Harris, P. L. (Eds.). (1989). *Children's understanding of emotion.* Cambridge: Cambridge University Press.

Salisch, M. V. (2001). Children's emotional development: challenges in their relationships to parents, peers, and friends. *International Journal of Behavioural Development, 25*, 310-319.

Salkovskis, P. M. (1991). Obsessions and Compulsions. In J. Scott & M. G. Williams & A. T. Beck (Eds.), *Cognitive Therapy in Clinical Practise* (pp. 50-77). New York: Routledge.

Salkovskis, P. M. (1999). Understanding and treating obsessive-compulsive disorder. *Behaviour Research and Therapy, 37*, s29-s52.

Salovey, P., & Sluyter, D. J. (Eds.). (1997). *Emotional development and emotional intelligence*. New York: Basic books.

Samuels, A., & Taylor, M. (1994). Children's ability to distinguish fantasy events from real life events. *British Journal of Developmental Psychology, 12*, 417-427.

Sanna, L. J. (2000). Mental stimulation, affect, and personality: A conceptual framework. *Current Directions in Psychological Science, 9*, 168-173.

Saunders, I., Sayer, M., & Goodale, A. (1998). The relationship between playfulness and coping in preschool children: A pilot study. *The American Journal of Occupational Psychology, 53*, 221-225.

Scarpa, A., & Raine, A. (1997). Psychophysiology of anger and violent behavior. *The Psychiatric Clinics of North America, 20*, 375-394.

Seja, A. L., & Russ, S. W. (1999). Children's fantasy play and emotional understanding. *Journal of Clinical Child Psychology, 28*, 269-278.

Shaw, D. S., Keenan, K., Vondra, J. I., Delliquadri, B. S., & Giovannelli, J. (1997). Antecedents of preschool children's internalizing problems: A longitudinal study of low-income families. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 1760-1766.

Sheldon, A. (1996). You can be the baby brother, but you aren't born yet: Preschool girls negotiation for power and access in pretend play. *Research on Language and Social Interaction, 29*, 57-80.

Shipman, K., Zeman, J., Penza, S., & Champion, K. (2000). Emotion management skills in sexually maltreated and nonmaltreated girls: A developmental psychopathology perspective. *Development and Psychopathology, 12*, 42-62.

Shipman, K. L., & Zeman, J. (1999). Emotional understanding: A comparison of physically maltreating and nonmaltreating mother-child dyads. *Journal of Clinical Child Psychology, 28*, 407-417.

Sifter, C. A., & Braungart, J. M. (1995). The regulation of negative reactivity in infancy: Function and development. *Developmental Psychology, 31*, 448-455.

Singer, D. A. (1998). The use of children's imagery in play therapy. *International Medical Journal, 5*, 83-91.

Singer, J. (1998). Imaginative play in early childhood: A foundation for adaptive emotional and cognitive development. *International Medical Journal, 5*, 93-100.

Smetana, J. G., Toth, S. L., Bruce, J., Kane, P., & Dadds, C. (1999). Maltreated and nonmaltreated preschoolers' conceptions of hypothetical and actual moral transgressions. *Developmental Psychology, 35*, 269-281.

Smith, M., & Walden, T. (1999). Understanding feelings and coping with emotional situations: A comparison of maltreated and nonmaltreated preschoolers. *Social Development, 8*, 93-116.

Sorrentino, R. M., & Hewitt, P. L. (1984). The uncertainty-reducing properties of achievement tasks revisited. *Journal of Personality and Social Psychology, 47*, 884-899.

Sorrentino, R. M., Holmes, J. G., Hanna, S. E., & Sharp, A. (1995). Uncertainty orientation and trust in close relationships: Individual differences in cognitive styles. *Journal of Personality and Social Psychology, 68*, 314-327.

Sorrentino, R. M., & Short, J. C. (1984). Uncertainty orientation: Implications for affective and cognitive views of achievement behavior. *Journal of Personality and Social Psychology, 46*, 189-206.

Southam-Gerow, M. A., & Kendall, P. C. (2002). Emotion regulation and understanding implications for child psychopathology and therapy. *Clinical Psychology Review, 22*, 189-222.

Spence, S. H., Rapee, R., McDonald, C., & Ingram, M. (2001). The structure of anxiety symptoms among preschoolers. *Behaviour Research and Therapy, 39*, 1293-1316.

Sroufe, L. A. (1996). *The organization of emotional life in the early years*. New York: Cambridge University Press.

Stansbury, K., & Sigman, M. (2000). Responses of Preschoolers in two frustrating episodes: emergence of complex strategies for emotional regulation. *The Journal of Genetic Psychology, 161*, 182-202.

Stansbury, K., & Zimmermann, L. K. (1999). Relations among child language skills, maternal socialization of emotion regulation, and child behaviour problems. *Child Psychiatry and Human Development, 30*, 120-142.

Statistics New Zealand (n.d.). *2001 Census of Population and Dwellings.* Retrieved 01 May, 2003, from the World Wide Web:www.statistics.govt.nz/census/htm.

Stifter, C. A., & Grant, W. (1993). Infant responses to frustration: Individual differences in the expression of negative affect. *Journal of Nonverbal Behavior, 17*, 187-204.

Sykes, D. H., Hoy, E. A., Bill, J. M., McClure, B. G., Halliday, H. L., & Reid, M. M. (1997). Behavioural adjustment of very low birth weight children. *Journal of Child Psychology and Psychiatry, 38*, 315-325.

Tamis-Le Monda, C. S., Chen, L. A., & Bornstien, M. H. (1998). Mothers' knowledge about children's play and language development: Short term stability and interrelations. *Developmental Psychology, 34*, 115-124.

Thomas, D. R. (1999). *Managing Research Projects.* Auckland: University of Auckland.

Thompson, R. A. (1990). Emotion and Self Regulation. *Nebraska Symposium on Motivation, 36,* 367-467.

Thompson, R. A. (1994). Emotion regulation: A theme in search of a definition. In N. A. fox (Ed.), *The development of emotion regulation: Biological and behavioral considerations. Monographs of the Society for Research in Child Development, 58, (2-3, serial No. 240)* (Vol. 59, pp. 25-52). Chicago: The University of Chicago Press.

Trawick-Smith, J. (1998). Why play training works: an integrated Model for play intervention. *Journal of Research in early Childhood Education, 12,* 117-129.

Valkenburg, P. M., Cantor, J., & Peters, A. L. (2000). Fright reactions to television: A child survey. *Communication Research, 27*, 82-99.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge: Harvard University Press.

Walden, T. (1991). Infant social referencing. In J. Garber & K. A. Dodge (Eds.), *The development of emotion regulation and dysregulation.* New York: Cambridge University Press.

Walden, T. A., & Smith, M. C. (1997). Emotion regulation. *Motivation and Emotion, 21*, 7-25.

Wilson, B. J. (1999). Entry behaviour and emotion regulation abilities of developmentally delayed boys. *Developmental Psychology, 35*, 214-222.

Woolley, J. D. (1997). Thinking about fantasy: Are children fundamentally different thinkers and believers from adults? *Child Development, 68*, 991-1011.

Youngblade, L. M., & Dunn, J. (1995). Individual differences in young children's pretend play with mother and sibling: Links to relationships and understanding of other people's feelings and beliefs. *Child Development, 66*, 1472-1492.

Zeman, J., Penza, S., Shipman, K., & Young, G. (1997). Preschoolers as functionalists: The impact of social context on emotion regulation. *Child Study Journal, 27*, 41-67.

Zeman, J., & Shipman, K. (1996). Children's expression of negative affect: Reasons and methods. *Developmental Psychology, 32*, 842-849.

Zeman, J., & Shipman, K. (1997a). Social-contextual influences on expectancies for managing anger and sadness: The transition from middle childhood to adolescence. *Developmental Psychology, 33*, 917-924.

Zeman, J., & Shipman, K. (1997b). Social-contextual influences on expectancies for managing anger and sadness: The transition from middle childhood to adolescence. *Developmental Psychology, 33*, 917-924.

Zeman, J., & Shipman, K. (1998). Influence of social context on children's affect regulation: A functionalist perspective. *Journal of Nonverbal Behavior, 22*, 141-165.

Appendix A

Information about Study 1 for the Waikato Kindergarten Association and Individual Teaching Teams

Pretend Play and the Development of Emotion Regulation

❖ This includes

- Information for staff
- Description of this study
- Information for parents

INFORMATION FOR STAFF

❖ What is the project about?

- Thankyou for your interest in our project. We are particularly interested in how children learn to regulate their emotional experience. Being able to cope in emotionally demanding situations is a necessary skill for both children and adults!

- This project aims to look at what aspects of everyday fun and play encourage children to develop positive responses to emotional demands. This project is worthwhile, as it is important to understand how children learn to respond to emotion naturally, and how we can assist in their emotional development.

❖ What does the research involve?

- If possible, with your permission, we would like to invite the families from your kindergarten to participate. This will involve parents completing a short questionnaire, and children engaging in a series of play activities. We would like to be able to meet with the children at your kindergarten and conduct the research as part of the children's usual daily activities.

- We are asking your approval to invite parents and children via a letter sent home with the child. These will be returned to a collection box at your office. If the parents/guardians consent and the child is willing to participate, we would like to spend some time with the children over a typical week.

- We would like to conduct a series of pretend play games with each child during play time. There are two kinds of games. One is a freeplay game where the children are free to choose their own game, and the other is more structured and involves a task to assess emotional development. The outlines of both these tasks are included in this package. The tasks will need to be done in a quiet area of the classroom. We have found that the reading area of mat area works really well. It is estimated that each child will only be away for 15 to 20 minutes. All children will receive a small prize for their participation. They will be asked to put the prize in their bag to take home. This activity will be videotaped.

- Research activities will take place at the convenience of the teacher, and with minimal disruptions. As well as the primary researcher Karma Galyer, a research assistant may be asked to help out.

- Parents will also be asked to complete questionnaires. These will be posted to their home address, and will not involve kindergarten staff.

- Confidentiality is assured for all participants. A coding system will be utilised to ensure that no children can be identified by name. The coding information will be kept in a secure filing cabinet and destroyed when the project is completed. Only the researcher will view the videotapes. These will also be deleted after coding and analysis.

❖ University details

- This project is being completed by clinical psychology student Karma Galyer as part of a doctoral thesis. It is under the supervision of Professor Ian Evans. If there are any questions or concerns about the project please do not hesitate to contact Karma (details provided below).

Thanks to you and your staff for your time and consideration.

Karma T. Galyer

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THE RESEARCH PROTOCAL

❖ Introduction

There has been observation of a relationship between frequency of pretend play and a child's emotional experience and expression within that play (Fein, 1989). The potential of pretend play as a socialisation context for learning emotion regulation has also been described by Fein. De Lorimier, Doyle, and Tessier (1995) and Connolly and Doyle (1984) observed that pretend play encouraged a level of social and emotional involvement that went beyond that observed in non-pretend play.

Fein (1989) contends that there is an abundant theoretical precedent for considering pretence as a unique mode for emotional learning. Pretend play goes beyond literal meaning to a context where children have the opportunity to process, manifest and modify experiences that involve high levels of emotional arousal. Bretherton and Beeghly (1989) propose that pretend play is the only medium with unique qualities that enable children to gain emotional mastery in a safe environment.

Pretend play has the potential for an infinite number of characters and activities with a range of emotions and behaviour to be experienced. The experience of emotion and high levels of arousal during pretend play games is evident in studies by Golomb and Galasso

(1995), Harris, Brown, Marriot, Whittal, and Harmer (1991). In these studies children who could reliably differentiate between real and pretend events, still report fear of negatively valenced pretend items. When presented with a scary pretend monster in a box, some of the children changed the negative valence of the monster before they would continue to interact with the researcher. Golomb and Galasso, (1995) propose that this behaviour is evident of emotion regulation, where children are using cognitive and behavioural techniques to alter their experience of emotion.

❖ The current study

This study will focus on the proposed advantages of pretend play for emotional learning. The first aim of this study is to observe children's behaviour during freeplay, noting the frequency and duration of time spend in pretend and non-pretend play. Variables of interest include the opportunities for emotional learning in each type of interaction. The second aim of this study is to examine individual differences in children's emotion regulation ability. This will involve observation of children in an emotion regulation task. In previous studies there have been children who are less capable at emotion regulation tasks. The aim of this study is to determine if these children can complete a task given specific opportunities in a supported pretend play environment.

❖ Contacting and recruiting families

- Contact the relevant people at Hamilton kindergarten facilities by phone.
- With permission from staff, families who attend their facility will be invited to participate. It is anticipated that around 30 children aged 3-5 years will take part in the study.
- Leaflets asking parents if they and their children would like to participate will be given to every parent. These leaflets will include an information sheet and consent form for parents to fill out. The kindergarten facilities will have a return box located in the office area for the consent forms.
- The leaflet will include the researcher's phone number and email address and postal address. Parents will be encouraged to contact the researcher at their convenience if they wish to ask questions or meet in person.

❖ Research tasks for the children

- The research will be conducted at the kindergarten. Parents will be welcome to attend their child's session with the researcher.
- The researcher will ask staff to introduce her to all the children during the morning mat time. She will spend this time with the children so they all know who she is.
- A suitably quiet place within view of the staff will be arranged to conduct research activities. Research activities are expected to take around 15-20 minutes, and will be conducted during children freeplay time.
- Prior to beginning any research task, the researcher will explain that they can join in a pretend play game. She will ask again if the child would like to participate, explaining they can stop playing anytime they like as follows:

  " *My name is Karma. I have a game that I'm playing with some of the kids from your kindy today. Just before we start I want to make sure that you would like to do this activity today. All we are going to do is play a short game with these toys. We will make videotape of our game. Okay?" If you want to stop and go back to class just tell me. Does that sound all right? Don't forget you can stop any time you like"*

- There are two parts to the activities with children. The first part is to collect information on children's frequency and duration of pretend play, and the second part is collection of information about the children's emotion regulation ability.

- ***Play activities:*** Each child will be asked if they would like to come and play with some toys that the researcher has and told they can play with them any way they like. The researcher will not make any attempt to direct this activity. The researcher will note details about what activity the child is engaged in. Specifically they will collect information about whether the child in engaged in pretend play, non-pretend play or no play. After the research activity is completed, each child will receive a small sticker as a thankyou for his/her effort and participation. Children will be given a sticker whether or not they complete the whole task.

- ***Emotion regulation task:*** This is a short activity designed to be an emotion regulation task for children. It is based on a similar

procedure to Golomb and Galasso (1995) and Harris et al. (1991). This theme is designed to allow children the opportunity to demonstrate emotion regulation skills. The proposed task has four stages as follows:

Firstly, children will be introduced to a set of toys and a small brown cardboard box. Children will be asked to look inside the box and establish that it is empty. Children will proceed to play their own choice of game with the material provided.

Secondly, children will be reintroduced to the brown cardboard box in the pretend game. They will be asked to pretend that there is a monster or a kitten in the box. This game will be conducted twice. Each child will have a turn at pretending there is a monster and kitten in the box. Children will be asked the following questions and given the following prompts.

Question	*Prompt:* Monster Condition	*Prompt:* Kitten Condition
What do you think it looks like?	I think it's slimy and yucky!	I think it's nice and furry!
Do you think it's friendly?	No, it's not friendly.	Yes, it is friendly.
What would it do if it got out?	I think it would chase us!	I think it would play with us!

Thirdly, children will be asked to put their hand into the partially open box. The researcher will also put her hand in and pretend there is a creature. The box will then be put to one side.

Fourthly, the child will be asked to tidy-up the box when the game is over. The child will be shown that the box is empty before going back to class

- As per usual in a kindergarten facility the staff will be informed if any child becomes upset or distressed during a research activity. Children's research activities will be videotaped and later analysed. After the research activity is completed, each child will receive a small sticker as a thankyou for his/her effort and participation. Children will be given a sticker whether or not they complete the whole task.

❖ References

Bretherton, I., & Beeghly, M. (1989). Pretense: Acting "as if". In J. J. Lochman & N. L. Hazen (Eds.), Action in a social context . New York: Plenum Press.

Connolly, J. A., & Doyle, A. (1984). Relation of social fantasy play to social competence in preschoolers. Developmental Psychology, 20, 797-806.

De Lorimier, S., Doyle, A., & Tessier, O. (1995). Social coordination during pretend play comparisons with nonpretend play and effects on expressive content. Merrill-Palmer Quarterly, 41, 497-516.

Fein, G. G. (1989). Mind, meaning and affect: Proposals for a theory of pretense. Developmental Review, 9, 345-363.

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Appendix B

Study 1 Information and Consent Form Completed By Parents

CONSENT FORM

Please detach and return to your kindy
A collection box will be provided.

Name of research project:
Emotional development in pre-school children.

I have read over the information and agree to help with the research described. I have had a chance to ask any questions and these have been answered to my satisfaction.

I agree to allow_____
[please print the name of your child here] to participate in this research project and I understand I may withdraw this consent at any time.

Signed:_____
Name printed:_____
Date:_____

I would like a summary of the findings from this study ___

Please provide a postal address where your questionnaire and summary can be sent:

_____
_____
_____

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Cut along dotted line

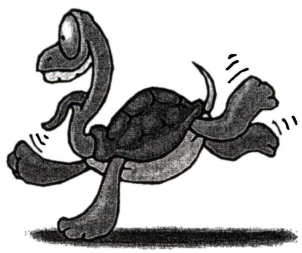
ANY QUESTIONS?

- This project is being conducted by Karma Galyer as a Waikato University Doctorate Thesis. It is part of the Clinical Research Lab supervised by Professor Ian Evans.
- Please feel free to contact Karma Galyer if you have any questions or concerns about this project.
- I can be contacted by phone, on (07) 838 4755. If I am not available, please leave a message and I will get back to you.
- Alternatively my email address is ktg@waikato.ac.nz
- If this does not suit, I can arrange to meet you at your child's pre-school.

Thank you for considering our project.

Your time and effort is appreciated!

Invitation to participate.....



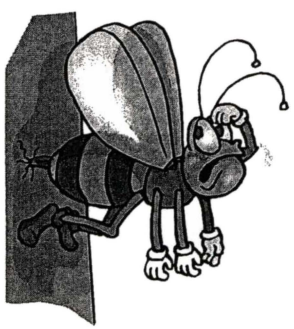
A STUDY OF CHILDREN'S EMOTIONAL DEVELOPMENT

WHAT IS THE PROJECT ABOUT?

- We are interested in how children learn to regulate their emotional experience.
- This project will investigate what aspects of everyday fun and play encourage children to develop positive responses to emotional demands.

WHY IS THIS IMPORTANT?

- Being able to cope in emotionally demanding situations is a necessary skill for both children and adults!
- When we understand how children learn about emotion naturally, then we can provide more effective help with their emotional development.



WHAT CAN YOU DO TO HELP

- The project involves you and your child. Fill in the consent form, and return it to your child's pre-school.
- A questionnaire about your child's age and ethnicity will be posted to your home. This should take a short while to complete, and a freepost envelope will be provided to return them.

WHAT CAN YOUR CHILD DO?

- We would like to look at your child's daily play activities while they are at their pre-school facility. This will involve us interacting with your child for a short period each day and noting what kinds of activities they enjoy doing.
- Your child will also be asked to participate in a series of games during their school time. This includes a task that measures emotion regulation. This will be videotaped at your child's pre-school facility. Children will be given a small prize for their effort in participating. As a parent, you are welcome to sit in with your child during these games.
- If you do not want to participate it will not harm your relations with the pre-school, or the University of Waikato in any way.
- You and your child have the right to withdraw from the project at any time, even after you have returned the consent form.

WHAT WILL HAPPEN TO THE INFORMATION YOU PROVIDE?

- All information provided is kept confidential in a locked filing cabinet. A code number will be used instead of names on questionnaires. This means you and your child cannot be identified in any part of the study.
- Your child's videotape will be deleted after analysis. Tapes will only be seen by the person who participates in the emotion regulation task with your child.
- You are welcome to a summary of the results from this project. If you would like a summary, please tick the box on the consent form and this will be sent to your address when the project is finished.

Appendix C

Study 1 and Study 2 Demographic Data Supplied by Parents

Emotions in Children's Play Questionnaire for Parents

Thanks for your interest in our project. We are very pleased with the response we got from families. We also need some information about your child outside kindergarten.

1. What is your relationship to your pre-school child? (i.e. Mum, Dad, guardian etc)_____

2. How old is your child? (years and months)_____
3. What ethnic group(s) does your child belong to? _____
4. How many brothers and sisters does your child have, and what are their ages? _____

5. What pre-school facilities does your child go to? (i.e. playcentre, Kohanga Reo kindergarten, daycare, plunket, church groups, etc.)

Thanks again for your help.

Appendix D

Ministry of Education Socio-economic Indicators for Schools

Statistics New Zealand divide New Zealand into small geographic areas called mesh blocks, and aggregated census data can be obtained for each mesh block. Data is taken from each student's household in a mesh block to calculate the socio-economic status of the local primary and high schools. The local kindergarten is rated in accordance with the primary schools.

The indicator was developed on six dimensions; equivalent household income, parent's occupation, household crowding, parent's educational qualifications, income support payment received by parents, and Māori or Pacific ethnicity. Schools are rated on a scale from one to ten, where lower ratings indicate less affluent areas. For example, in a school with a rating of one, approximately 50% of parents do not have a school qualification and receive income support. In comparison, in a school with a rating of 10, approximately 7% of parents do not have a school qualification, and receive income support. Ratings are divided into three categories. Low decile schools have ratings between one and three, medium decile schools have ratings between four and seven, and high decile school have ratings between eight and ten.

Appendix E

List of Toys and Materials Used In Study 1

The toys used in the play tasks during Study 1 are listed below in Table E1. One of each of these toys was used unless stated. These materials were purchased from local outlets. They are consistent with the play material policies of the Waikato Kindergarten Association, which does not allow material with themes of violence.

Table E1

List of Toys and Materials Used in Study 1

Toy/Material	Description
Large farm figurines	Adult male doll in farm clothing, cow, horse, chicken, duck, sheep, dog.
Large family figurines	Female adult doll, male adult doll, female child doll.
Large fantasy figurines	Red doll (ambiguous), white doll (ambiguous), blue monster doll.
Small fantasy figurines	Tigger™, Winnie-the-Pooh™, Rabbit™, Gonzo™, Mr Blobby™, Hamburgler™, Smurfs™(two).
Small work figurines	Female postal worker, male doctor, male firefighter.
Small animal figurines	Shark, lizard, beaver, antelope.
Vehicles	Large car, small car (two), racing boat, spaceship, three wheeled bike.
Tool set	Shovel, spanner, hammer. Screwdriver, pliers, wrench.
Megablocks	Large green and red bricks (40 pieces), medium blue, yellow and red bricks (60 pieces), bucket, base.
Box	Brown cardboard box, dimensions 25 cm X 25 cm.

Appendix F

Study 1 Instructions for the "Pretend Creature in a Box" Scenario

The "pretend creature in a box" scenario is presented in three stages. Prompts and questions for the both the Monster and the Kitten Condition are shown.

Phase 1. Find the box as part of the play activity. Introduce the box by saying, *"I found this box and it's making a noise"*. Bring the box up to your ear and pretend to listen. Hold the box out to the child and say, *"here, you have a listen"*. Keep holding onto the box to prevent the child from opening it. When the child has listened to the box, you listen again and say, *"I can hear a growling/purring noise. Let's pretend it's a monster/kitten"*.

Phase 2. Continue to hold onto the box. Let the child touch the box. If the child is persistently or forcefully trying to open the box let them open it. When the child asks for the box to be opened, or if they can look in the box, respond by saying, *"not yet"*. During phase two ask the questions shown in Table F1, and listen to the child's answer. Give the prompts listed in Table F1 with negative facial/vocal expression in the Monster Condition and positive facial/vocal expression in the Kitten Condition. Listen to the child's response to the prompts. If the child asks a question about the creature in the box repeat the information from the prompt. If he child asks for more information that the prompt provided, say, *"I don't know"*.

Table F1

Scenario Questions and Prompts

	Prompt	
Question	Monster Condition	Kitten Condition
What do you think it looks like?	I think it's slimy and yucky!	I think it's nice and furry!
Do you think it's friendly?	No, it's not friendly.	Yes, it is friendly.
What would it do if it got out?	I think it would chase us!	I think it would play with us!

Phase 3. Continue to hold onto the box. Hold the box out to the child and say, *"I am going to open the lid, just a little bit so the monster/kitten doesn't get out"*. Slide the box open to create a gap approximately five centimeters wide. Make sure the child cannot see into the box or remove the lid entirely. Then say, *"you put a hand in and see that it is the monster/kitten"*. Listen to the child response. If the child disagrees say, *"really? Let me do it"*. Put your hand into the box without looking and say, *"I can feel the monster/kitten. It's slimy/furry"*. If the child agrees there is a creature say, *"let me have a turn"*. Put your hand into the box without looking and say, *"I can feel the monster/kitten. It's slimy/furry"*. Do not let the child investigate the box any further. Close the lid and take a plastic bag from the side of the play area. Open the plastic bag and say, *"let's put the monster/kitten in here so he doesn't get out/run away"*. Put the box to one side.

Caveats. The box must stay within plain view of the child from the beginning to the end of the play session. The scenario is structured, however it is important to respond to the child's bids for participation in the scenario. Do not ignore what the child says. Respond to the child as you have been in the previous play. Debrief

the child at the end of the play session by showing them that the box is empty and reminding them that the creatures are pretend.

Appendix G

Variables Observed at Each Stage of the Study 1 and the Study 2 Experiments

Table G1

Variables Observed at Each Stage of the Experiment in Study 1

Stage	Variable
1: Neutral box	Level of interest in neutral box
2: Pretend play	Variability in emotion tone and intensity
	Pretend play transformations
3: Pretend creature in a box scenario	Variability in emotion tone and intensity Level of interest in valenced box
	Engagement in the "pretend creature in a box" scenario
	Spontaneous attempts to investigate the content of the box
	Modification of the scenario
4: Set emotion regulation task	Approach to the box on request
5: Pretend play	None
6: Tidy up time	Approach to the box on request
	Pretence about a creature in the box

Table G2

Variables Observed at Each Stage of the Experiment in Study 2

Stage	Variable
1: Neutral box	Level of interest in neutral box
2: Pretend play	Pretend play transformations
3: Pretend creature in a box scenario	Level of interest in valenced box
	Engagement in the "pretend creature in a box" scenario
	Spontaneous attempts to investigate the content of the box
	Modification of the scenario
4: Information	Response to visual or verbal information
	Response when the box was put to one side
5: Pretend play	Spontaneous approach to box
	Interaction with box if approached
6: Repeat "pretend creature in a box" scenario	Approach to the box on request
	Pretence about a creature in the box

Appendix H

Information about Study 2 for the Waikato Kindergarten Association and Individual Teaching Teams

Pretend Play and the Development of Emotion Regulation

➢ This includes

- Information for staff
- Description of this study
- Information for parents

INFORMATION FOR STAFF

➢ What is the project about?

Thankyou for your interest in our project. This research is based on a growing literature from developmental psychology that describes how pre-school children learn about feelings. The particular focus for this research in on what elements of a child's environment naturally fosters emotional development. This project aims to look at what aspects of everyday fun and play encourage children to develop positive responses to emotional demands. The aim of this project is not control of children's feelings, but rather to examine how children develop an adaptive experience of emotions. This project is the final project in a series of studies that have been conducted in kindergartens in the Waikato.

➢ Why is this research important?

Emotional development is an integral part of child development. It is important to understand how children learn to respond to emotion naturally, and how we can assist in their emotional development. According to the holistic model, emotional development is directly related to growth in other skills. We have good evidence that some children are at risk for not developing the emotional competencies outlined in Te Whaariki. We believe that early childhood is a crucial time for emotional development and having knowledge of what is important could be beneficial to assist children's growth.

➢ What does the research involve?

If possible, with your permission, we would like to invite the families from your kindergarten to participate. This will involve parents completing a short questionnaire and children engaging in a short play activity. We would like to be able to meet with the children at your kindergarten and conduct the research as part of the children's usual daily activities.

We are asking your approval to invite parents and children via a letter sent home with the child. These will be returned to a collection box at your office. If the parents/guardians consent and the child are willing to participate, we would like to spend some time with the children over a typical week.

We would like to conduct a pretend play game with each child during play time. There are two parts to the game. One is freeplay where the children are free to choose their own activities, and the other is more structured and involves a task to assess emotion regulation. The outline of this task is included in this package. The task will need to be done in a quiet area of the classroom. We have found that the reading area of mat area works really well. It is estimated that each child will only be away for 15 to 20 minutes. All children will receive a sticker for their participation. They will be asked to put the sticker in their bag to take home. This activity will be videotaped.

Research activities will take place at the convenience of the teacher, and with minimal disruptions. As well as the primary researcher Karma Galyer, a research assistant may be asked to help out.

Confidentiality is assured for all participants. Parents and/or teachers will be asked to provide information about the child age and ethnicity. A coding system will be utilised to ensure that no children's information can be identified by name. The coding information will be kept in a secure filing cabinet and destroyed when the project is completed. Only the researcher will view the videotapes. These will also be deleted after coding and analysis.

➢ University details

This project is being completed by Clinical Psychologist Karma Galyer as part of a doctoral thesis. It is under the supervision of Professor Ian Evans and A. Dharmalingham (Dharma). If there are any questions about the project please do not hesitate to contact Karma (details provided below).

Thanks to you and your staff for your time and consideration.

Karma Galyer	Ian Evans	Dharma (A. Dharmalingham)
PH (07) 838 4755	PH (07) 856 2889	PH (07) 856 2889
ktg@waikato.ac.nz	i.m.evans@massey.ac.nz	dharma@waikaito.ac.nz

THE RESEARCH PROTOCAL

➢ Introduction

There has been observation of a relationship between frequency of pretend play and a child's emotional experience and expression within that play (Fein, 1989). The potential of pretend play as a socialisation context for learning emotion regulation has also been described by Fein. De Lorimier, Doyle, and Tessier (1995) and Connolly and Doyle (1984) observed that pretend play encouraged a level of social and emotional involvement that went beyond that observed in non-pretend play.

Fein (1989) contends that there is an abundant theoretical precedent for considering pretence as a unique mode for emotional learning. Pretend play goes beyond literal meaning to a context where children

have the opportunity to process, manifest and modify experiences that involve high levels of emotional arousal. Bretherton and Beeghly (1989) propose that pretend play is the only medium with unique qualities that enable children to gain emotional mastery in a safe environment.

Pretend play has the potential for an infinite number of characters and activities with a range of emotions and behaviour to be experienced. The experience of emotion and high levels of arousal during pretend play games is evident in studies by Golomb and Galasso (1995), Harris, Brown, Marriot, Whittal, and Harmer (1991). In these studies children who could reliably differentiate between real and pretend events, still report fear of negatively valenced pretend items. When presented with a scary pretend monster in a box, some of the children changed the negative valence of the monster before they would continue to interact with the researcher. Golomb and Galasso propose that this behaviour is evidence of emotion regulation, where children are using cognitive and behavioural techniques to alter their experience of emotion so they can stay involved with the activity.

➢ The current study

The primary focus of this study is on the proposed advantages of pretend play for emotional learning. This study will extend a previous study of emotion and emotion regulation during pretend play conducted in Waikato kindergartens. The results of this study showed that children's responses during pretend play were diverse, and that some children are more likely than others to benefit from this experience. This study aims to follow up on those findings by exploring some of the conditions under which pretend play could be a learning experience for children.

➢ Contacting and recruiting families

- Contact the relevant people in Hamilton kindergarten facilities by phone.
- With permission from staff, families who attend their facility will be invited to participate. It is anticipated that around 60 children aged 3-5 years and their parents will take part in the study.
- Leaflets asking parents if they and their children would like to participate will be given to every parent. These leaflets will include an information sheet and consent form for parents to fill out.

Kindergarten facilities will have a return box located in the office area for the consent forms.

- The leaflet will include the researcher's phone number and email address and postal address. Parents will be encouraged to contact the researcher at their convenience if they wish to ask questions or meet in person.

➢ Research tasks for the children

- The research will be conducted at the kindergarten. Parents will be welcome to attend their child's session with the researcher.
- The researcher will ask staff to introduce her to all the children during the morning mat time. She will spend this time with the children so they all know who she is.
- A suitably quiet place within view of the staff will be arranged to conduct research activities. Research activities are expected to take around 15-20 minutes, and will be conducted during children freeplay time.
- Prior to beginning any research task, the researcher will explain that they can join in a pretend play game. She will ask again if the child would like to participate, explaining they can stop playing anytime they like as follows:

  " *My name is Karma. I have a game that I'm playing with some of the kids from your kindy today. Just before we start I want to make sure that you would like to do this activity today. All we are going to do is play a short game with these toys. We will make videotape of our game. Okay?" If you want to stop and go back to class just tell me. Does that sound all right? Don't forget you can stop any time you like"*

- There are two parts to the activities with children. The first part is to collect information on children's pretend play style, and the second part is collection of information about the children's emotion regulation in a pretend play game.

- ***Play activities:*** Each child will be asked if they would like to come and play with some toys that the researcher has and asked if they would like to play a treasure hunt game. Information will collected about whether the child in engaged in pretend play, non-pretend play or no play. The same play theme will be used in two sessions.

After each research activity is completed, each child will receive a small sticker as a thankyou for his/her effort and participation. Children will be given a sticker whether or not they complete the whole task.

- ***Emotion regulation:*** This is a short activity designed to be an emotion regulation task for children. It is based on a similar procedure to our previous studies. It was originally adapted from Golomb and Galasso (1995) and Harris et al. (1991). This theme is designed to allow children the opportunity to demonstrate emotion regulation skills. The proposed task is as follows:

Firstly children will be introduced to a set of toys and a small brown cardboard box. Children will be asked to look inside the box and establish that it is empty. Children will proceed to play a treasure hunt game with the materials provided.

Secondly, children will be reintroduced to the brown cardboard box in the pretend game. They will be asked to pretend that there is a monster or a kitten in the box. Half the children will be asked to pretend there is a monster, and half will be asked to pretend there is a kitten. They will be asked the following questions about the monster/kitten. "*What do you think it looks like? Do you think it's friendly? What would it do if it got out*"

Thirdly, children will divided into three groups. One group will be asked to look inside the box and see the pretend creature. One group will be reminded that the creature is pretend. And one group will not be given any reminders. The researcher will then pretend that the monster/kitten is asleep and the box will be put to one side of the play area.

Fourthly, play will continue with a treasure hunt game. After a few minutes the game will end and the researcher and the child will pack up the toys. Before the box is put away the researcher will ask the child to use the box and pretend that there is a monster/kitten in there. She will ask the child the same three questions as before.

- As per usual in a pre-school facility the staff will be informed if any child becomes upset or distressed during a research activity. To date no child had become upset during these tasks. Instead, children are very enthusiastic about this game.
- Children's research activities will be videotaped and later analysed. After the research activity is completed, each child will receive a small sticker as a thankyou for his/her effort and participation. Children will be given a sticker whether or not they complete the whole task.

➢ References

Bretherton, I., & Beeghly, M. (1989). Pretense: Acting "as if". In J. J. Lochman & N. L. Hazen (Eds.), Action in a social context . New York: Plenum Press.

Connolly, J. A., & Doyle, A. (1984). Relation of social fantasy play to social competence in preschoolers. Developmental Psychology, 20, 797-806.

De Lorimier, S., Doyle, A., & Tessier, O. (1995). Social coordination during pretend play comparisons with nonpretend play and effects on expressive content. Merrill-Palmer Quarterly, 41, 497-516.

Fein, G. G. (1989). Mind, meaning and affect: Proposals for a theory of pretense. Developmental Review, 9, 345-363.

Golomb, C., & Galasso, L. (1995). Make believe and reality: Explorations of the imaginary realm. Developmental Psychology, 31, 800-810.

Harris, P. L., Brown, E., Marriot, C., Whittal, S., & Harmer, S. (1991). Monsters, ghosts and witches: Testing the limits of the fantasy-reality distinction in young children. British Journal of Developmental Psychology, 9, 105-123.

Appendix I

Study 2 Information and Consent Form Completed by Parents

CONSENT FORM

Please detach and return to your pre-school
A collection box will be provided.

Name of research project:
Emotional development in pre-school children.

I have read over the information and agree to help with the research described. I have had a chance to ask any questions and these have been answered to my satisfaction.

I agree to allow_____
[please print the name of your child here] to participate in this research project and I understand I may withdraw this consent at any time.

Signed:_____
Name printed:_____
Date:_____

I would like a summary of the findings from this study ___

Please provide a postal address where your questionnaire and summary can be sent:
_____
_____
_____

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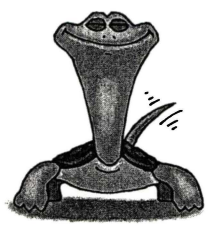
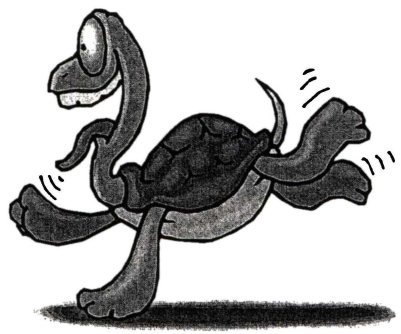
ANY QUESTIONS?

- This project is being conducted by Karma Galyer as a Waikato University Doctorate Thesis. It is part of the Clinical Research Lab supervised by Professor Ian Evans and Dr A. Darmalingham.
- Please feel free to contact Karma Galyer if you have any questions or concerns about this project.
- I can be contacted by phone, on (07) 838 4755. If I am not available, please leave a message and I will get back to you.
- Alternatively my email address is ktg@waikato.ac.nz
- If this does not suit, I can arrange to meet you at your child's pre-school.



Thank you for considering our project.
Your time and effort is appreciated!

Invitation to participate.....



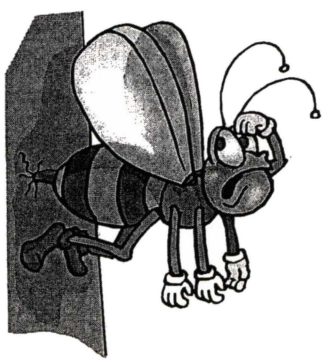
A STUDY OF CHILDREN'S EMOTIONAL DEVELOPMENT

WHAT IS THE PROJECT ABOUT?

- We are interested in how children learn to regulate their emotional experience.
- This project will investigate what aspects of everyday fun and play encourage children to develop positive responses to emotional demands.

WHY IS THIS IMPORTANT?

- Being able to cope in emotionally demanding situations is a necessary skill for both children and adults!
- When we understand how children learn about emotion naturally, then we can provide more effective help with their emotional development.



WHAT CAN YOU DO TO HELP

- The project involves you and your child. If you are interested, please fill in this consent form, and return it to your child's pre-school.
- A questionnaire about your child's age and ethnicity will be posted to your home. This should only take a short while to complete, and a freepost envelope will be provided to return it.

WHAT CAN YOUR CHILD DO?

- Your child will be asked to participate in a pretend game during their free-play time at kindergarten. This game includes a task that measures emotion regulation. The game is based on everyday themes that are commonly found in children's play.
- This will be videotaped at your child's pre-school facility. Children will be given a small prize for their effort in participating. As a parent, you are welcome to sit in with your child during this game.
- This project is voluntary. If you don't want to participate you don't need to let us know. Only families who return the consent form will be contacted.

WHAT WILL HAPPEN TO THE INFORMATION YOU PROVIDE?

- All information provided is kept confidential in a locked filing cabinet. A code number will be used instead of names on questionnaires. This means you and your child cannot be identified in any part of the study.
- Your child's videotape will be deleted after analysis. Tapes will only be seen by the person who participates in the emotion regulation task with your child.
- You are welcome to a summary of the results from this project. If you would like a summary, please tick the box on the consent form and this will be sent to your address when the project is finished.
- You and your child have the right to withdraw from the project at any time.

Appendix J

List of Toys and Materials Used in Study 2

The materials used in the play tasks during Study 2 are listed in Table J1. One of each of the toys was used unless stated. These materials were purchased from local outlets. They are consistent with the play material policies of the Waikato Kindergarten Association, which does not allow material with themes of violence.

Table J1

List of Toys and Materials Used in Study 2

Toy/Material	Description
Large farm figurines	Adult male doll in farm clothing, cow, horse, chicken, duck, sheep, dog.
Large family figurines	Female adult doll, male adult doll, female child doll.
Large fantasy figurines	Red doll (ambiguous), white doll (ambiguous), blue monster doll.
Small fantasy figurines	Tigger™, Winnie-the-Pooh™, Rabbit™, Gonzo™, Mr Blobby™, Hamburgler™, Smurfs™(two).
Small work figurines	Female postal worker, male doctor, male firefighter.
Small animal figurines	Shark, lizard, beaver, antelope.
Vehicles	Large car, small car (two), racing boat, spaceship, three wheeled bike.
Tool set	Shovel, spanner, hammer. Screwdriver, pliers, wrench.
Megablocks	Large green and red bricks (40 pieces), medium blue, yellow and red bricks (60 pieces), bucket, base.
Box	Brown cardboard box, dimensions 15 cm X 15 cm.
Mats	Small blue sea shell, large blue and yellow striped.

Appendix K

Set Prompts for the Treasure Hunt Game

The pretend treasure hunt game was carried out using the following set of prompts (see Table K1). Each child was given all of the prompts at some stage during the initial play session. Children's responses to the prompts provided the direction for the game. For example, if the child did not want to incorporate a prompt into the game, that prompt was not repeated. In the second session the prompts that the children did not spontaneously incorporate into the theme were reintroduced. The "pretend creature in the box" scenario was introduced during the sequence where the characters are looking for treasure.

Table K1

Prompts Used in the Treasure Hunt Game

Treasure Hunt Prompts
"Who do you want to be? I'll be the superhero and these can be the baddies. We have to find the treasure before they do!"
"We need to a fast boat that can help us get to the treasure quickly."
"Here's some spy glasses. We need these to see where the treasure is."
"We also need a treasure map. Have you seen one?"
"The map says the treasure is under the water. We can get there on our boat. Let's hurry and get there before the baddies do."
"Where's that treasure?" - look in two places before finding the treasure.
"Here's some treasure. Put it on our boat quickly. I can see someone sneaking up to steal it" - researcher changes character to baddy.

Appendix L

Study 2 Instructions for the "Pretend Creature in a Box" Scenario

The "pretend creature in a box" scenario is presented in three phases. Questions for the both the Monster and the Kitten Condition are shown.

Phase 1. Find the box as part of the play activity. Introduce the box by saying, *"There's a box over there in the water and it's making a noise"*. Bring the box up to your ear and pretend to listen. Hold the box out to the child and say, *"here, you have a listen"*. Keep holding onto the box to prevent the child from opening it. When the child has listened to the box, you listen again and say *"I can hear a growling/purring noise. Let's pretend it's a monster/kitten"*.

Phase 2. Continue to hold onto the box. Let the child touch the box. If the child is persistently or forcefully trying to open the box let them open it. When the child asks for the box to be opened, or if they can look in the box, respond by saying, *"not yet"*. During phase two ask the following questions "*What do you think it looks like?" "Do you think it's friendly?" "What would it do if it got out?"* and listen to the child's answer. If he child asks for more information about the content of the box say, *"I don't know"*.

Phase 3. Continue to hold onto the box. At this point children will be separated into one of three groups. For the Visual Information Condition, take the lid off the box and say, *"let's have a look at it"*. Ensure the child looks inside the box. Pretend that the monster/kitten is asleep by changing your voice to a whisper and saying, *"look it's asleep. Put the lid back on and put it over here"*. Put the box to one side and pause. If the child does not return to play then prompt them by saying, "*now where's that treasure?"* For the No Information Condition, listen to the box again and say, "*I can't hear anything. It must have gone to sleep. Let's put*

it over here". If the child does not return to play then prompt them by saying, *"now where's that treasure?"* For the Verbal Information Condition listen to the box again and say, *"I can't hear anything. It must have gone to sleep. Let's put it over here".* When the box is put to one side say, *"it's only a pretend monster/kitten eh?"* If the child does not return to play then prompt them by saying, *"now where's that treasure?"*

Caveats. The box must stay within plain view of the child from the beginning to the end of the play session. The scenario is structured, however it is important to respond to the child's bids for participation in the scenario. Do not ignore what the child says. Respond to the child as you have been in the previous play. Debrief the child at the end of the play session by showing them that the box is empty and reminding them that the creatures are pretend.