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# The Emergence of the Capacity for Guilt in Preschoolers: The Role of Personal Responsibility in Differentiating Shame from Guilt

Jamie L. Walter

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THE EMERGENCE OF THE CAPACITY FOR GUILT IN PRESCHOOLERS:  
THE ROLE OF PERSONAL RESPONSIBILITY IN  
DIFFERENTIATING SHAME FROM GUILT

By

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B.A. St. Mary's College of Maryland, 1992

A THESIS

Submitted in Partial Fulfillment of the

Requirements for the Degree of

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(in Psychology)

The Graduate School

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August, 2001

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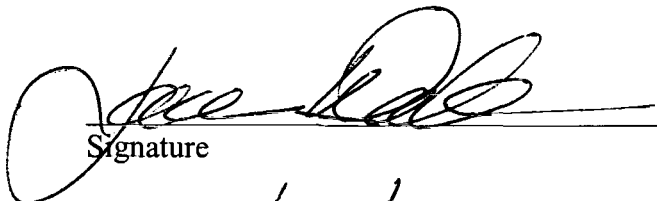
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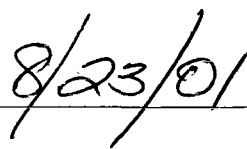
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THE EMERGENCE OF THE CAPACITY FOR GUILT IN PRESCHOOLERS:  
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By Jamie L. Walter

Thesis Advisor: Dr. Peter J. LaFreniere

An Abstract of the Thesis Presented  
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Degree of Doctor of Philosophy  
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The present study examined the development of guilt and shame in preschool children, as well as individual differences related to the expression of these emotions. Sixty-one children in three age groups were videotaped in a mishap paradigm in which an experimentally manipulated doll's arm fell off during play. Children were randomly assigned to either an ambiguous or a personal responsibility condition. Videotapes were coded for behavioral (e.g., latency to repair, avoidance) and affective (e.g., joy, tension/worry) reactions. Individual differences were assessed through parental reports using the My Child (Kochanska, DeVet, Goldman, Murray, & Putman, 1994) and teacher ratings using the Social Competence and Behavior Evaluation Inventory (SCBE; LaFreniere, Dumas, Capuano, & Dubeau, 1992).

As expected, 4-year-olds expressed fewer avoidant behaviors such as toy avoidance, experimenter avoidance than did 2 or 3-year-olds. Additionally, older preschoolers expressed more guilt-relevant emotions such as sadness and decreased joy,

rather than shame-relevant emotions such as tension/worry, which were seen in younger preschoolers. Results of the responsibility manipulation were contrary to hypotheses. Children in the personal responsibility condition expressed more shame-relevant emotions and behaviors than did children in the ambiguous responsibility condition.

Results of the guilt and shame classification received only partial support, as children were dichotomized according to avoidant behaviors. Results suggest that the avoidance reflects shame-prone responding in children, as shame is conceptualized as avoidant behavior and affective discomfort. Nonavoiders may not fully reflect guilt, as the groups were dichotomized by avoidance but not by reparations. Results suggest that nonavoiders may reflect at least a child's proneness to guilt, as nonavoiders were higher than avoiders in guilt-relevant reactions such as latency to repair. Additionally, the avoidant/nonavoidant classification was related to age. However, responsibility manipulations did not relate to the avoidant classification as expected. Individual differences were associated with the nonavoidant/avoidant classification, reflecting guilt and shame-prone responding. Nonavoiders, in comparison with avoiders, were rated by teachers as more socially competent, and by parents as higher in affective discomfort after wrongdoing. These findings may suggest that shame developmentally precedes guilt, but that these emotions also reflect important individual differences in social and emotional functioning.

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## CHAPTER 1

### INTRODUCTION

#### Overview

Early investigations of self-conscious emotions such as guilt, shame, pride, and embarrassment relied primarily on theoretical explanations of their importance and potential harm to the human psyche. Most notable among these early theories is Freud's (1925/1974) notion that guilt emerges from the development of the superego. Beyond his early explorations of guilt, self-conscious emotions have received little theoretical or empirical investigation. Research in the development of emotions and emotional expressions in children has consistently emphasized the emergence of increasingly complex skills and understanding. Intensive research efforts have been aimed at the "basic emotions" such as anger and joy. Until recently, few researchers have investigated the self-conscious emotions, and therefore less is known about their developmental course or correlates. Our understanding of emotions such as guilt, shame, pride, envy, and embarrassment comes more from folk wisdom than from research. Although it was once thought that any study of emotion was inherently problematic and therefore best left to the world of literature and poetry, the self-conscious emotions have only recently emerged from this stigma (Fischer & Tangney, 1995; Tangney, 1995, 1998). The discrepancy between our knowledge of the basic and self-conscious emotions may come in part from our ability to study and isolate these affective states. Basic emotions, such as joy, are particularly easy to identify and record. But how do we identify and isolate an expression of guilt? Researchers have been grappling with the issue of measurement ever since Freud's early theory.

Formerly, these emotions were operationalized in such a way that it was difficult to distinguish guilt from other emotions, particularly shame. More recent theories emphasize the need to differentiate guilt from shame; with the former requiring an assessment of the action as being a violation whereas the latter requires that the self be viewed as faulty (e.g., Sroufe, 1995; Tangney, 1998; Weiner, 1986). With these more easily operationalized theoretical constructs, researchers have become less reluctant to investigate these emotions. Still, plotting the developmental course and consequences of guilt allows for a richer understanding of the emotional lives of children.

### Significance of Studying Guilt

In examining the emergence of guilt and its differentiation from shame, we are assuming that these emotions have some degree of impact on a child's current or future functioning. Little is known about the importance of these emotions, however, because they are so difficult to study (Ferguson & Stegge, 1998). Although there are many theoretical explanations of how guilt and shame differ, and of their differential correlates, we are unable to say when these emotions become distinct, which children are more prone to experience one emotion rather than the other, or how these emotions affect a child's social and emotional functioning.

### Definitions of Self-Conscious Emotions and Guilt

To investigate the emergence of these self-conscious emotions, it is first useful to understand how they are distinct from the more basic emotions. Basic emotions are defined as emotions that emerge early in life and require few cognitive abilities, are experienced in all cultures, are easily recognizable, and have a clear biological component such as the production of distinct facial expressions (e.g., Ekman, 1992; Izard &

Malatesta, 1989). In contrast, self-conscious emotions emerge later in life and require increased cognitive capacities. This class of emotions is produced when the self is compared to some standard or when the self is viewed from another person's perspective (Lewis, 1993; Stipek, 1995). For example, guilt requires that children be aware that they exist as a separate entity such that they have their own actions and intentions. In addition, children must be able to compare their behavior to an internal standard (e.g., Lewis, 1993; Lewis, Sullivan, Stanger, & Weiss, 1989). As such, guilt, shame, pride, embarrassment, envy, and empathy require the ability to be conscious or aware of the self in the social context, and to be aware of how others may view their thoughts or behaviors.

Early theoretical investigations of guilt were made within a psychoanalytic framework, and largely ignored its distinction from shame. For example, Freud argued that guilt was a reaction to conflicts between the ego and the superego, but made no real mention of shame. Later neo-Freudian theorists did differentiate these two emotions by retaining the original definition of guilt but added that shame was a reaction to conflict between the ego and the ego-ideal. Although the superego can be thought of as conscience, the ego-ideal is characterized as a perfection of the self. As Tangney (1998) points out, this distinction has similarities with other theories of the time and even contemporary definitions. For example, H. B. Lewis (1971) distinguished shame and guilt according to self and behavior focuses.

The primary definitional distinction made by most present day theorists has retained a striking similarity to early neo-Freudian ones. Shame focuses on the failure of the self whereas guilt focuses on the behavior or failed action. When the action is viewed as separate from the self, the emotional reaction is not as global or devastating. When the



self is viewed as the failure, the resulting emotional experience may be felt more intensely and chronically since it is a more global internal assault. From these emotions come distinct behavioral responses. With shame, it is the self that is bad, rather than the action, causing the child to hide or shrink away and not want to admit the wrongful act. Guilt, which comes from a realization that the action rather than the self is bad, requires the child to repair, make amends, and admit the act. Guilt then gives rise to responsibility and fault, whereas shame brings about embarrassment and humiliation (e.g., H. B. Lewis, 1971).

The above definition of guilt would require a certain degree of cognitive advancement, or superego development, to be truly experienced. With increasing cognitive abilities, such as seeing the self as a separate agent, children acquire two important aspects in the development of self-conscious emotions. First, they are able to evaluate themselves against a standard or rule and second, they are able to judge their personal responsibility for the action (Lewis, 1991; Saarni, Mumme, & Campos, 1998). The cognitive egocentrism of young children may mean that they should see all actions as their fault, and should not be able to distinguish between instances of personal responsibility and external causes of failure. However, findings in support of this are equivocal. Studies of children's understanding of the role of personal responsibility suggest that it is not until middle childhood that this appreciation develops (e.g., Shorr & McClelland, 1998; Weiner & Graham, 1989; Williams & Bybee, 1994) but observational studies of preschoolers and toddlers show at least rudimentary displays of self-conscious emotions (e.g., Kochanska, 1999; Kochanska, Murray, & Coy, 1997; Lewis, Alessandri, & Sullivan, 1992).

Other theorists have moved away from the self-behavior distinction and have instead tried to differentiate these emotions in terms of their functional significance. In defining emotions from a functionalist perspective, guilt is experienced when the goal of meeting internalized standards is not reached and shame results when the child fails to reach the goal of having the respect of others and of preserving self-esteem (Barrett & Campos, 1987). According to functionalist theory, the adaptive function of shame is not only to act in a socially acceptable way, but also to show submission to others. In contrast, guilt functions to encourage prosocial behavior and communicates remorse.

In order to more fully understand the distinctions made by these theories, the remainder of the chapter reviews the major theoretical orientations used to conceptualize guilt and its development. In addition, current research examining the development of guilt and its differentiation from the more global emotion of shame will be critically reviewed. Studies of the development of guilt (e.g., Ferguson, Stegge, & Damhuis, 1991) generally conclude that children are not capable of understanding situational differences that lead to feelings of personal responsibility until they are eight years old. As Cole, Barrett, and Zahn-Waxler (1992) found, even toddlers are capable of displaying guilt-like emotions. As will be seen, the difference in these estimations of children's self-conscious emotional experiences appears to lie in the methods used to assess them. As such, in attempting to understand the development of guilt, empirical evidence will reflect these methodological differences. The initial sections discuss the predominant theories that have begun to distinguish shame from guilt, and continue with a summary and critique of the current research findings from a methodological perspective, followed by a discussion of the specific research questions and hypotheses that theory and research have generated.

## Major Theories

Several theorists have attempted to explain the development and importance of guilt by trying to obtain a clear idea of the role of guilt in development. One widely debated aspect of guilt concerns the point in development that children are first capable of experiencing or displaying this emotion. In order to determine the emergence of guilt, it is first necessary to conceptualize and define guilt as distinct from shame. The distinction between shame and guilt is not as clear as may be thought, and research that examines guilt sometimes actually relates to shame. Clearly, the answer to the development of guilt relies, in part, on how guilt is defined.

### Psychoanalytic Perspectives

Some of the earliest investigations of shame and guilt have come from psychoanalytic theorists who have attempted to understand the development and impact of this class of emotions. In Sigmund Freud's (1925/1974) writings, children were described as developing the superego through identification with the same-sex parent. As such, the child internalized the rules of society so that the superego acted as one's conscience. Guilt was thought to be the product of a struggle between the ego and the superego as manifested by the Oedipal conflict. Since the formation of the superego is based on a fear of losing parental love, guilt was not clearly differentiated from shame. In addition, the superego was not thought to develop until a child was about 6 years old and continued to strengthen into middle elementary years. Toddlers and young preschool children would then be incapable of experiencing guilt. According to this view, it is clearly not until the resolution of the Oedipal conflict and the identification with the same-sex parent that this emotion can be felt (see Tangney, 1995 for a review).

As Lazarus (1991) states, guilt and shame may be difficult to distinguish in psychoanalytic terms since both are under the rubric of the superego. H. B. Lewis (1971) provides the clearest thinking about these emotions, as she blended psychoanalytic theory with a more cognitive approach. In this conceptualization, guilt emerges from a focus on the wrongful action, whereas shame is the product of a realization of a failed self. As such, shame reflects a global negative evaluation of the self. Shame then creates the experience of exposure and a need to avoid the critical eye of others (real or imagined). In contrast, guilt is not directed at the self, but rather a particular action. Therefore, guilt produces a need to repair the misdeed in action or by brooding over how something should have been done differently. Goldberg (1999) notes that shame and guilt have long been confused in psychoanalytic writings, and that shame in contrast to guilt reflects “the discrepancy between the person we seek to be and who we experience ourselves to be at that moment” (p. 257).

Due to the ambiguities of Freudian theory in defining guilt, specific hypotheses are difficult to generate, and especially difficult to test. One testable hypothesis is that children should not be able to experience guilt until about the age of 6, but this does not necessarily point to the development of the superego as the ultimate cause. In addition, many of the behavioral characteristics of guilt are post hoc in that the clinical presentation of various symptoms such as hostility could be interpreted as a conflict between the ego and superego. The model of guilt presented by H. B. Lewis (1971) does allow for empirical validation though. Guilt can be observed in children through their reparative actions, but also in ruminations about how things could have been done differently. Shame would involve the need to avoid the caregiver or protect the caregiver-child

relationship. The hypotheses generated by these theories lack precision and testability, but they do have considerable heuristic value and have been the basis for more modern theories.

### Cognitive and Developmental Theories

With the cognitive revolution in psychology, the importance of children's thoughts became central to many aspects of development, including emotion. A variety of cognitive capabilities have been proposed as prerequisites to the emergence of the capacity for guilt, with most placing some importance on the notion that a child needs to understand that his or her action was wrong. In addition, these theories view cognitions as developing slowly, so that precursors to guilt should be apparent before full-fledged guilt is possible.

#### Hoffman's Theory.

Similar to H. B. Lewis's notion that guilt arises from concern over one's actions, Hoffman (1984) argues that guilt arises from the understanding that one has control over one's actions, which develops in the preschool years, and from an understanding of causality, which emerges early in development. Central to this is the notion that children gradually come to understand the distinction of the self and other, and therefore can be responsible for their actions. It is this understanding of responsibility that allows for the emergence of guilt and empathy.

Hoffman though does not argue that guilt emerges from nothing to something. Instead he posits that early precursors to guilt are seen even in infancy, as babies respond to another person's pain. Still, it is not until the self and other are clearly delineated that children can experience responsibility and, therefore, full-fledged guilt. In a final stage

of guilt development, Hoffman argues that children feel guilt not just from the notion that they are responsible for another person's distress, but that they can feel guilty when they observe another person's distress but do nothing to help. Guilt can arise from empathy, because one feels guilty about another person's distress. Guilt then can take the form of feelings of responsibility for one's action and inaction.

The primary hypothesis that is evident from Hoffman's theory is that there should be a developmental progression from empathy to guilt as a sense of responsibility increases. In particular, feeling guilty about one's inaction reflects empathic concern for the other so a child expressing guilt would have to be capable of performing other empathy tasks. The distinction between precursors and guilt may lie in the situations that elicit them, with the latter capable only in situations where the child has responsibility for the harm caused to the other person.

#### Attributional Theories.

Guilt and shame can also be differentiated according to the attributions that are made about any given outcome. Weiner (1986) argues that both shame and guilt result from intense negative reactions to failure, but that the difference lies in the attributions that are made. Shame results from failures that are directed at the self, and are perceived to be uncontrollable. Guilt is a reaction to failure that is perceived to be controllable. In addition, these emotions differ on several other dimensions. Shame requires an audience, so the punishment is thought to be external. When a failure is thought to be due to uncontrollable factors, such as lack of ability, the emotion experienced by others should be pity. In contrast, guilt does not require an audience, so the punishment is internal, and will result in anger from others. For example, some children may experience guilt about

not having studied sufficiently for an exam, whereas other children may experience shame because they feel that they are not smart enough to do well on the exam. These distinctions come from the child's own attributions about the source of the failure, whether controllable, such as effort, or uncontrollable, such as ability. These attributions result in stable action tendencies, with guilt creating a desire to repair and shame creating helplessness and withdrawal.

With these definitional distinctions in mind, Weiner and Graham (1989) propose that the development of these emotions follows a two-stage model. First, children respond to situations emotionally by appraising the outcome of the event. The emotional response that follows will be globally positive or negative. No attributions are made at this stage, and only the valence of the outcome is considered. In the second developmental stage of the model, children's cognitive appraisal of a situation includes attributions of responsibility. For example, children may experience pride at having completed a task when they have made the attribution that they, rather than another person, was responsible for the task success. When a failure occurs, children then consider whether it was controllable or uncontrollable. This second stage requires advanced cognitive abilities, and therefore guilt and shame would not be expected in young children.

Continuing with the importance of attributions, Lewis (1991) has proposed a model of how guilt and shame develop. Lewis (1991, 1993) argues for what he calls a cognitive attributional theory of self-conscious emotions. Lewis argues that self-conscious emotions develop from three cognitive components: standards, rules and goals; evaluation; and attribution of the self. This first component, the standards, rules and

goals that direct our behaviors, are socialized and internalized in early development. The second and third components of his model are similar to Weiner's, with an evaluation of personal success or failure, and subsequent attributions being necessary. These cognitions produce the experience of shame or guilt. Like Weiner, Lewis argues that the experience of shame or guilt depends on the third component of the model, or attributions, with shame being more global and guilt more specific.

Lewis (1991) argues that guilt and shame both emerge after several cognitive prerequisites are met. First, a child must develop objective self-awareness, often empirically described as self-recognition. This first step typically emerges by the middle of the second year of life. Next, children develop a set of standards, rules, and goals. For example, by the end of the first year of life, infants are beginning to learn the rules that govern society, and by the end of the second year have a rudimentary understanding of good and bad actions. Finally, children must be able to infer that they are responsible for their actions, a concept reflected in the need to separate the self and object.

According to this attributional theory, guilt and shame are not possible in children until about 3 years old, and should develop at the same time since they require similar cognitive skills. Following this model, several hypotheses are evident. First, children younger than 3 years old should not be capable of exhibiting either shame or guilt whereas children over 3 years old should exhibit both. In addition, the ability to comprehend the significance of violating rules and standards should correlate highly with the expression of guilt and shame. This primarily cognitive theory states that shame and guilt have a parallel developmental course, with both emerging from the internalization of rules.



### Functionalist Theory.

One of the key theorists writing from a functionalist perspective, Lazarus (1991) terms his theory cognitive-motivational-relational. The key element to this theory is that the particular emotion that is expressed and felt comes from a unique relational meaning. The relationship, such as the caregiver-child relationship, and the harms and benefits of an emotion, are formed from two types of appraisals. The primary appraisal examines the goal relevance and congruity, whereas the secondary appraisal consists of “blame or credit, coping potential, and future expectations” (Lazarus, 1991, p. 39). As each emotion has a particular relational meaning, each also has a unique pattern of primary and secondary appraisals associated with it. In the case of guilt, the core relational theme involves a moral transgression. Moral transgressions may or may not involve the presence of another person, and may or may not have actually occurred. The key is that the person feels that a moral imperative has been violated.

Lazarus concedes that the origins of guilt within his theory have considerable overlap with the psychoanalytic tradition, attributional theory, and Hoffman’s theory since they all see guilt as rooted in the core relational theme of violating a moral imperative. His conception of shame has considerable overlap in language with the psychoanalytic tradition, as shame is conceptualized as a failure to live up to an ego ideal. Since the ego ideal originates from the parent, a failure in front of a parent or similar parental figure is an attack on the self and the internalized parent. Children who experience shame feel that they are receiving criticism from an important other, so the misdeed is a threat to the relationship. It is a fear of losing the love of the parent, or a fear of abandonment, that drives shame. As with guilt though, the critical other does not need

to be present for shame to be experienced. So although guilt is based on a moral transgression and shame on an internalized ideal, neither requires the presence of others. Lazarus points out that all emotions are reactions to some social context, whether real or imagined. The function of emotions as defined by Lazarus reflects an adaptation of the individual and a response to our needs and actions as they are experienced in our social environment. Emotions are then a complex combination of several aspects, including cognitions and motivations.

According to Lazarus' framework, these emotions are also experienced as a result of primary and secondary appraisals. For guilt to be experienced, the primary appraisal would be that there is a moral transgression. This can result in anger, anxiety, guilt, or disgust. Only if the secondary appraisal involves self-blame for the transgression will there be guilt. Finally, a child with good coping skills will attempt to make reparations. In contrast to theorists who discuss only the positive outcomes of guilt, Lazarus argues that there can be negative ones if the person denies responsibility, projects it elsewhere, or avoids thinking about the victim. Even though there is no self-blame involved, Lazarus proposes that the person may still experience guilt.

For shame to be experienced, the primary appraisal involves a failure to reach an ego ideal, which again can result in anger, anxiety, shame, and disgust. If the secondary appraisal involves blame to the self, then shame rather than guilt will be experienced. In contrast with other theorists, Lazarus notes that there can be positive outcomes to shame. Children with adequate coping skills, according to their own appraisal, will simply work harder to live up to the ideal. In addition, if the future outcomes are thought to be favorable, the fear of abandonment, and therefore shame, will be reduced. Most theorists

argue that since shame reflects a fear of abandonment or loss of parental love, people who experience shame are overly concerned with this issue. In contrast, Lazarus contends that shame should not be conceptualized in terms of these motivations, but in terms of the relational issue and appraisals.

Barrett (1998) also argues for the role of cognition in the emergence of self-conscious emotions. Differing from others, though, she contends that emotions are only influenced by cognition, but cannot be defined by it. Instead, emotions are defined by their function in the environment. Barrett asserts that the cognitive prerequisites often seen to be important to the development of guilt are present even in infants. These prerequisites include self-recognition and a “rudimentary awareness of what they are doing” (p. 78). She contends that although mirror recognition does not develop until 15 to 24 months, infants display these cognitive prerequisites in their empathetic crying and in their ability to learn sucking patterns in response to their mother's voice (e.g., DeCasper & Fifer, 1980). Although these prerequisites are present in infants, they are unlikely to experience guilt since they are unable to appreciate that they have deviated from a standard. It is only through socialization that a child has a cognitive understanding of rules and standards. Although she asserts that standards must be examined, she does not see them as ultimately important in understanding when guilt can emerge. In contrast, she argues that it is not the emergence of cognitive skills that is important, nor the emergence of full-fledged guilt, but the unfolding of increasingly more contexts in which guilt can be experienced. It is only from experience and socialization that guilt can be experienced in a particular context. The distinction between socialization, which is

thought to be an important factor in the widening contexts of these emotions, and internalization of rules and standards is not clear, however.

The action tendencies of guilt and shame as described by Barrett coincide with other theorists, and are viewed in relation to their expressive function. Guilt communicates a desire to repair the action done and repair the relationship. Barrett asserts that there are children who rely more on shame-relevant responses whereas others display guilt-relevant behaviors. It is not the cognitions that are the focus, but the contexts. Developmentally, children simply show guilt-like reactions in a wider variety of contexts (Barrett, 1998). Although as Barrett points out, there are some rudimentary cognitive capabilities present in infants, few would argue that these nascent abilities are likely to produce complex cognitions. Even if an infant has the ability to move a toe to cause a mobile to move, we cannot say that the infant could then experience guilt or shame when the string is broken. This functionalist perspective does raise an interesting point, though. Although it is argued here that there are certain cognitive precursors necessary to the experience of guilt, the idea that children will learn to feel guilty across a wider variety of situations seems very likely. For example, a preschooler may have little emotional reaction to not inviting a friend to a birthday party, but an adolescent might feel guilty in a similar situation. The increase in the contexts in which guilt is expressed should not however mean that cognitions are unimportant. There may be a point at which guilt is experienced in a full form, in contrast to toddler experiences of guilt where it may continue to be refined through development. In addition, Stegge and colleagues note that guilt may be elicited in situations where one has harmed another, whereas shame may be elicited in situations where one has not exhibited enough control over one's behavior so

that they are acting in a way inconsistent with their beliefs (Olthof, Schouten, Kuiper, Stegge, & Jennekens-Schinkel, 2000).

### Sroufe's Theory.

In contrast to Barrett's view of cognition in self-conscious emotions, Sroufe (1995) contends that cognition, social development, and emotional development are inseparable. For example, it is only with the emergence of the autonomous self that negative evaluation is possible, with shame emerging before guilt. There must be a separateness of self and others, and an understanding that people have different intentions. The precursors apparent in toddlers come to fruition in preschoolers, who are more directed by internal behavioral control. Whereas toddlers require adult presence to follow rules, preschoolers are increasingly able to regulate their actions (Kopp, 1982; Maccoby, 1984). Sroufe argues that it is the somewhat undifferentiated self that causes the global reaction of shame in toddlers. Shame results from only a basic sense of right and wrong, and is therefore a global emotional reaction. In contrast, guilt is a more specific reaction at having done something wrong. Therefore, although guilt is not possible until the preschool period, it emerges from earlier prototypes, such as shame. Guilt is differentiated from shame since it requires a more separate self and "often entails an exact appreciation of what one has done" (Sroufe, 1995, p. 198). In addition, it is no longer a reaction to external standards and therefore can be experienced without an audience.

Emotional development as defined by Sroufe is based on the assumption that the child generates the context. With shame and guilt, the context as defined by the child will create the emotional reaction. In the case of guilt, it is the context that is scrutinized

because the actions were wrong, and this reaction is therefore more specific to that context. This evaluation makes reparation possible. Shame, acting to attack the self, is more like global anxiety or global ill feeling. Reparation of the relationship rather than the actions is of primary concern. Shame is therefore not context specific. This is similar to Weiner and Graham's (1989) theory of self-conscious emotions since both anticipate more global emotional reactions to be precursors to later context specific ones.

Several hypotheses are apparent from Sroufe's model. First, guilt should be more apparent in older preschoolers and should be more context specific. Younger preschoolers should then react with more shame regardless of context. These reactions should be visible in their specific reparation attempts with shame causing more behaviors aimed at repairing the self or the relationship with a harmed other, whereas a child feeling guilt should be more likely to actively try to repair, for example, a broken object.

### Summary of Major Theories

With the exception of psychoanalytic theories, the theories presented above share several common elements. First, the behavioral distinction between guilt and shame is clearly one of action or withdrawal. Guilt is noted to be an emotion that motivates one to repair the damage that has been done. Shame motivates the person to avoid both the situation and the harmed other due to the fear of losing the love of the parent. These behavioral traits are proposed in psychoanalytic theories as well, with the addition of avoidance and projection as reactions to guilt. Second, the focus of blame clearly distinguishes shame from guilt. For guilt to be manifested, the focus is placed on the action, rather than the self, which is seen with shame. This relationship between the self and shame is common across all theories, with psychoanalytic traditions simply

discussing the self in terms of the ego-ideal. Underlying these behavioral traits, though, the theories presented above differ in the proposed genesis of these self-conscious emotions.

The factor that most clearly discriminates these theories is the relative emphasis placed on cognitive, social, or intrapsychic factors as keys to the emergence of guilt. With each particular emphasis there also comes a hypothesized age at which guilt can be first experienced. For example, psychoanalytic theories view the development of the superego, and its reactions to unacceptable aggressive and sexual impulses, as the driving factor in the development of guilt. Since the superego is of primary importance, guilt is not possible until children are about six years old. Similarly, functionalist theories view shame as a reaction to the ego-ideal, but these theorists do not see the underlying motivation for guilt or shame to be of primary importance. In contrast, attributional theories, with the emphasis on cognitive development, generally propose that shame and guilt are parallel constructs, requiring the same abilities. Accordingly, shame and guilt should emerge at the same age, which is hypothesized to be when children are about 3 years old.

Although all of the theories presented propose that guilt cannot emerge from nothing to something, Sroufe argues that the differentiated self, and the consequent self-controlled behavior, is the key developmental feature that makes guilt possible. In contrast, shame, which involves both a global reaction and basic sense of right and wrong, is a rudimentary precursor to guilt. With Sroufe's emphasis on self-regulation, guilt is hypothesized to emerge from shame in the preschool years. Whether the origins of shame and guilt as proposed by these theorists can be empirically validated remains to

be seen, but the assumption of these theories that the central issue of guilt is one of personal responsibility, should be examined, along with the developmental progression of the experience of guilt.

### Empirical Evidence in Young Children

Since the predominant theories of self-conscious emotions focus on cognitive development, researchers have primarily investigated the emerging understanding of guilt and shame in older children. School-aged children increasingly differentiate shame from guilt, are more aware of the role of personal responsibility in these self-conscious emotions, and feel guilt or shame in different contexts. Early developmental expressions of self-conscious emotions have only recently been investigated. The theories presented above differ in whether guilt is possible in early childhood or not, and can develop with or without shame. As with most fields, the answers found reflect the theory underlying the investigation, and therefore the methods used. For example, theories that rely heavily on cognition require a verbal understanding of guilt, whereas relational theories may investigate expressive components of guilt. As such, the following literature review will examine the findings in terms of the methodology used. As will be seen, the evidence of school-aged children's increasing emotion understanding comes from interviews, whereas the growing body of research pointing to early development of self-conscious emotions in toddlers and preschoolers is evidenced by their emotional expressions in behavioral tests.

### Hypothetical Situations

Research examining the development of guilt and shame has primarily focused on its emergence in elementary school-aged children. The focus on this age group is driven in part by research suggesting that guilt and shame are not distinct until about 8 years of



age. These findings may partially result from the cognitive emphasis of the theory, as well as the methodology used. In particular, these studies find that children's understanding of guilt and shame does not emerge until children are able to adhere to moral standards whether or not they are in the presence of an authority figure (e.g., Damon, 1988; Kagan, 1984). Using attributions of responsibility to define guilt and shame, research suggests that children may not be capable of experiencing these emotions until even later in childhood. The key methodology used to explore the cognitive components of guilt and shame is through hypothetical stories. Typically, children are presented with a story and asked to rate the degree of controllability and the emotion that would likely be felt.

Results of research involving story characters do support cognitive-attributional theories of guilt. In a series of studies examining the role of emotion understanding in the development of self-conscious emotions, Weiner and colleagues have found that children's use of attributions of responsibility does change with age (e.g. Weiner, 1985; Weiner & Graham, 1989; Weiner, Graham, Stern, & Lawson, 1982). In one study, 10-year-old children more reliably linked intentionality of story characters with emotion and intensity, with guilt less often reported and being of lower intensity for uncontrollable situations than for younger children (Weiner & Graham, 1989). In an additional study investigating the use of affective cues to determine responsibility, children were read hypothetical situations in which a child failed a test, and were then told the emotional reaction (anger or pity) of the teacher. When asked to rate the degree that the failure was due to low ability or poor effort, 5-year-old children did not reliably understand that a teacher's angry reaction was due to low effort rather than low ability. The results were

especially apparent when the teacher reportedly felt pity for the child. Only the oldest age group, 9-year-old children, reported that the teacher's reaction was due to the child's lack of ability (Weiner et al., 1982). These findings suggest that children in early elementary school are only just beginning to use affective cues of others to help in their causal attributions, and that pity is linked to a lack of responsibility, and anger to responsibility. Finally, Thompson (1989) studied the use of emotions to describe story characters by children in second grade, fifth grade, and by college students. Although children in second grade used global emotions such as happy and sad to describe characters, they also reported that the characters might feel pride or guilt in response to certain situations. These findings suggest that younger children still rely on global outcome-based assessments, but are beginning to use attributions of responsibility to predict emotional reactions (Thompson, 1989).

Seeing an event as controllable or uncontrollable has implications for possible internal causes as well. Stipek and DeCostis (1988) found that internal causes such as low ability, which is uncontrollable, and low effort, which is controllable, were all seen as controllable by children under 10 years old. In addition, 9- to 13-year-old children, but not 6- to 7-year-old children, saw failures due to low ability as capable of eliciting both shame and guilt. If children understood the role of personal responsibility in failure, they should view failures due to low ability as uncontrollable. Failures due to lack of effort are controllable though, and should elicit guilt. Hypothetical failures due to low effort mostly elicited guilt for this older group, suggesting that older children understand that guilt results from controllable events.

Barrett's (1998) theory, which states that self-conscious emotions develop in relation to context, has gained partial support from a series of investigations that find the types of events that children think will elicit shame versus guilt changes with age. For example, Ferguson and colleagues (1991) found that although children reported more guilt to hypothetical situations involving moral transgressions than social blunders, they reported equal levels of shame to these situations. When asked why they felt these emotions, children reported feeling guilt principally because they had violated a norm, especially if the act was done purposely. This guilt was accompanied by a desire to make reparations. Children understood shame to be a result of the fear of the audience's reaction, and therefore resulted in a desire to avoid others. In addition, when comparing second and fifth graders, older children were better at sorting situations involving shame from guilt. Older more than younger children reported that guilt was associated with a desire to confess, and shame was associated with an attack on their self-concept. Finally, younger children more often reported that both shame and guilt would result from a fear of possible punishment and reactions from others. These findings also lend support to theories that controllability will elicit different emotions, and that these emotions will result in different action tendencies. In addition, although younger children rely on the reaction of the audience for shame and guilt, these data are only designed to tap into children's understanding of the distinction between shame and guilt, not their actual behaviors.

One study of preschoolers' responses to hypothetical situations suggests that even young children assess the context in which failures occur (Cain & Stanek, 1999). When faced with criticism, children who had rated their hypothetical work as good reported

more negative affect, had lower global self-qualities, and reported that they were less likely to persist at the task than those who rated their performance as poor. These children did not differ, however, on the actual presentation of shame-like behaviors when being told the hypothetical story. Although this may simply be a reflection of the lack of power of a hypothetical situation to cause actual felt shame, 4- but not 5-year-old children who displayed higher levels of shame did perform more poorly on a false-belief task. In addition, both 4- and 5-year-old children high in shame performed more poorly on an emotional perspective-taking task. These findings, although tentative due to the somewhat weak effects, do suggest that preschool children prone to shame are less able to identify the emotions of others, and are less likely to be able to take another's perspective.

### Interviews

One of the drawbacks of using story characters is that the situations may not reflect experiences that the child has had. One solution to this problem is to use free-recall or open-ended interviewing. This methodology calls for children to respond to a semi-structured interview format that elicits memories of past emotional experiences. Using free recall of emotions suggests an earlier understanding of the distinction between guilt and shame than do responses to story characters. When children aged 6 to 11 were asked to recall a situation in which they felt a particular emotion (e.g., guilt, anger, pity), and whether the situation was controllable, even the youngest children reported that pity resulted from uncontrollable conditions, and anger from controllable ones (Graham, Doubleday, & Guarino, 1984). For the youngest age group, guilt was reported for uncontrollable situations, whereas the oldest age group reported guilt for controllable conditions. Younger children may not be aware of the importance of personal

responsibility in the experience of guilt, but this does not mean that children do not react differentially to situations with and without personal responsibility. The results simply suggest that children do not verbally understand these distinctions; their emotional reactions might tell us otherwise.

Projective measures such as the Rosenzweig Picture-Frustration Study (1978) have been used to tap the development of guilt. Cross-sectional and longitudinal studies have found that young children report more guilt regardless of whether their actions were controllable or uncontrollable than do older children. For example, although 6-year-old children engaged in more self-blame and apology, by age 11, children reported that they would engage in more behavior aimed at amending the action that was in their control (Graybill, 1990). In a longitudinal study of children at first, second, and third grades tested again 5 years later, similar results were found (Graybill, 1993). In addition, even with the increased knowledge of the role of personal responsibility in feelings of guilt, older children were not more likely to try to evade responsibility by blaming external circumstances. This suggests that even as children develop an understanding that some uncontrollable factors may effect the perception of responsibility, children were not more likely to try to excuse behavior by blaming these external causes. Although these studies report that these emotional reactions develop over time, the major focus is one of understanding and cognition rather than emotion. Although 6-year-old children were not found to distinguish between controllable and uncontrollable events, it remains unclear if this is due to a deficit in their understanding or in their actual emotional responses.

In a study of children in middle childhood and adolescents' descriptions of situations that made them feel guilty, several guilt elicitors changed over time. Older

children were less likely to report feeling guilty in situations in which they had no control (Williams & Bybee, 1994). In addition, older children were more likely to mention feeling guilty over inaction. Shorr and McClelland (1998) found that by 8 years old, children classify lack of helping as a cause of guilt. These studies suggest that older elementary school children have a more adult-like understanding of shame and guilt than younger children, and that the classification of guilt and shame continue to develop into adolescence. For example, adolescents are more likely to report guilt over internal thoughts and feelings such as being inconsiderate, rather than external acts, particularly externalizing behaviors (Williams & Bybee, 1994).

Finally, an examination of the antecedents and consequences of guilt and shame suggests that children's understanding of these emotions may not be reflected in one or two questions. Although 5- and 6-year-olds frequently said that they did not know how to define guilt, they described different antecedents to the emotion. For example, events in which they were aggressive or broke the rules were often cited as antecedents to guilt, whereas exposure and evaluation failure, such as failure at a school task or being attacked by peers, was cited as a cause for shame (Berti, Garattoni, & Venturini, 2000). It should be noted that peer evaluation such as an attack or rebuff was also cited as antecedents to sadness, but the authors note that the behavioral reactions to these emotions differed. For example, with shame they mentioned a desire to hide or remove themselves from the situation, which was not mentioned in regard to sadness. As such, it is likely that young children do have different reactions, or action tendencies in relation to these emotions, but do not understand the emotions themselves.

Since these studies rely on children's reports of emotional experiences, whether with story characters or free recall, several methodological issues should be reviewed to interpret these results. First, the focus of these studies has been on children's understanding of attributions of responsibility and causal antecedents, not actual behaviors. Although the authors do not try to overstate their case by arguing that emotions such as guilt are not possible at earlier ages, it should be remembered that emotion understanding often develops after emotion production, especially for the basic emotions (e.g., Ackerman, Abe, & Izard, 1998; Denham, 1998). Second, these studies rely heavily on the use of language. When young children report that they experience guilt from an uncontrollable event, it may not be because guilt is an undifferentiated reaction, but that children do not understand the semantic difference between shame and guilt.

### Parental Report

The emergence of guilt has been relatively ignored in preschoolers and toddlers since both hypothetical vignettes and interviews are difficult to use with these age groups. Self-conscious emotions, including guilt and shame, have been investigated with parental report for younger children. Kochanska has studied the emergence of conscience in toddlers and preschoolers, with affective and behavioral responses to mishaps being influenced by both maternal socialization and temperament (Kochanska, 1993, 1999; Kochanska, DeVet, Goldman, Murray, & Putnam, 1994). In developing a parent measure of conscience in children, Kochanska and colleagues propose that conscience can be classified into two orthogonal domains. The first, affective discomfort, has been defined as guilt, arousal, and remorse associated with actual and perceived wrongdoing. Second,

behavioral control is defined as the ability to refrain from wrongdoing and control impulses. This measure which has demonstrated adequate reliability (alphas ranging from .59 to .93) has been used to assess developmental trends in young children's conscience development. Kochanska and colleagues found that 3-year-old children had significantly greater reported discomfort after wrongdoing, were more apologetic, more compliant to rules even without adult supervision, and were more concerned over the misbehavior of others than were 2-year-old children. However, 3-year-old children did not differ from 4 to 5-year-old children.

Between the two factors proposed, affective discomfort was found to increase with age, was higher in girls than in boys, and was related to several temperament indices for girls. Kochanska argues that these data suggest that 3 years of age may be a time when a major developmental transition occurs, and may be visible as a precursor in 2-year-old children. Although affective discomfort reflects the emotional responses of preschoolers, it is difficult to determine whether developmental changes in this factor are attributable to changes in shame or in guilt, as both emotions are assessed in this dimension. For example, distress and guilt are assessed along with questions concerning the child's focus on the parent-child bond rather than the damage to the object. This second scale seems more reflective of shame responses than guilt, making the development of these distinct affective reactions unclear from these data.

The second factor, active moral regulation/vigilance, focuses on behavioral responses including confession and reparation, and may be a more direct measure of the actions of guilt, but there were limited age effects for this factor. Only internalized behavior and concern over others' wrongdoing increased with age. The lack of findings



for guilt behaviors such as confession may not point to a developmental reason, but may be a reflection of the use of maternal report. Mothers may be over-reporting the guilt responses of younger children. Items in these scales primarily ask parents to report whether their child will confess or repair damage without prompting. As Kochanska notes, further behavioral measures are needed to explore the development of conscience in young children, especially given the overlap in shame and guilt behaviors within scales.

### Behavioral Tests

Although parental reports may clarify issues in the early development of self-conscious emotions, tests designed to elicit various behavioral responses have ecological validity in that they are generally more reflective of daily challenges. Using behavioral measures, Kochanska and colleagues (1997) investigated toddler, preschool, and early elementary school-aged children's internalization of rules (conscience) as assessed by compliance with maternal and experimenter request when supervised and unsupervised, and reluctance to cheat at games either alone or with peers. For example, children were asked by their mothers to clean up an area where they had been playing, and were observed with the mother present, and then absent. Using an aggregate score of conscience behaviors, older children showed more internalization of rules than younger children, and girls displayed more than boys. The authors argue that these behavioral measures reflect internalization since children scoring higher exhibited control even when adults or peers were not present. Assuming that self-regulation is a basis for conscience and inhibition, the relationship between these measures of conscience and inhibitory control was also investigated. Inhibitory control was assessed through a series of

laboratory tasks; including “Simon says,” and tasks requiring slowed motor activity such as walking a line slowly. Again, older children outperformed younger children and girls outperformed boys in inhibitory control. Finally, maternal reports of temperamental inhibitory control as well as the inhibitory control measures predicted children’s conscience behaviors at all ages (Kochanska, 1999; Kochanska et al., 1997). Although arguing for a temperament model for inhibitory control and its long-term effects on the development of conscience, these findings further point to the need to examine affective in addition to behavioral assessments of guilt and shame and their emergence in preschool children.

Studies by Zahn-Waxler and colleagues have pointed to the role of guilt in helping behavior. When presented with various staged distress incidents, such as an adult in need of help, children from preschool to sixth grade showed more positive than negative affect when helping. In turn, their actual helping was correlated positively with the attributions of guilt among story characters that observe a victim in distress. In particular, when the story characters were portrayed as responsible for the person in need, reporting that the observer would feel guilt was positively correlated with actual helping. In addition, reporting guilt to these story characters was correlated positively with positive affect and negatively correlated with negative affect in the helping scenarios. The authors note that guilt, rather than empathy, may motivate helping since the relationship between empathy in story characters and helping was weaker. These findings suggest that attributions of personal responsibility, rather than the tendency to empathize with the victim’s affective state, are related to increased helping (Chapman, Zahn-Waxler, Cooperman, & Iannotti, 1987).

Similar to guilt, the self-conscious emotions of pride and shame in preschoolers have been of increasing interest to researchers. As with guilt, pride and shame are notoriously difficult to measure through behavior, but there is compelling evidence that these emotions can be identified. Lewis and his colleagues, who have examined children's responses to success and failure, have led much of the research on the development of shame. Lewis and colleagues (1992) presented 3-year-old children with either an easy or difficult task, and found that children who failed at a seemingly easy task, such as putting together a puzzle with only four large pieces, displayed more shame than when they failed at difficult tasks, and more pride when they completed a difficult than an easy task. In addition, girls expressed more shame at task failure than did boys, but boys and girls did not differ in expressions of pride. When comparing across the task type, several gender differences emerged. Boys who were high in shame expressions were also likely to show less pride. The relationship between pride and shame was weaker for girls, with high shame responses correlated positively with high pride expressions. Lewis and colleagues argue that these reactions were not simply global positive and negative expressions, but also included gestural and postural features such as erect posture (pride) or slumped, lowered head (shame) that make the distinctions clearer in this measurement system. For example, shame was defined as "body collapsed, corners of the mouth are downward/lower lip tucked between teeth, eyes lowered with gaze downward or askance, withdrawal from task situation and negative self-evaluation (i.e., 'I'm no good at this')" (Lewis et al., 1992, p. 632). Although children may not report understanding the different causal attributions that affect emotions, their reactions

to these various situations suggest that they make these cognitive assessments, even if they cannot express them verbally.

The cognitive and developmental theories presented earlier all suggest that although early childhood may be when guilt and shame are first fully experienced, precursor expressions and experiences should be apparent in toddlers. For example, Sroufe (1995) argues that shame may be an early global negative evaluation that precedes the more context specific reaction of guilt. In a series of studies using responses to actual mishaps (Barrett, Zahn-Waxler, & Cole, 1993; Cole et al., 1992), toddlers were capable of experiencing shame and guilt-like reactions to everyday mishaps. These findings contradict the notion that shame and guilt are not differentiated until much later in development. Indeed, toddlers react to mishaps in ways that show a development towards guilt reactions to specific events, such as personally caused circumstances.

One shortcoming of these studies is that, although two mishaps are used, neither point to personal responsibility nor external responsibility. The cause of the mishaps is unclear, although it is presumed that the child caused these mishaps. In addition, the limited age-range makes developmental differences difficult to assess. If preschoolers do have a more developed emotional reaction, then the issue of personal responsibility should be more important to their emotional reaction to mishaps than to toddlers' reactions. Toddlers' emotional and behavioral responses in these studies may be precursors since parents were present throughout the situations and no attempt was made to differentiate reactions to situations that were not the children's fault. Parental presence may have influenced these young children to experience a global negative feeling that may or may not have been internalized. If children were equally likely to respond with

guilt or shame in that context, then it can be argued that they are not really experiencing guilt as it has been defined. The role of context in toddlers' emotion reactions is not assessed in these studies, and therefore although the findings suggest that nascent versions of guilt are present, they may give a clearer picture of individual differences. Toddlers who react with shame versus guilt may have a constellation of other behaviors that correspond to their tendency to blame the self.

### Individual Differences

One reason that guilt is difficult to study is that no one situation will clearly elicit guilt for all children. Indeed, some children may react to a similar situation with shame. Although there are many possible causes for these differences in emotional style, a child's sense of self appears to be most important. Sroufe (1995) states that an individual's belief in others as caring and trustworthy creates a sense that the self is also caring and trustworthy. The early responsive parenting found in infancy and the toddler years will emerge in preschool as effective self-regulation. Early experience in the attachment relationship allows the child to experience personal agency that develops into an ability to regulate, as well as a confidence in one's regulatory abilities. Individual variations from optimal development will then result in generally identifiable patterns that are expressed as a child's coping abilities. For example, if children are forced into self-regulation before they are developmentally ready, they will be faced with failures. These early failures could create a global emotional response of rage and shame. In contrast to optimal development, some children are emotionally inflexible and may feel ineffective across situations. These early coping strategies may persist in children that are not equipped to handle emotionally charged situations. They may react with feelings of

helplessness on one extreme, and anger and hostility on the other. For example, some preschool children may not have a sense that “things will be all right even in the face of challenge or stress” (Sroufe, 1995, p. 223).

Research investigating the effects of maltreatment in childhood points to how early parenting practices can affect the emergence of self-conscious emotions. Alessandri and Lewis (1996) found that maltreated girls showed less pride and more shame than nonmaltreated girls. Maltreated boys showed both less pride and less shame than nonmaltreated boys. It appears that the punitive family styles that these children experience may affect their emerging sense of self and self esteem, but they may simply reflect greater masking of emotion in these children. Children in average or optimal families in contrast, may have developed a sense of self-worth because these children genuinely believe that they are effective in their environment. In social situations, these greater regulatory abilities will be reflected in greater social competence, empathy towards others, and greater prosocial behavior. Thompson (1989) notes that children’s use of attributions of personal responsibility may be affected by their history so that experiences of success or failure may influence the causal attributions made.

It seems reasonable to expect that children develop different attributional ‘styles’ as a consequence of parent child-rearing practices (e.g., disciplinary procedures), their experiences in the broader ecology of development (e.g., inner-city versus middle-class settings), and perhaps also with their range of prior emotional experiences and temperamental style (Thompson, 1989, p.146).

If Sroufe's tenet that shame represents a more global and less developed emotional reaction for preschoolers is valid, than older preschoolers that experience shame may differ in their coping strategies from those who experience guilt.

The expression of self-conscious emotions may also be linked to the basic emotions, which may suggest an overall coping strategy. Maternal reports of negative affect and anger were related to a composite measure of guilt and shame even in young children (Rothbart, Ahadi, & Hershey, 1994). In addition, behavioral measures of anger and fear at 10 months predicted guilt in 6- and 7- year-old children, suggesting that coping patterns do play a role in the emergence of guilt and shame. Beyond maternal report, it is unclear how guilt and shame were defined and assessed in this study. The correspondence to both internalizing and externalizing behaviors is likely due to shame rather than guilt tendencies, given the relationship of guilt to empathy (e.g., Chapman et al., 1987).

Tangney (1995) noted, "often, the term guilt is used as a catch-all phrase to refer to aspects of both emotions" (p. 1132). Shame and guilt reflect divergent styles and are related to coping in other emotion-eliciting situations. The cognitive appraisals used in shame and guilt may also be used in anger-provoking situations. In a sample of middle childhood, adolescents, college students, and adults, guilt was related to constructive coping, such as a desire to fix the situation, and lower reported aggression. Shame was related to higher reported anger arousal, a desire for revenge, and aggressive solutions. This pattern held true for both direct and indirect forms of aggression. Shame-prone individuals also reported a greater tendency to hold their anger in, and to be angry with themselves (e.g., for trusting the person). Finally, shame-prone individuals were less

optimistic about the long-term consequences of their anger than were guilt-prone individuals (Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996). Tangney and colleagues argue that guilt-prone individuals may have more constructive methods of dealing with their anger because they may not feel a global threat to the self that characterizes shame. As with guilt, situations causing anger can be remedied. In addition, guilt has been linked to greater empathy, so the ability to take another person's perspective in an anger situation makes them less likely to view the other person as hostile or their actions as intentional. The global nature of shame makes it a more devastating emotion that can affect the self-esteem of the child. Guilt is more reactive to the situation and requires remedy. With repair, the experience of guilt does not leave the self damaged. The tendency to experience guilt rather than shame may be associated with a constellation of positive outcomes including greater social competence, prosocial behavior, more cooperation, and autonomy, while being lower in both internalizing and externalizing behaviors, anger, anxiety, aggression, isolation, and dependence.

When examining the emotional reactions of toddlers to mishaps, Cole and colleagues (1992) found that children could be classified by two global emotional responses. First, some children displayed a high degree of tension and worry, and anger. Second, some children displayed a high degree of sadness and low levels of joy, which were associated with more reparations. These emotional styles were associated with maternal emotional patterns, in which lower levels of the tension/worry and anger dimension were associated with higher scores for maternal internalizing symptomatology. The authors hypothesized that maternal anxiety and depression may inhibit these emotional reactions. Since the mother was present during the testing, these children may



not have wanted their mothers to become concerned over the mishap, or may not have expected her to react to their own concern. When these children were then classified into two groups “avoiders” and “amenders,” guilt-relevant responses were higher for the latter, and shame-relevant responses were higher for the former (Barrett et al., 1993). Further, boys were more likely to be classified as “amenders” than were girls, and girls were more likely to be classified as “avoiders” than were boys.

Finally, the role of temperament in the development of conscience has been investigated through maternal reports and behavioral observations. Both methodologies reveal that effortful control, as discussed earlier, is associated with the emergence of guilt, with children lower in effortful control being more likely to engage in prohibited acts, and less likely to be remorseful (e.g., Kochanska et al., 1997; Rothbart et al., 1994). Again, the overlap between guilt and shame makes these data difficult to judge, but it suggests that children who are more prosocial and exhibit fewer externalizing behaviors would be less likely to engage in prohibited acts. In addition, these children may have inadequate skills for coping with mishaps. Across these studies, clearly children’s tendencies to react to situations with shame or guilt has implications for the way other situations are handled, and may therefore have an impact on their social development.

### Summary

Although psychologists cite guilt and shame as important in development, these emotions have received little research attention until recently. This may be partly due to the difficulty in operationalizing and separating these emotions. Recent research, though, has found that shame and guilt are indeed separate constructs, however they can be elicited from the same situations. Although shame experiences rely on an attribution of

the self as defective, guilt requires a focus on the behavior (or nonbehavior). Theorists have argued for various developmental courses for these emotions, yet little systematic study of their emergence has been conducted. Sroufe (1995) argued that shame, a more global reaction, acts as a precursor to the emergence of the capacity for guilt in preschool children. Hoffman (1983) added that shame relies on a belief that the misdeed was uncontrollable, so that the focus of the self-rebuke is directed at the self, not the action. The capacity for guilt emerges from the belief that the action was controllable (e.g., a lack of effort at task failure), and is therefore reparable. Thus, the capacity to experience guilt develops from empathy, in which children begin to understand that they can be the cause of another person's distress.

The prerequisite to moving from a state of global shame to that of guilt then requires that the child be able to see another's perspective, and be able to understand why an event occurred, rather than focusing solely on the outcome of one's actions. The developmental course of shame and guilt has received little research attention, though, with various researchers arguing for different ages at which these emotions emerge. Most researchers agree that the ability to focus on individual responsibility, rather than the outcome of the event, is not present in children under 8 years old (e.g., Graham et al., 1984; Saarni et al., 1998; Stipek & DeCotis, 1988). However, research investigating the emergence of guilt has primarily used interviews or hypothetical situations to assess these age changes, and therefore is arguably only assessing the child's understanding of the differences between shame and guilt, rather than a behavioral tendency to differentiate these emotions.

The alternative, studying guilt and shame in behavioral tests, is plagued with difficulties. There are few situations that are capable of eliciting guilt in most children; they may elicit shame instead (e.g., Ferguson & Stegge, 1998; Tangney, 1995). Observational studies of the emergence of guilt have shown that toddlers are capable of guilt-like reactions to mishaps (e.g., Cole et al., 1992). In these studies by Cole and colleagues, responses to the broken toy by toddlers supports the idea that, not only are precursors to shame and guilt apparent at this age, but also that children will respond with different emotions to the same situation. Results indicate that some toddlers responded with shame-like responses and others with guilt-like responses. The continued differentiation of these emotions remains unclear. In addition, studies across the toddler period as well as middle childhood demonstrate that children experience more guilt with age, and that guilt is associated with positive adjustment, whereas shame is associated with internalizing behaviors. The emergence of guilt in the preschool period is relatively unstudied, making the developmental course of this emotion, as well as its relation to social and emotional adjustment, unclear. Anecdotal evidence suggests that preschoolers are able to distinguish between events that they have caused versus those where they do not have direct responsibility.

Finally, gender differences have been reported in several studies. For example, 2-year-old boys were more often classified as exhibiting guilt-like reactions than were girls (Barrett et al., 1993), and 3-year-old girls displayed more shame than did boys (Lewis et al., 1992). Studies of older children have found that girls report more guilt than boys, and that their feelings are more intense (e.g., Evans, 1984; Kugler & Jones, 1992; Tangney, 1990). Bybee (1998) notes that gender differences in the intensity and frequency of guilt

are not stable until adolescence, when females consistently report more guilt and more intense experiences of guilt. It is unclear whether boys exhibit more guilt than girls before adolescence, when these gender differences reverse, or whether these patterns are simply unstable in younger children. As such, it may be difficult to interpret gender differences that emerge in younger children.

### The Present Study

In the present study, I propose that the capacity for expressing guilt as a separate emotion emerges during the preschool period, with older preschoolers showing more guilt in situations in which their personal responsibility is clearer. Using a modified version of Cole and colleagues' (1992) mishap paradigm, preschoolers were presented with one of two conditions that varied in the degree of personal responsibility. The mishap paradigm was modified to adjust for the preschoolers' abilities and therefore parents were not present during testing.

### Basic Design

The study was a 3 (age: 2-, 3-, and 4-year-old children) X 2 (responsibility: ambiguous versus personal responsibility) factorial design. Age and responsibility were between-subjects factors. First, the ambiguous responsibility condition consisted of the experimenter placing a broken toy (named as a toy belonging to the experimenter) in the room so that the child could play with it. To lower the degree of personal responsibility, the child was told that the toy might have already been broken. Second, in the personal responsibility condition, the child was given no information that the toy was broken. Parent and teacher measures regarding social and emotional adjustment were also collected.

### Dependent Variables

When children in either condition played with the toy and the toy “broke,” coders rated the children’s reactions on a series of behavioral (e.g., latency to repair the toy) and emotional (e.g., global ratings of affect) categories. Composite scores were also calculated on behavioral measures and affective expressions.

### Individual Differences

In addition, to assess individual differences in shame and guilt behaviors, the following measures were collected: parental reports of children’s shame and guilt and teacher ratings of children’s social and emotional adjustment.

### Developmental Hypotheses

Based on the above theory and literature, the following developmental hypotheses were derived:

1. According to Sroufe’s (1995) theory of shame and guilt, shame is a more global and less developmentally advanced emotion, and therefore is hypothesized to be more apparent in young children. Younger preschool children were therefore expected to show a) more avoidance behaviors (i.e., longer latencies to repair the toy and to comment that the toy is broken; more frequent gaze aversion, more avoiding of the toy and of the experimenter), b) more affective discomfort (i.e., more tension/worry and anger, but lower sadness), and c) higher composite scores of avoidance (i.e., total number of times turned away from the toy, total number of gaze aversions, and total number of times the child moves to another part of the room). This pattern of results predicted a main effect for age such that younger preschool children were hypothesized to show more shame-

related behaviors and affect than older preschool children regardless of the responsibility condition.

2. Since guilt is defined as a resulting from a feeling of personal responsibility (e.g., Tangney, 1995; Weiner & Graham, 1989), it was hypothesized that children would display more guilt than shame in the personal responsibility condition than in the ambiguous responsibility condition. This main effect for responsibility condition was expected to be apparent regardless of children's ages.

3. With respect to developmental trends within conditions, the following interactions were hypothesized: a) 4-year-olds would display more guilt in the personal responsibility condition than in the ambiguous responsibility condition, b) 4-year-olds would display more guilt in the personal responsibility condition than would 2- or 3-year-old children, c) 3-year-olds would display more guilt in the personal responsibility condition than in the ambiguous responsibility condition, d) 2-year-olds would not differ in the amount of guilt and shame displayed in personal and ambiguous responsibility conditions, and e) 2-year-old children would show more shame in the personal responsibility condition than would 3- or 4-year-old children.

#### Individual Difference Hypotheses

Research and theory suggest that guilt may be a more adaptive coping mechanism than shame, and therefore children who are prone to experience shame rather than guilt may also differ on other dimensions, so that shame and guilt may act as an individual, in addition to a developmental, difference. Shame-prone children were defined as those who score below the median on amending and above the median on avoiding. Guilt-prone children were defined as those who score above the median on amending and

below the median on avoiding. In order to assess the possible relationship between guilt or shame-prone responding and children's coping patterns, it was hypothesized that:

4. With regard to gender, it was hypothesized that boys would be more likely to be classified as guilt-prone than girls, and girls would be more likely to be classified as shame-prone than boys.

5. Since shame has been found to be associated with higher levels of anger, aggression, tension and worry, shame-prone children were hypothesized to exhibit more internalizing and externalizing behaviors, and to be higher in anxiety, anger, and aggression, and lower in prosocial behavior as assessed by the Social Competence and Behavior Evaluation (SCBE; LaFreniere, Dumas, Capuano, & Dubeau, 1992) than guilt-prone children. Across studies, guilt has been associated with lower aggression, more constructive coping with anger, and increased empathy and prosocial behavior. Therefore, guilt-prone children were expected to exhibit less anger and aggression, and to exhibit more secure, prosocial, cooperative, and autonomous behaviors. Finally guilt-prone children were expected to score higher on summary scores of social competence and lower on internalizing or externalizing behaviors than shame-prone children.

6. With respect to the My Child, (Kochanska, DeVet, Goldman, Murray, & Putnam, 1994), it was hypothesized that guilt-prone children would score higher on the factor Active Moral Regulation/Vigilance, and on the following scales: Confession, Reparations/Amends, Concern/Correct others, Internalized conduct. Shame-prone children were expected to score higher on the factor Affective Discomfort, and on the following scales: Guilt/Remorse, Concern over good feeling with parent, Apology, Empathic Prosocial.

## CHAPTER 2:

### METHODS

#### Participants

Sixty-one children in three age groups (20 two-year-olds, 21 three-year-olds, and 20 four-year-olds,  $M = 42$  months;  $SD = 10.2$ ; min = 24, max = 58) were matched for gender (See Table 1). Participants were recruited from university laboratory nursery classrooms and area preschool centers, with a participation rate of approximately 50 percent. Participants were from predominantly white ( $n = 54$ ), middle- and working-class families living in small Maine and Maryland communities.

#### Informed Consent

Parents were contacted before the testing sessions and asked to participate in a study that would examine the development of children's emotional responses. Parents were told that their children would be videotaped to ensure that brief expressive reactions could later be coded, and that videotapes would remain confidential. Parents were asked to sign an informed consent form that described the nature of the study (See Appendix A). In addition, each child was informed at the beginning of the experimental session that he or she could withdraw from the study at any time and for any reason.

#### Apparatus

A video recorder with a zoom lens was placed unobtrusively either in the testing room or in an adjoining room to videotape each participant's behavior during the experimental session.



Table 1

Number of Participants by Age and Gender

Age	Girls	Boys
2	10	10
3	10	11
4	10	10

### Questionnaire Measures

A questionnaire assessing the emotional characteristics of their child (i.e., My Child; Kochanska et al., 1994) was given to each parent at the child's preschool or daycare. Parents were instructed to return the forms to the teacher or preschool director. After two weeks, parents were given written reminders to return the questionnaires to the day care center. In addition, teachers completed one questionnaire (i.e., SCBE; LaFreniere et al., 1992) designed to assess preschool children's social competence, which took approximately 10 minutes to complete for each child.

#### My Child

To assess children's guilt and related behaviors, parents were asked to complete the My Child scale (Kochanska et al., 1994). My Child is a 100-item questionnaire that measures the development of conscience along two dimensions: affective discomfort and active moral regulation or self-restraint. Items are rated on a 7-point Likert type scale with the additional option of "not applicable." Ten individual scales within My Child include: 1) guilt, remorse/other emotional reactions after transgression, mishap, wrongdoing; 2) concern over good feelings with parent after wrongdoing; 3) confession; 4) apology and/or promise not to do it anymore; 5) reparations/amends; 6) concern/corrections occasioned by others' transgressions; 7) internalized conduct; 8) empathic, prosocial responses to another's distress; 9) symbolic reproduction of/dealing with wrongdoing; and 10) sensitivity to flawed or damaged objects/themes of wrongdoing. Test-retest reliability of individual scales as assessed by the Pearson Product Moment Correlation ranges from .10 (symbolic reproduction) to .79 (confession), with most scales averaging about .65. Further, My Child has been demonstrated to have

significant correspondence to behavioral measures of self control. Finally, My Child was found to have alpha reliabilities ranging from .35 (sensitivity to flawed objects) to .90 (internalized conduct), with most scales averaging about .75. Due to the low reliability and validity of several scales, the author created a second version of the measure. Alpha reliabilities calculated on the second version ranged from .59 (sensitivity to flawed or damaged objects, themes of wrongdoing) to .93 (symbolic reproduction of/dealing with wrongdoing), with most scales averaging about .86. Test-retest reliability was not conducted on the second version (Kochanska et al., 1994) (See Appendix B).

#### Social Competence and Behavior Evaluation Inventory

Teacher ratings of affective expression, social competence, and adjustment difficulties were assessed using the Social Competence and Behavior Evaluation Inventory (SCBE; LaFreniere et al., 1992). The SCBE is an 80-item questionnaire presented in a 6-point Likert type format completed by teachers and describes typical preschooler behavior. Children were assessed according to the eight basic scales of the SCBE: depressive-joyful, anxious-secure, angry-tolerant, isolated-integrated, aggressive-calm, egotistical-prosocial, oppositional-cooperative, and dependent-autonomous. Interrater reliability for the scales calculated using Spearman-Brown estimates are uniformly high, ranging from .72 to .89. Internal consistency of the scales as assessed with Cronbach's alpha is also uniformly high, ranging from .79 to .91. Children's overall adjustment was also assessed using the three summary scores of the SCBE: social competence, internalizing, and externalizing behavior problems (See Appendix C).

### Behavioral Paradigm

Each child was tested in a modified version of Cole and colleagues (1992) mishap paradigm, and participants were randomly assigned to one of two situations that varied in their degree of responsibility. Participants in each age group and each condition were matched for gender. In both conditions, the experimenter introduced the toy to the child by demonstrating how the toy could be played with (such as moving the arms). Experimental sessions ( $M = 121$  seconds with the broken doll) were videotaped for later coding.

#### Ambiguous Responsibility

Children were told that the toy might be already broken to reduce the likelihood that the child would feel that he or she was personally responsible for the toy breaking (See Appendix D).

#### Personal Responsibility

In the personal responsibility condition, children were also told that the toy belongs to the experimenter, but the experimenter did not mention that the toy might be already broken. The lack of information that the toy was broken was intended to induce feelings of personal responsibility when the child “broke” the toy.

### Procedure

Each child was individually tested in one experimental session that lasted approximately 10 minutes. In order to increase the likelihood that children’s emotional reactions were due to the experimental session rather than being in an unfamiliar setting, no child was tested until the experimenter had built rapport with that child. All testing was completed in the child’s preschool either in their regular classroom or in a nearby

room, and an adult that was known to the child conducted each session. Experimental sessions began with several minutes of play, initiated when the experimenter brought several toys out of a toy box. At the end of the warm up period, the experimenter placed the toys back in the toy box and introduced the experimentally manipulated toy.

The experimenter placed a Fisher-Price Sesame Street Clap-Hands Elmo doll (named as a toy belonging to the experimenter) on a table in front of the child. After the child played with the toy for several minutes, the experimenter explained that she had to leave the room for a moment, but would be right back. The experimenter then put the toy back in the toy box. The experimenter then told the child that he or she could play with the toy while she was in the other room, at which time the experimenter placed a seemingly identical experimental toy in front of the child. The toy was experimentally manipulated so that the arm of the doll fell off when the child pulled its arms together to make its hands clap. During the warm up period, children were shown how to make the toy clap its hands, so that during the experimental session, they would clap its hands and cause the toy to break a few seconds after they began playing with it. Children were randomly assigned to one of two conditions prior to the experimental session (personal responsibility and ambiguous responsibility). Experimental sessions were divided into two segments: alone and when the experimenter returned.

#### Alone

In both conditions, children were left alone in the testing room for the initial play period when the child “broke” the toy, although they were being unobtrusively observed. The length of time that the child was left alone in the room varied depending on how long the child could engage in self-directed behavior, and was ended if the child left the room,

appeared distressed, or never broke the toy. No child was left alone for longer than approximately 2 minutes (min = 9, max = 147, and  $\bar{M}$  = 68 sec).

#### Experimenter Returns

After the child's initial reaction to the mishap occurred, the experimenter returned to the room and appeared to be working with some papers. In order to allow children a chance to confess without prompting, the experimenter initially made no comments to the child but did notice that the toy was broken. The experimenter then asked the neutral question "what happened," followed by a reminder that the toy is the experimenter's favorite and the statement "that's too bad."

After the child's response to the experimenter prompts ( $\bar{M}$  = 55 sec) and the end of the experimental session, the child was informed that the experimenter had inadvertently given him or her a toy that was already broken before the child began playing with it, and got the unbroken toy out of the toy box. To further reduce any negative feelings the child may have had, the experimenter "fixed" the experimentally manipulated toy and let the child play with the original toy again. Children were then given a chance to play with other toys, given a sticker or small prize for their participation, and then were escorted back to their classroom. Children were not given explicit instructions not to tell their classmates about the testing, as it was unlikely that they would discuss the broken toy. One child did not pick up the toy to play with it, and became emotionally upset when left alone. This child's data were not included in any analyses.

### Coding of the Videotapes

Two trained observers who were blind to the study's hypotheses completed all coding. Coders, who were unfamiliar with the children in this study, consisted of developmental-clinical graduate students from an emotional development laboratory. Coders were trained to a criterion of 80% agreement before actual coding scores were collected. Observer agreement was retested at random points to maintain inter-rater agreement of at least 80% for all behavioral categories. Disagreements among coders were examined for any systematic patterns (e.g., rating tension/worry as sadness), and the coders were retrained to the original criteria. See Appendix E for a complete description of the coding system used. The following categories were used to classify children's responses:

#### Affective Codes

Affective expressions were coded along five affective dimensions: positive affect, anger, distress, tension/worry, and blends. All affective categories included postural, facial, and vocal indices of affect. Positive affect (joy) was coded when a child smiled broadly, laughed, or giggled. Anger was coded when a child expressed frustration through harsh vocalizations, clenched teeth, tightly pressed lips, or stamping feet. Sadness was defined as sorrowful expressions or crying. Tension/worry was used to describe emotional blends not characteristic of a discrete emotion, but indicative of anxiety or tension, such as fidgety movements, tensing of facial muscles, and strained vocalizations. Blends were coded when two or more of the above emotions, or other basic emotions such as fear or disgust, were present in the same expression. Coders indicated which emotions were present in the blended expression. Neutral affective expressions consisted

of a lack of vocal, postural, or facial expressions, but a calm demeanor, and were not coded (See Table 2). Other basic emotions such as fear and disgust were coded, but were expected to occur in low frequency. Baseline affective expressions were coded for the last one-minute of the warm up period when the experimenter presented the toy to the child. These baseline affective expressions were contrasted with 1) affective expressions when alone, and 2) affective expressions when the experimenter reentered and prompted the child.

Affective codes were calculated as the total number of seconds that each category was present divided by the total number of seconds that the child was present, resulting in a rate of expression calculated for each affective category. Baseline rates for each affective code were subtracted from affective rates alone and affective rates when the experimenter returned. Affective coding began when the child discovered that the toy was broken. In addition, coders rated the intensity of the affective expression for each category. Coders rated each affect along a 2-point scale (1 = mild, 2 = full). Finally, coders rated each child's global affective reaction at the conclusion of the experimental session as either regulated or dysregulated.

#### Reparations and Avoidance

Coding of reparations and avoidance consisted of two separate segments: alone and with the experimenter present. The following behaviors were used when the child was alone, with timed variables beginning when the child first noticed that the toy was broken: latency to repair, latency to comment on the broken toy, latency to gaze at the



Table 2

Facial, Vocal, and Postural Indicators of Affective Categories

Affective Category	Facial	Vocal	Postural
Positive Affect	smiling, wrinkling around eyes	giggling, increased pitch, laughing	relaxed muscles, loose posture
Anger	narrowed eyes, lips pressed and narrow	harsh, loud	tightened muscles, clenched fists
Sadness	eyes lowered, lips turned down	softened tone and volume, crying	sunken posture, head down
Tension/ Worry	alert, nervous twitches, tense facial muscles	strained, nervous, jumpy	fidgety, tense posture
Neutral	calm, no major activity	calm, relaxed, not excited	calm, attentive

Adapted from Cole et al. (1992).

experimenter, avoiding toy, and avoiding experimenter (See Table 3). Baseline behavioral reactions (self-comfort, experimenter avoidance, and gaze aversion) were coded for the last minute of the initial period when the experimenter demonstrated how to play with the toy.

Reactions to the broken toy were coded according to behavioral and linguistic indices, with reparations defined as attempts to repair the toy, seeking help, or commenting on the broken toy and its need for repair. Avoidance was defined as gaze aversion, turning away from the toy, or moving to another part of the room. Coders recorded a total frequency score for both reparations and avoidance so that children could have as few as zero occurrences of each behavioral category. In order to assess individual differences in shame-prone and guilt-prone responding, measures of avoidance and reparations were dichotomized into guilt-prone or shame-prone responding.

Table 3

Behavioral Measures of Reparation and Avoidance

Behavioral Measure	Definition
<b>Reparations</b>	
Latency to repair	Number of seconds before attempting to repair the toy
Latency to comment	Number of seconds before verbalizing that the toy is broken
<b>Avoidance</b>	
Gaze aversion	Number of seconds from when experimenter returns before looking at the experimenter, excluding when the door first opens
Toy avoidance	Number of seconds with body turned away from the toy
Experimenter avoidance	Number of seconds with body turned away from experimenter after the experimenter re-enters the room

Adapted from Barrett et al. (1993).

## CHAPTER III

### RESULTS

#### Analysis Strategy

A multivariate analysis of variance (MANOVA) was employed to assess differences in emotion and behavior between 2-, 3-, and 4-year-old children (i.e., Age), and between children in the personal and ambiguous responsibility conditions (i.e., Condition). Separate MANOVAs were used for the emotion variables and behavior variables since the MANOVA is designed not only to protect against Type I error rates, but also to analyze variables that are conceptualized as inter-related (Stevens, 1996). Significant effects in the MANOVA were further explored using Tukey's HSD. Tukey's acts as a protection factor for inflated Type I error rates when examining all pairwise combinations (Gravetter & Wallnau, 2000). Chi-square analyses were also conducted on several nominal behavioral variables (e.g., confession) due to their nonparametric nature (Myers & Well, 1995). Finally, children were classified into mutually exclusive groups based on measures of avoidance so that emotional and behavioral differences between these groups could be examined.

In regards to individual differences, the effectiveness of the guilt and shame-prone dichotomy was first examined through a Discriminant Function Analysis (DFA). One of the major purposes of the DFA is to examine linear combinations of variables that are used to classify subjects into groups. In the present study, the DFA was employed to examine the importance of emotion and behavior variables in discriminating between guilt and shame-prone responding. As such, the DFA was employed primarily to aid in the interpretation of group differences rather than to classify unknown cases (Klecka,

1982). If the dichotomization of subjects into these groups based on a small subset of variables (e.g., gaze aversion) is acceptable, then the DFA should accurately predict the same group membership from a larger pool of variables (i.e., emotion and behavior variables).

Analyses of the guilt and shame-prone dichotomy were further examined through three separate analyses. First, independent samples t-tests were conducted on the relationship between guilt and shame-prone responding with affective and behavioral variables that were hypothesized to be related to these groups. Second, to determine the relationship between guilt and shame and overall social and emotional functioning, independent samples t-tests were conducted on the individual scales and summary scores of the SCBE. In particular, the relationship between positive adaptation to the preschool with guilt-prone responding, and negative adaptation with shame-prone responding was investigated. Finally, the relationship between guilt- and shame-prone responding and maternal reports of conscience was explored through analyses of the relationship between these groups and the individual scales and overall factors of the My Child. Scores on the My Child were analyzed for concurrent validity of the guilt and shame-prone dichotomy. For instance, the relationship between guilt and maternal reports of amending behaviors such as confession and apology was explored through independent samples t-tests.

Before addressing individual hypotheses, the reliability of the My Child and SCBE, as well as inter-rater agreement for all emotion and behavior variables will be addressed. In addition, preliminary analyses suggested that emotion variables violated assumptions of normality necessary for parametric statistics to be performed, so data

transformations were employed. The nature and extent of these transformations will be described before the results of the hypothesis testing are described.

#### Internal Consistency Reliability of the Questionnaire Measures

Preliminary analyses of the questionnaire measures were performed before individual hypotheses were tested. Scale internal consistency reliabilities were computed on the My Child and SCBE (Cronbach, 1951). The 100-item My Child scale assessed the development of conscience in toddlers and preschool children, as rated by parents. The overall My Child scale, and the two factors of affective discomfort and active moral regulation or restraint produced coefficient alphas of .94, .81, and .91 respectively. Cronbach's alpha calculated on individual scales ranged from .69 to .98 (see Table 4). The 80-item SCBE assessed teacher rated social and emotional adjustment to the preschool. Scale reliabilities computed on the three summary scores of social competence, internalizing, and externalizing behavior problems produced coefficient alphas of .95, .86, and .94 respectively. Internal consistency reliabilities computed on the 8 scales ranged from .77 to .90 (see Table 5).

#### Data Transformations

Given the large positive skew for affective categories (e.g., joy, anger, sadness, tension/worry, and blends) all variables were normalized and ranked using Tukey's procedure. Affective expressions were heavily skewed, and therefore had large standard deviations since these variables have no upper limit and a fixed lower limit (See Table 6). Myers and Well (1995) note that analysis of skewed data seriously affects power;

Table 4

Internal Consistency Reliabilities of My Child Scales

<u>Scale (Number of Items)</u>	<u>Alpha</u>
Guilt, remorse/other emotional reactions after transgression (18).....	84
Concern over good feelings with parent after wrongdoing (8).....	75
Confession (7).....	78
Apology and/or promise not to do it anymore (6).....	86
Reparations/amends (9).....	70
Concern/corrections occasioned by others' transgressions (7).....	84
Internalized conduct (20).....	86
Empathic, prosocial responses to another's distress (13).....	80
Symbolic reproduction of/dealing with wrongdoing (5).....	98
Sensitivity to flawed or damaged objects/themes of wrongdoing (7).....	69

Table 5

Internal Consistency Reliabilities of Social Competence and Behavior EvaluationInventory Scales

<u>Scale (Number of Items)</u>	<u>Alpha</u>
Depressive-joyful (10).....	77
Anxious-secure (10).....	82
Angry-tolerant (10).....	90
Isolated-integrated (10).....	85
Aggressive-calm (10).....	83
Egotistical-prosocial (10).....	81
Oppositional-cooperative (10).....	83
Dependent-autonomous (10).....	77



Table 6

Means and Standard Deviations by Age for Affective Categories<sup>a</sup> Alone and with  
Experimenter Present

Age	2		3		4	
<u>Affective Category</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Alone						
Mild Joy	-21.67	12.88	-26.30	12.25	-25.90	10.57
Full Joy	-0.26	2.66	-0.62	1.12	-1.15	3.13
Mild Anger	0.25	1.05	0.23	0.87	1.10	4.04
Full Anger	0.00	0.00	0.03	0.12	0.00	0.00
Mild Sadness	4.35	9.13	6.80	9.92	4.36	6.45
Full Sadness	1.20	4.09	0.87	3.71	0.00	0.00
Mild Tension/Worry	16.99	13.16	22.88	11.82	26.00	19.45
Full Tension/Worry	3.94	11.98	-0.19	0.87	0.00	0.00
Sadness and Tension/Worry Blend	2.25	4.71	3.32	5.77	2.45	4.28
Experimenter Present						
Mild Joy	-20.75	12.54	-24.95	12.43	-25.23	10.66
Full Joy	-0.65	1.87	-0.55	0.92	-1.15	3.13
Mild Anger	0.31	1.28	0.00	0.00	0.00	0.00
Full Anger	0.00	0.00	0.00	0.00	0.00	0.00
Mild Sadness	9.73	9.79	10.42	11.04	11.15	13.48
Full Sadness	2.13	6.37	1.43	6.55	0.19	0.85
Mild Tension/Worry	20.17	12.06	15.65	12.89	15.89	12.12
Full Tension/Worry	0.54	2.12	-0.19	0.87	0.98	4.37
Sadness and Tension/Worry Blend	0.86	3.83	6.94	8.35	4.49	8.36

<sup>a</sup> Affective categories are reported as rates per minute corrected from baseline.

therefore ranks should be utilized for all analyses of this type of data. Behavioral categories did not exhibit the same degree of skew, and therefore these data were not transformed.

### Hypothesis 1: Age Differences

According to Sroufe's (1995) theory of emotional development, shame is a more global and less developmentally advanced emotion than guilt, and therefore was hypothesized to appear earlier in development. Therefore, younger preschool children were expected to show a) more avoidance behaviors (i.e., longer latencies to repair the toy and to comment that the toy is broken; more frequent gaze aversion, more avoiding of the toy and of the experimenter), b) more affective discomfort related to shame (i.e., more tension/worry and anger, but lower sadness), and c) higher composite scores of avoidance (i.e., total number of times turned away from the toy, total number of gaze aversions, and total number of times the child changes positions in the room). This pattern of emotional and behavioral reactions reflects a main effect for age such that younger preschool children were expected to show more shame-related behaviors and affect than would older preschool children regardless of the responsibility condition.

To test this, a 2 (responsibility) X 3 (age) multiple analysis of variance was conducted. Affective categories (positive affect, anger, sadness, tension/worry, and blends) served as the dependent variables. A second 2 (responsibility) X 3 (age) MANOVA was conducted with behaviors (e.g., latency to repair, latency to comment, gaze aversion) serving as the dependent variables. Results are presented in terms of

emotions and behaviors when the child was initially alone, and then when the experimenter returned to the room, so that reactions to an audience can be distinguished from those without an audience.

### Alone

Previous research has indicated that tension/worry is related to shame-like reactions, and therefore it was hypothesized that it would decrease with age. As expected, results indicated that expressions of full tension/worry varied as a function of age,  $F(2, 55) = 3.46, p < .05, \eta^2 = .112$ . Post Hoc tests revealed that 2-year-olds expressed more full tension/worry than did 3-year-olds ( $M = +0.26$  and  $-0.15$ , respectively),  $LSD = .410, p < .05$ . There was no significant difference between 2- and 4-year-olds or 3- and 4-year-olds in expressions of full tension/worry (See Figure 1). These age effects indicate that 2-year-olds expressed significantly more full expressions of tension/worry. No other affective variables, including all guilt-relevant variables such as sadness, were significantly different as a function of age.

Analyses of behavioral measures revealed that latency to repair varied as a function of age,  $F(2, 55) = 4.69, p < .05, \eta^2 = .146$ . Post Hoc tests revealed that 2-year-olds had longer latencies to repair than 4-year-olds ( $M = 15.25$  and  $2.85$  sec, respectively),  $HSD = 12.40, p < .05$ . There was a trend for 2-year-olds to have longer latencies to repair than 3-year-olds ( $M = 15.25$  and  $2.85$  sec, respectively),  $HSD = 11.40, p < .06$ , but 3-year-olds did not differ from 4-year-olds,  $HSD = 0.96, n.s.$  (See Figure 3). No other behavioral measures of avoiding or amending were significantly different based on the subject's age.

Figure 1

Expressions of Full Tension/Worry when Alone as a Function of Age

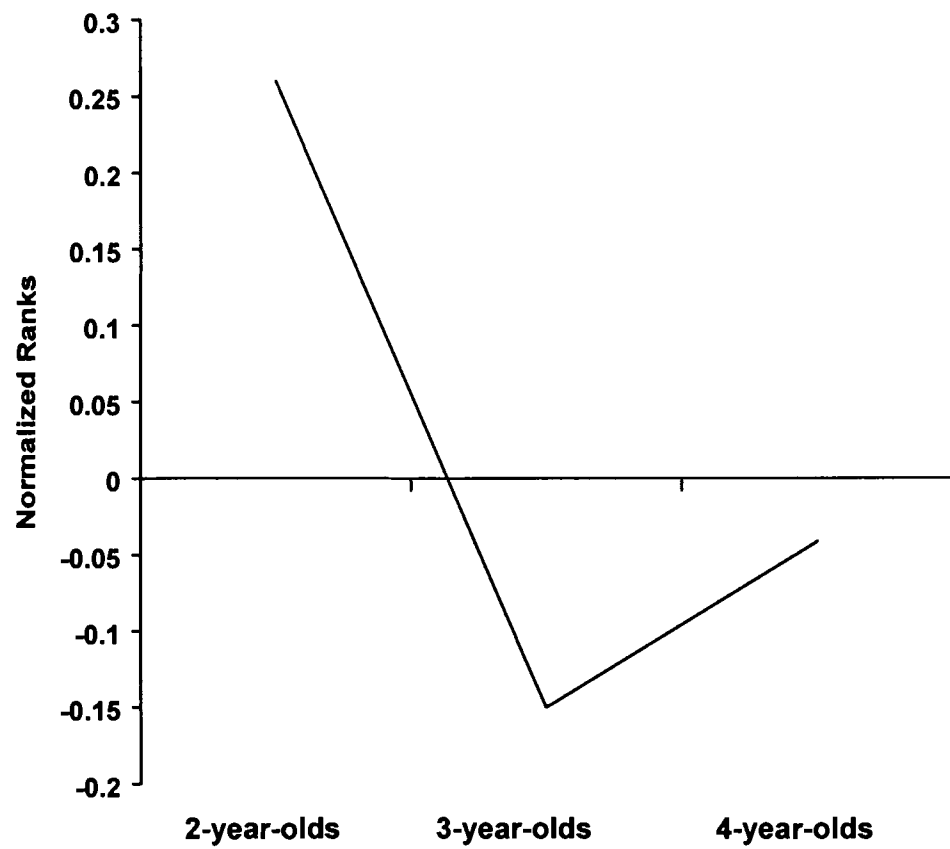


Figure 2

Expressions of Sadness and Tension/Worry Blends when the Experimenter Returned  
as a Function of Age

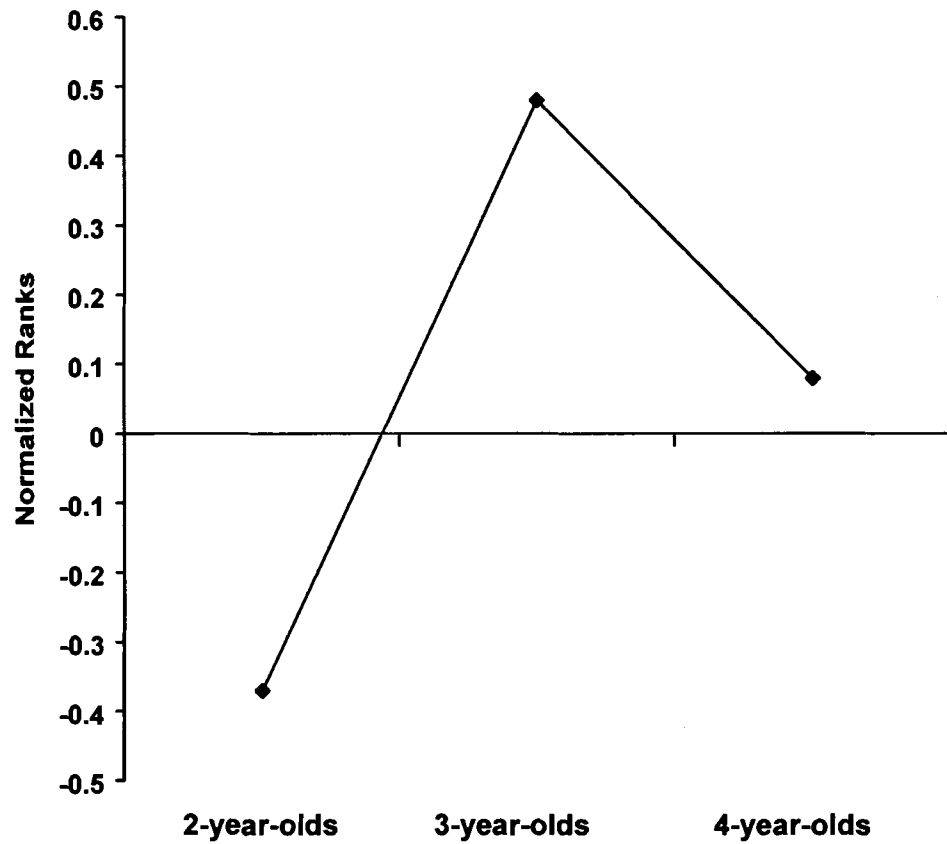
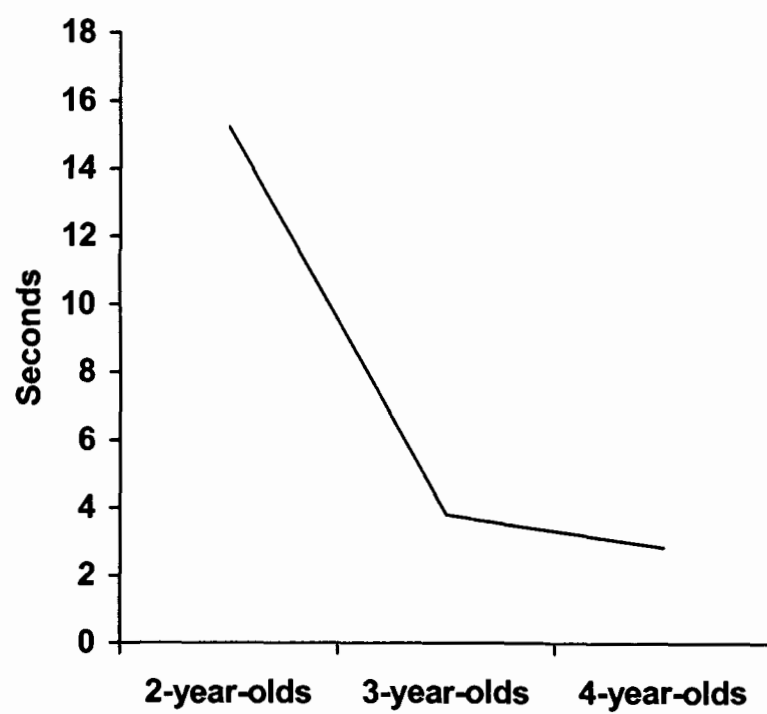


Figure 3

Latency to Repair as a Function of Age

### Experimenter Returned

Analyses of affective expressions when the experimenter returned to the room showed few overall age effects. However, blends of sadness and tension/worry did differ significantly with age,  $F(2, 55) = 7.08$ ,  $p < .01$ ,  $\eta^2 = .205$ . Post Hoc tests revealed that 2-year-olds expressed less sadness and tension/worry than did 3-year-olds,  $LSD = -.851$ ,  $p < .001$ , and 4-year-olds,  $LSD = -.451$ ,  $p < .05$ . There was a trend for 3-year-olds to express more sadness and tension/worry blends than 4-year-olds,  $LSD = .399$ ,  $p < .08$  (See Figure 2). This finding may not be in contrast to the decrease in tension/worry with age that was seen when the child was alone given that tension/worry was blended with sadness, a guilt-relevant emotional expression. When comparing Figures 1 and 2, the data suggest that although all children displayed tension/worry, only 2-year-olds did not blend this emotion with sadness.

Analyses of behavioral data revealed a main effect of age for several variables related to overall patterns of avoidance, particularly toy avoidance and avoiding the experimenter. First, toy avoidance varied as a function of age,  $F(2, 55) = 3.27$ ,  $p < .05$ ,  $\eta^2 = .106$ . A Least Squares Difference (LSD) test was performed in order to further explore this overall age difference. As seen in Figure 4, results revealed that 2-year-olds showed more toy avoidance than 3-year-olds ( $M_s = 7.65$  and  $0.67$  sec respectively),  $LSD = 6.98$ ,  $p < .05$ , and 4-year-olds ( $M = 0.55$  sec),  $LSD = 7.10$ ,  $p < .05$ . In addition, avoiding the experimenter varied as a function of age,  $F(2, 55) = 4.03$ ,  $p < .05$ ,  $\eta^2 = .128$ . Post hoc tests revealed that 2-year-olds displayed more avoidance of the experimenter than did 4-year-olds ( $M_s = 3.92$  and  $0.13$  respectively),  $HSD = 3.79$ ,  $p < .05$ . There was a trend for

Figure 4

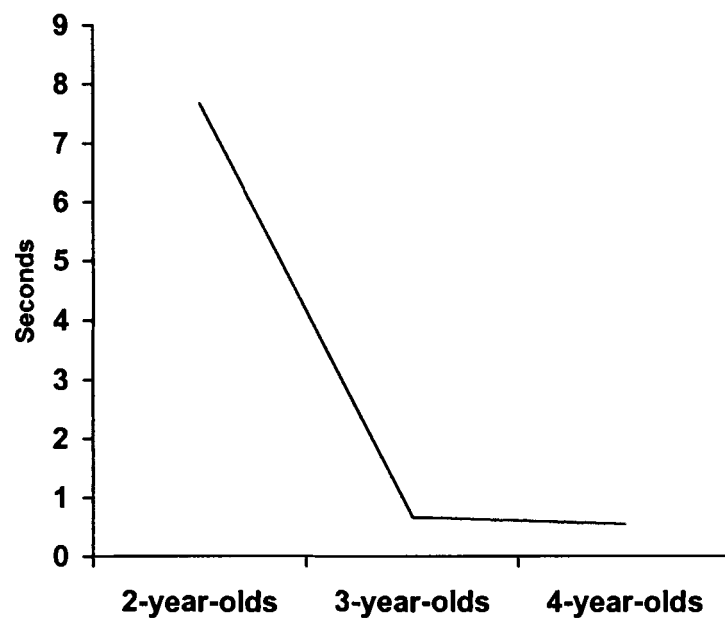
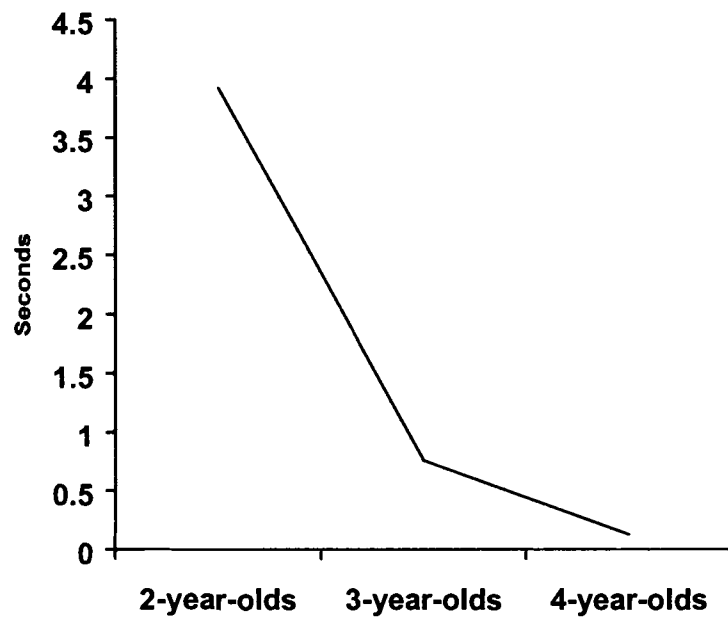
Toy Avoidance as a Function of Age



Figure 5

Experimenter Avoidance as a Function of Age

2-year-olds to display more avoidance of the experimenter than 3-year-olds ( $M = 0.13$ ),  $HSD = 3.36$ ,  $p < .06$ , but 3-year-olds did not differ from 4-year-olds,  $HSD = 0.43$ , n.s. (See Figure 5).

Chi-square analyses were conducted on nominal behavioral categories (commenting before or after prompting, denying/minimizing, confessing, emotion regulation, and shame-guilt/prone). There were no age differences in emotion regulation (i.e., regulated or dysregulated),  $\chi^2 (2) = 2.17$ , n.s., commenting either before or after being prompted,  $\chi^2 (2) = 3.26$ , n.s., denying/minimizing before prompting,  $\chi^2 (2) = 2.50$ , n.s., denying/minimizing after prompting,  $\chi^2 (2) = 0.11$ , n.s., or confessing before prompting,  $\chi^2 (2) = 1.83$ , n.s. Only 5 children confessed before being prompted, whereas 21 confessed after being prompted. There was a weak trend for confessing after being prompted to vary with age, with 4-year-olds being more likely to confess than 2- or 3-year-olds  $\chi^2 (2) = 4.99$ ,  $p < .09$ , but few children confessed. It should be noted that children could confess both before and after being prompted. One 2-year-old, one 3-year-old, and three 4-year-olds confessed both before and after being prompted by the experimenter (See Table 7).

The classification of guilt- and shame-prone responding was originally planned to include measures of avoidance and reparation as the criteria. For example, children scoring above the median in reparation and below the median in avoidance would be classified as guilt-prone. However, using this classification system, only 7 children were classified as guilt-prone, so a less stringent criterion was established. Given that only 33% of children confessed, but experimenter avoidance or gaze aversion were common among

Table 7

Number of Children Who Confessed Before and After Prompting as a Function of Age

Age	Before Prompt	After Prompt <sup>a</sup>	No Confession <sup>b</sup>
2-year-olds	1	3	17
3-year-olds	1	9	12
4-year-olds	3	9	11

<sup>a</sup>  $\chi^2 (2) = 4.99, p < .09$

<sup>b</sup> It should be noted that children could confess both before and after being prompted. One 2-year-old, one 3-year-old, and three 4-year-olds confessed both before and after being prompted by the experimenter.

children, only avoidance but not reparation was used to create these groupings. As noted earlier, the distribution of gaze aversion and experimenter avoidance were both positively skewed (skew = 1.92, SE = .306, and skew = 3.31, SE = .306, respectively), therefore groups were dichotomized based on the median rather than the mean score (Myers & Well, 1995).

Since reparation was not included as a means of dichotomizing groups, labeling these grouping as shame- and guilt-prone may be unwarranted at this time. Participants scoring above the median in gaze aversion or experimenter avoidance were classified as avoidant (Mdns = 0.67 and 1.52 per min., respectively). Participants scoring below the median in gaze aversion or experimenter avoidance were classified using the more neutral term nonavoidant. Of the 61 participants, 26 were classified as nonavoidant and 35 were classified as avoidant. Avoidant responding varied as a function of age,  $\chi^2(2) = 9.41$ ,  $p < .01$ , with 2-year-olds more likely to be classified as avoidant and 4-year-olds more likely to be classified as nonavoidant (See Table 8). Follow-up analyses using Pearson's Contingency Coefficient were conducted to determine the strength of the relationship between age and classification. Pearson's Contingency Coefficient is a nonparametric statistic similar to the Spearman that describes the strength of the relationship between nominal variables (Runyon, Haber, Pittenger, & Coleman, 1996). Analyses revealed that there was a moderate degree of association between age and classification ( $cc = .37$ ,  $p < .01$ ).

Table 8

Number of Children Classified as Avoidant and Nonavoidant as a Function of Age

Age	Nonavoidant	Avoidant	Total
2-year-olds	5	15	20
3-year-olds	7	14	21
4-year-olds	14	6	20
Total	26	35	61

---

 $\chi^2 (2) = 9.41, p < .01$

## Hypothesis 2: Responsibility and Affective Expressions

Since guilt is being defined as resulting from a feeling of personal responsibility (e.g., Tangney, 1995; Weiner & Graham, 1989), it was hypothesized that children would display more guilt than shame in the personal responsibility condition than in the ambiguous responsibility condition. This main effect for condition should be apparent even when collapsing across age groups. Several affective expressions relevant to guilt and shame did differ as a function of the responsibility condition, but these results were contrary to the hypotheses stated above.

### Alone

Expressions of joy have been noted as decreasing more substantially in instances of guilt rather than shame. As expected, expressions of full joy had a larger decrease from baseline in the personal responsibility condition than in the ambiguous responsibility condition ( $M = -0.26$  and  $0.14$ , respectively),  $F(1, 55) = 4.01$ ,  $p = .05$ ,  $\eta^2 = .068$ . All other guilt and shame relevant emotion variables failed to reach significance.

Although only one affective variable varied as a function of condition, children exhibited differences in several behaviors depending on whether they had or had not been told that the toy might be broken. Results of the responsibility condition indicated a main effect for latency to repair,  $F(1, 55) = 5.22$ ,  $p < .05$ ,  $\eta^2 = .094$ , with children showing longer latencies to repair in the personal responsibility than in the ambiguous responsibility condition ( $M_s = 11.70$  and  $2.94$  sec, respectively). There was an additional condition main effect for self-comfort,  $F(1, 55) = 4.05$ ,  $p < .05$ ,  $\eta^2 = .069$ , with children showing more self-comforting behaviors in the personal responsibility than in the ambiguous responsibility condition ( $M_s = 0.40$  and  $-0.55$ , respectively). Finally, there

was a trend for asking to leave/leaving, with children in the personal responsibility condition more often trying to leave the room than in the ambiguous responsibility condition ( $M_s = 0.40$  and  $0.19$ , respectively),  $F(1, 55) = 3.14$ ,  $p < .09$ ,  $\eta^2 = .054$ . Overall, these findings indicate that the responsibility manipulation was successful, but may not have had the effects that were originally intended given the relationship found between shame-relevant behaviors and the personal responsibility condition.

### Experimenter Returns

Children expressed less mild fear in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.19$  and  $0.29$  respectively),  $F(1, 55) = 7.95$ ,  $p < .01$ ,  $\eta^2 = .126$ . In addition, there was a trend for expressions of full joy to have a larger decrease from baseline in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.23$  and  $0.09$  respectively),  $F(1, 55) = 2.87$ ,  $p < .10$ ,  $\eta^2 = .050$ . All other emotion variables were non significant.

Analyses of behavioral measures revealed no significant differences in behaviors as a function of condition. There was a trend for children to display more self-comfort in the personal responsibility than the ambiguous responsibility condition, ( $M_s = 0.60$  and  $-0.39$ , respectively),  $F(1, 55) = 3.82$ ,  $p < .06$ ,  $\eta^2 = .065$ . Chi-square analyses of nominal behavioral data revealed that children in the personal and ambiguous responsibility conditions did not differ in whether they commented about the broken toy before or after being prompted,  $\chi^2(1) = 2.08$ , n.s.; denied/minimized before being prompted, or after being prompted  $\chi^2(1) = 0.14$ , and  $0.02$  respectively, n.s.; confessed before or after being prompted  $\chi^2(1) = 0.18$ , and  $0.13$  respectively, n.s.; or in their overall emotion  $\chi^2(1) = 0.14$ , n.s. Avoidant and Nonavoidant responding did differ as a function of condition,

with children more often being classified as avoidant than nonavoidant in the personal responsibility condition,  $\chi^2 (1) = 3.85, p = .05$  (See Table 9). These findings were contrary to expectations, but are consistent with the overall emotion and behavioral findings when the child was alone.

### Hypothesis 3: Age and Responsibility

With respect to developmental trends within conditions, the following interactions were hypothesized: a) 3- and 4-year-old children would display more guilt in the personal responsibility condition than in the ambiguous responsibility condition, b) 4-year-olds would display more guilt in the personal responsibility condition than would 2- or 3-year-old children, c) 2-year-old children would not differ in the amount of guilt and shame displayed in personal and ambiguous responsibility conditions, and d) 2-year-old children would show more shame in the personal responsibility condition than would 3- or 4-year-old children.

An additional MANOVA was conducted with behavioral categories (e.g., latency to repair toy) as the dependent variables to determine if age groups differed in the overall use of avoidance or reparation behaviors. Planned comparisons were conducted to determine if 1) older children use more reparation behaviors (repair and comment) in the personal responsibility condition than in the ambiguous responsibility condition, and 2) younger children use more avoidance behaviors (gaze aversion, toy avoidance, and experimenter avoidance) in the personal responsibility condition than older preschoolers use.



Table 9

Number of Children Classified as Avoidant and Nonavoidant as a Function of Condition

Condition	Nonavoidant	Avoidant	Total
Personal responsibility	9	21	30
Ambiguous responsibility	17	14	31
Total	26	35	61

---

 $\chi^2 (1) = 3.85, p = .05$

### Alone

An age by responsibility interaction was found such that blends of joy and tension/worry,  $F(2, 55) = 3.34$ ,  $p < .05$ ,  $\eta^2 = .108$ , varied as a function of group, with 4-year-olds expressing fewer blends of joy and tension/worry in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.19$  and  $0.42$  respectively),  $F(1, 59) = 6.94$ ,  $p < .05$ ,  $\eta^2 = .105$ . Although no other age by condition interactions were significant in the overall MANOVA, further analyses of predicted relationships were examined.

Examination of emotion variables revealed no significant simple main effects, although several emotions did approach significance. Among 2-year-olds, there was a trend for children to have a larger decrease, from baseline, in expressions of full joy in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.17$  and  $0.44$  respectively),  $F(1, 59) = 2.98$ ,  $p < .10$ ,  $\eta^2 = .048$ . Among 3-year-olds, there was a trend for expressing less full anger in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.02$  and  $0.19$  respectively),  $F(1, 59) = 2.90$ ,  $p < .10$ ,  $\eta^2 = .047$ . In addition, there was a trend for 3-year-olds to express fewer blends of fear and sadness in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.21$  and  $0.02$  respectively),  $F(1, 59) = 3.11$ ,  $p < .09$ ,  $\eta^2 = .050$ .

Examination of behavioral variables revealed a condition by age interaction for latency to repair,  $F(2, 55) = 3.46$ ,  $p < .05$ ,  $\eta^2 = .112$ . Follow up analyses indicated that for 2-year-olds, latency to repair was longer in the personal responsibility than the ambiguous responsibility condition, ( $M_s = 26.4$  and  $4.1$  sec, respectively),  $F(1, 59) = 11.15$ ,  $p < .001$ ,  $\eta^2 = .159$ , but did not differ for 3-year-olds,  $F(1, 59) = 0.28$ , n.s.,  $\eta^2 =$

.005, or 4-year-olds,  $F(1, 59) = .005$ , n.s.,  $\eta^2 = .000$  (See Table 10). Exploratory analyses conducted on children's affection towards the toy revealed a condition by age interaction for affection,  $F(2, 55) = 4.23$ ,  $p < .09$ ,  $\eta^2 = .133$ . In particular, less affection was shown by 3-year-olds in the personal responsibility than the ambiguous responsibility condition, ( $M_s = 0.10$  and  $0.73$ , respectively),  $F(1, 59) = 6.48$ ,  $p < .05$ ,  $\eta^2 = .099$ , but affection did not differ for 2- and 4-year-olds by responsibility condition.

Although the overall condition by age interaction for self-comfort was not significant, for 2-year-olds, self comfort was more frequent in the personal responsibility than the ambiguous responsibility condition, ( $M_s = 1.3$  and  $-0.60$ , respectively),  $F(1, 59) = 5.42$ ,  $p < .05$ ,  $\eta^2 = .084$ ). In addition, 4-year-olds exhibited a trend to attempt to leave the room more often in the personal responsibility than in the ambiguous responsibility condition ( $M_s = 0.30$  and  $0.20$ , respectively),  $F(1, 59) = 3.97$ ,  $p < .06$ ,  $\eta^2 = .063$ ).

### Experimenter Returns

Analyses of age by condition conducted on emotion variables revealed no significant interactions. Follow up analyses within age groups revealed that there was a trend for 2-year-olds to express less mild fear in the personal responsibility than in the ambiguous responsibility condition ( $M_s = -0.25$  and  $0.29$  respectively),  $F(1, 59) = 3.22$ ,  $p < .08$ ,  $\eta^2 = .052$ . Among 3-year-olds, less mild fear was expressed in the personal responsibility than in the ambiguous responsibility condition ( $M_s = 0.02$  and  $0.56$  respectively),  $F(1, 59) = 6.53$ ,  $p < .05$ ,  $\eta^2 = .10$  (See Figure 6).

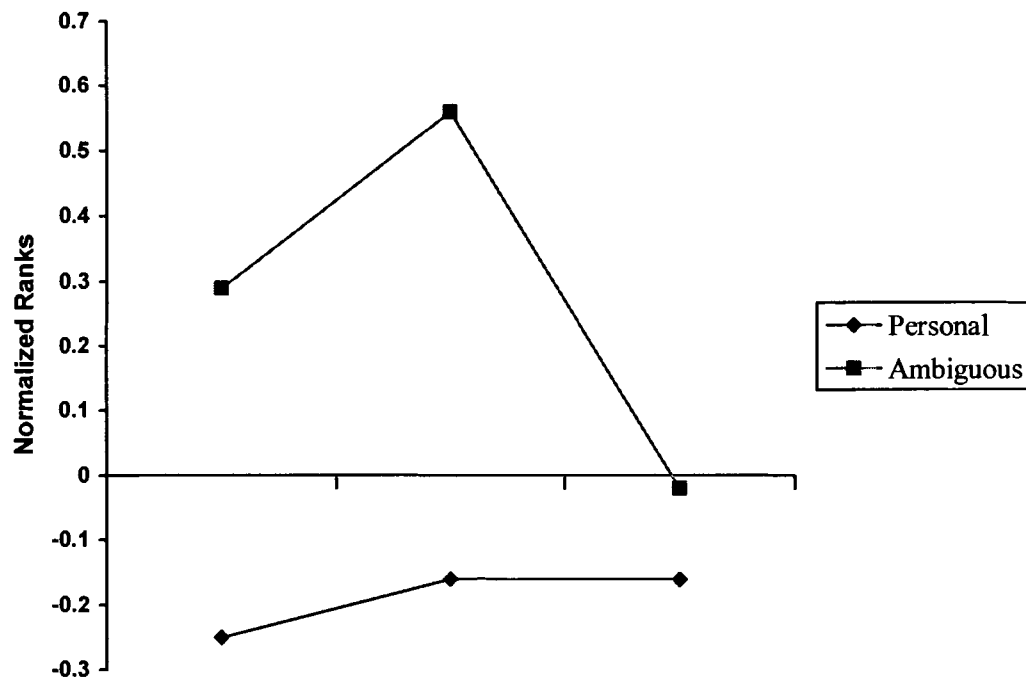
Table 10

Means and Standard Deviations for Latency to Repair in Seconds

Factor	Mean	SD
Personal Responsibility		
2-year-olds	26.40	32.83
3-year-olds	5.60	11.75
4-year-olds	3.10	2.89
Ambiguous Responsibility		
2-year-olds	4.10	3.41
3-year-olds	2.18	1.60
4-year-olds	2.60	1.78
Entire Sample	7.25	16.15

Figure 6

Expressions of Mild Fear when the Experimenter Returned as a Function of Age and  
Condition



Only blends of tension/worry with joy were significant among 4-year-olds, with fewer blends of tension/worry and joy expressed in the personal responsibility condition than in the ambiguous responsibility condition ( $M_s = -0.23$  and  $0.38$  respectively),  $F(1, 59) = 5.07$ ,  $p < .05$ ,  $\eta^2 = .079$ . Analyses of behavioral data revealed a trend for 2-year-olds to display more self-comfort, ( $M_s = 1.40$  and  $-0.30$ , respectively),  $F(1, 59) = 3.76$ ,  $p < .06$ ,  $\eta^2 = .060$ , and more gaze aversion, ( $M_s = .67$  and  $.02$  sec, respectively),  $F(1, 59) = 3.78$ ,  $p < .06$ ,  $\eta^2 = .060$ , in the personal responsibility than the ambiguous responsibility condition. In addition, 3-year-olds displayed less affection with the toy in the personal responsibility than in the ambiguous responsibility condition, ( $M_s = 0.00$  and  $0.55$  respectively),  $F(1, 59) = 4.79$ ,  $p < .05$ ,  $\eta^2 = .075$ . There was no significant difference between personal responsibility and ambiguous responsibility groups for 4-year-olds on any behavioral variables.

### Individual Differences

#### Preliminary Analyses of Dichotomy

In order to determine if the avoidant and nonavoidant dichotomy reflected the variability found in affective and behavioral measures, the following preliminary analyses were conducted on these two groups. A discriminant function analysis (DFA) was performed to determine which variables significantly contribute to the discrimination of avoidant and nonavoidant responding. One of the purposes of the DFA is to aid in the interpretation of how groups differ, but the variables included must meet several assumptions, such as being measured at the interval or ratio level and not being a linear combination of other variables (Klecka, 1982). As such, several emotion and behavioral variables (i.e., confession before or after prompt, deny/minimize before or after prompt,

aggression to the toy, overall emotional expressions, and overall emotion regulation) were excluded from the analysis, as well as subject characteristics such as gender.

The eigenvalue, 6.77, and canonical correlation, .93, suggest that the function is substantively meaningful in discriminating group membership. In addition, Wilks' lambda indicated that the function does discriminate group membership,  $\Lambda = .129$ ,  $\chi^2(43) = 76.90$ ,  $p < .001$ . Table 11 shows the standardized canonical coefficients for variables that made sizable contributions to the DFA. Several emotion variables made sizable contributions to the DFA, particularly joy and tension/worry. As expected, amending and avoiding behaviors not used to create these grouping, such as affection and self-comfort, also contributed to the discrimination of groups. The absolute values of these standardized coefficients were greater than 0.95. In addition, toy avoidance was moderately important to the discrimination of groups ( $w = -0.825$ ). If shame is a precursor to guilt, then age should be a significant discriminator, and was therefore included in the DFA, but the standardized coefficient did not contribute to the discrimination of the avoidant and nonavoidant groups ( $w = -0.220$ ).

#### Hypothesis 4: Gender and Guilt/Shame-Prone Responding

With regards to gender, it was hypothesized that boys would be more likely than girls to be classified as guilt-prone, and that girls would be more likely to be classified as shame-prone than boys. Given the inconsistency of gender findings in the literature, these hypotheses were exploratory. Results revealed that boys and girls did not differ in avoidant and nonavoidant classification,  $\chi^2(1) = .40$ ,  $p = .53$ .

Table 11

Standardized Canonical Coefficients for Variables Discriminating Avoidant and  
Nonavoidant Groupings

Variable	Standardized Coefficients
Alone	
Mild Joy	-1.636
Full Joy	-2.594
Mild Sadness	-1.548
Full Sadness	1.950
Full Tension/Worry	1.039
Tension/Worry	
Sadness Blend	1.131
Experimenter Returns	
Mild Joy	2.546
Full Joy	2.744
Mild Tension/Worry	1.093
Tension/Worry	
Fear Blend	-1.270
Tension/Worry	
Joy Blend	1.104
Affection	0.984
Self Comfort	0.907



### Hypothesis 5: Prediction of Guilt/Shame-Prone Responding

Differences in affective expressions in avoidant and nonavoidant children were examined through independent samples *t*-tests. Expressions of joy were the only emotion variable to vary as a function of nonavoidant and avoidant classification. As predicted, nonavoidant children showed a greater decrease in mild joy than did avoidant children when alone ( $M_s = -0.42$  and  $0.31$  respectively),  $t(59) = -3.08$ ,  $p < .01$ , and when the experimenter returned ( $M_s = -0.46$  and  $0.35$  respectively),  $t(59) = -3.08$ ,  $p < .01$ . In addition, there was a trend for avoidant children to express more fear and tension/worry than nonavoidant children when the experimenter returned ( $M_s = 0.14$  and  $-0.08$  respectively),  $t(59) = -1.78$ ,  $p < .08$ , although this failed to reach significance.

Behavioral differences in avoidant and nonavoidant responding were more apparent than were affective differences. Nonavoidant children were consistently higher in reparations and lower in avoidance behaviors than were avoidant children. As shown in Figure 7, nonavoidant children had shorter latencies to repair ( $M_s = 2.6$  sec and  $10.7$  respectively),  $t(59) = -2.01$ ,  $p < .05$  than did avoidant children. Nonavoidant children less often asked to leave or tried to leave than did avoidant children ( $M_s = 4.62$  and  $22.29$  respectively),  $t(59) = -2.33$ ,  $p < .05$  (See Figure 8). There was also a trend for nonavoidant children to have shorter latencies to gaze at the experimenter ( $M_s = 1.5$  and  $3.7$  sec respectively),  $t(59) = -1.89$ ,  $p < .07$ , although this failed to reach significance.

Figure 7

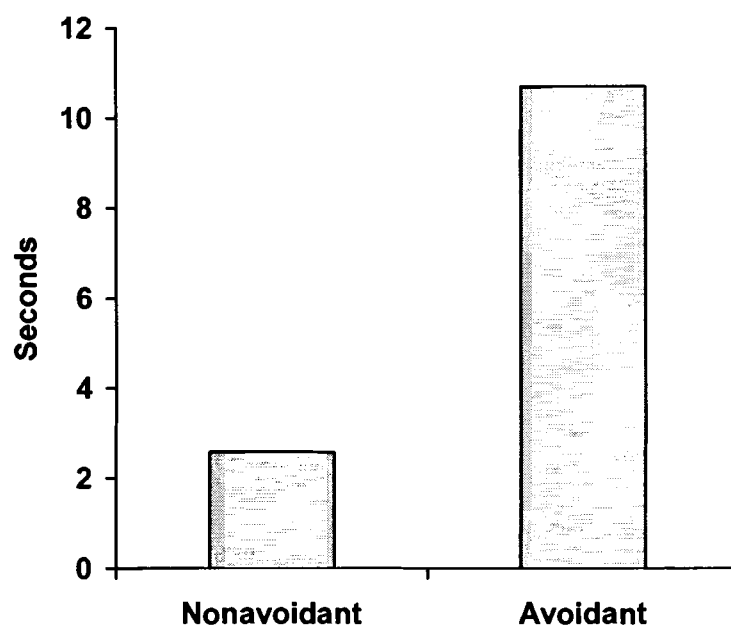
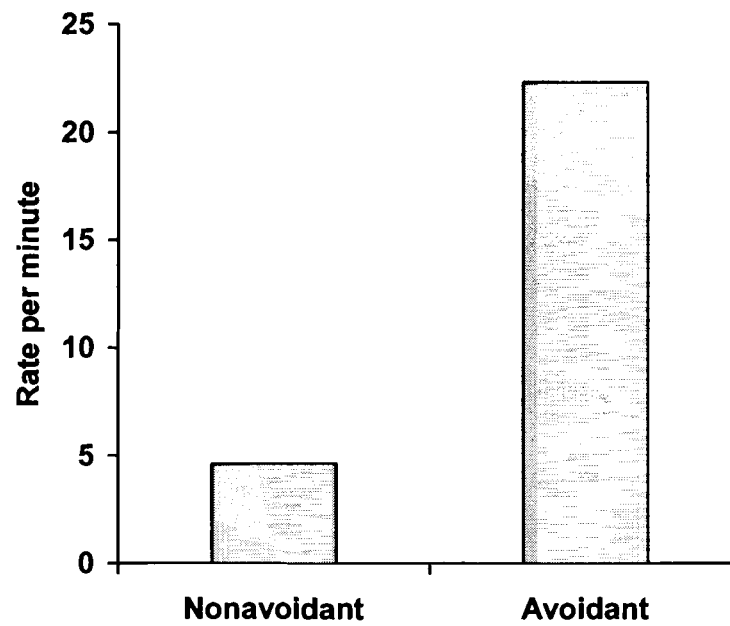
Latency to Repair among Nonavoidant and Avoidant Children

Figure 8

Rate of Asking to Leave or Leaving among Nonavoidant and Avoidant Children when the Experimenter Returned



Finally, an examination of differences in global social and emotional characteristics as a function of avoidant and nonavoidant classification was assessed with independent samples  $t$ -tests. SCBE scales and summary scores and My Child scales served as the dependent variables. It was hypothesized that guilt-prone children would be higher in social competence, but lower in internalizing and externalizing behaviors than shame-prone children.

As hypothesized, nonavoidant children were rated by teachers as higher in social competence than were avoidant children ( $M_s = 131.7$  and  $114.9$ ),  $t(59) = 2.26$ ,  $p < .05$ . Given that age and social competence are consistently related in previous studies, and in the present study ( $r = .28$ ,  $p < .05$ ), it is possible that the relationship between social competence and avoidant/nonavoidant responding was an artifact of the covariance of age. Therefore, group differences in social competence were examined with the effects of age partialled out. The corrected model again reached significance,  $F(2, 58) = 3.578$ ,  $p < .05$ , indicating that social competence does make a unique contribution to nonavoidant and avoidant responding beyond its relationship with age. Hypotheses regarding individual scales were partially supported, with nonavoidant children displaying more positive social and emotional functioning than avoidant children. Nonavoidant children were rated by teachers as more tolerant ( $M_s = 35.9$  and  $30.5$ , respectively),  $t(59) = 2.20$ ,  $p < .05$ , prosocial, ( $M_s = 35.4$  and  $30.1$ , respectively),  $t(59) = 2.86$ ,  $p < .01$ , cooperative ( $M_s = 40.2$  and  $34.5$  respectively),  $t(59) = 3.07$ ,  $p < .01$ , and as exhibiting fewer externalizing behaviors ( $M_s = 84.9$  and  $74.9$  respectively),  $t(59) = 2.50$ ,  $p < .05$ . In addition, there was a trend for nonavoidant children to be rated by teachers as more calm than avoidant children ( $M_s = 35.8$  and  $32.0$ , respectively),  $t(59) = 1.86$ ,  $p < .07$ .

With regard to My Child, it was hypothesized that 1) confession, apology, reparation, empathy, internalized conduct, and concern over others' transgressions would be higher in guilt-prone than shame-prone children, and 2) affective discomfort after wrongdoing and concern over good feelings with parent, will be higher in shame-prone than guilt-prone children. Nonavoidant children did not differ from avoidant children in confession or internalized conduct, but were rated by parents as higher in apology and/or promise not to do it again ( $M_s = 28.3$  and  $24.5$  respectively),  $t(59) = 2.04$ ,  $p < .05$ , reparation/amends ( $M_s = 42.7$  and  $39.8$  respectively),  $t(59) = 1.8$ ,  $p < .08$ , empathic/prosocial response to another's distress ( $M_s = 69.9$  and  $62.0$  respectively),  $t(59) = 3.52$ ,  $p = .001$ , and active moral regulation/vigilance ( $M_s = 180.5$  and  $165.0$  respectively),  $t(59) = 2.29$ ,  $p < .05$ . Contrary to expectations, nonavoidant children were higher than avoidant children in affective discomfort after wrongdoing ( $M_s = 210.6$  and  $194.2$  respectively),  $t(59) = 2.30$ ,  $p < .05$ , suggesting that this factor represents affective discomfort as noticed by the parent rather than the child. In addition, although not hypothesized, nonavoidant children were rated by their parents as higher than avoidant children in corrections occasioned by others' transgressions ( $M_s = 34.6$  and  $30.7$  respectively),  $t(59) = 2.32$ ,  $p < .05$ .

No particular hypothesis was stated in regard to either of the following scales: "symbolic reproduction of/dealing with wrongdoing" and "sensitivity to flawed or damaged objects, themes of wrongdoing", nor did nonavoidant and avoidant children differ on any these scales.

## CHAPTER IV

### DISCUSSION

Recent research has begun to explore the affective expressions and behavioral responses that are particular to mild guilt and shame in children in laboratory conditions (e.g., Barrett et al., 1993; Cole et al., 1992; Lewis, 1991; Lewis et al., 1992; Stipek et al., 1992). In addition, it is important to determine if any other individual differences exist between children prone to the expression of one emotion rather than the other. To date, few studies have examined the development of the capacity to express guilt and shame in young children, and it is currently not clear how these emotions are expressed in preschool children. The present study examined expressions of guilt and shame in response to a laboratory mishap paradigm to investigate age changes and the effects of context (i.e., personal responsibility vs. ambiguous responsibility) on children's affective and behavioral responses.

In light of the present study as well as others (e.g., Barrett, et al., 1993; Cole et al., 1992) several questions remain with regard to what expressive components of guilt are convincingly present at this age. Shame may be characterized by anxiety and tension coupled with avoidant behaviors. However, the lack of avoidance may be necessary, but not sufficient to infer the presence of guilt. Theorists generally agree that the presence of guilt is marked not only by the absence of avoidance, but also by the presence of reparations and confession, as well as affective discomfort (e.g., Ferguson & Stegge, 1998; Lewis, 1993; Sroufe, 1995; Tangney, 1998). To date, research investigating young children's expressions in response to mishap paradigms has failed to define children as guilt-prone based on both avoidance and reparation measures (e.g., Barrett et al., 1993).

However, preschool aged children and toddlers who are low in avoidance do display affective and behavioral reactions that are consistent with guilt. Alternatively, if full-fledged guilt is not present in preschool children, then it may be more useful to determine what affective expressions and behavioral tendencies are present in terms of developmental precursors. These nascent abilities may reflect the emergence of the capacity for guilt during the preschool years, but do not define guilt.

In general, results of the present revealed that younger preschoolers do express more shame-relevant emotions (e.g., tension/worry) and behaviors (e.g., experimenter avoidance) than did older preschoolers. In contrast, older preschoolers expressed guilt-relevant emotions such as sadness, but blended with tension/worry, and guilt-relevant behaviors such as shorter latencies to attempt to repair the broken toy. However, an examination of guilt- and shame-prone responding was not possible in the present study, as children were dichotomized only by avoidance measures but not also with the more inclusive definition of reparation and confession. Children low in avoidance also displayed more reparation and scored higher on parental-reports of guilt-relevant behaviors, suggesting that these children may be prone to expressing guilt. Moreover, individual differences in overall socioemotional adjustment were associated with the avoidant/nonavoidant classification.

### Developmental Differences

#### Affective Expressions

As hypothesized, tension/worry did decrease with age, but the difference was primarily between 2- and 3-year-olds. Interestingly, no other emotion variables were significant. This was surprising given that guilt and shame are linked to emotional

expressions (Cole et al., 1992, Lewis et al., 1992; Stipek et al., 1992). However, the effect size for tension/worry was fairly strong, suggesting that insight into the expression of this emotion may be key to understanding developmental differences in shame and guilt. Additionally, tension/worry blended with sadness increased with age, again with the primary difference being between 2- and 3-year-olds. Taken together, these findings suggest that 2-year-olds did not blend tension/worry with sadness when the experimenter was present, but older preschoolers did. These findings are consistent with theories of the adaptive function of emotional expressions (e.g., Campos & Barrett, 1984; Izard, 1993), which state that sadness has a social and expressive function that tension/worry does not. As Izard notes, sadness entails a “deeper reflection on a disappointing performance or a failure” but also arouses empathy and assistance from others (1993, p. 634). In particular, sadness in this context signals that a child needs assistance in repairing the toy and or the relationship, which is consistent with the finding that this emotion (although blended) was more prevalent in older preschoolers, who were also less likely to be classified as avoidant. It is likely that younger preschoolers who exhibited a general pattern of avoidance were not as outwardly concerned with repair and therefore did not express sadness. Given that tension/worry decreased with age, and was related to avoidance, and sadness blended with tension/worry increased with age but was not related to avoidance, these blended emotional expressions typical of older preschoolers likely reflect more sadness than tension/worry. However, the sadness expressed was not isolated from other expressions. Given the novelty of the testing situation, and the possibility of punishment, these added expressions might have reflected some degree of anxiety about the outcome of the mishap. Additionally, these mixed expressions may be reflective of developmental



precursors to older children and adults' guilt expressions and experiences, and may signal the preschool child's transition from shame-prone to guilt-prone responding.

### Behavioral Reactions

Although it was hypothesized that younger children would show more frequent avoidant behaviors, 2-, 3- and 4-year olds did not differ in self-comfort, toy avoidance, affection or aggression towards the toy, or in attempts to leave the room when initially left alone. These findings were surprising given that avoidance is consistently found to relate to shame in failure tasks (e.g., Lewis et al., 1992) and mishap paradigms (Barrett et al., 1993; Cole et al., 1992). However, younger children did differ in their initial reaction to the broken toy, as 2-year-olds had longer latencies to attempt to repair the toy than did 4-year-olds. Latency to repair failed to differ significantly between 3-year-olds and either 2- or 4-year olds. This was probably due to the relatively small sample size, as the developmental difference approached significance, and the effect size was quite large. This is consistent with previous research that found latencies to repair, as well as latencies to comment about the mishap, are shorter in amending children (Barrett et al., 1993).

Several behavioral differences did emerge when the experimenter was present though, suggesting that the reactions to the mishap were intensified by the presence of the person who was affected. Again, behavioral differences existed primarily between 2-year-olds and older preschoolers, with 2-year-olds showing more avoidance. In particular, 2-year-olds were more likely than 3-year-olds to avoid the toy by turning their bodies away from it or by pushing the toy away from them. These findings should be interpreted with caution, as a more liberal post hoc test was performed to explore these differences,

and the effect size was relatively small. Finally, 2-year-olds avoided the experimenter by turning their bodies away from the experimenter more frequently than 4-year-olds. Given the moderate effect size for this variable, the lack of significance for other age contrasts may also be partly due to sample size. It should be noted that children were often tested in small rooms, and no other toys were present, making experimenter avoidance awkward for the child, as there was no other activity or person that could be the focus of their attention. This adds further support to the need to examine behavior alone and with the experimenter present, as the experimenter acted as more than simply an audience member. Although many theorists argue that an audience is not required for one to experience self-conscious emotions (e.g., Sroufe, 1995; Stipek et al., 1992), these emotions may be intensified when one is present, especially in the case of a wrong directed at the audience member. Since the mishap was directed at the experimenter, these behaviors might differ if the person entering the room after the mishap was not the one that was 'wronged', but instead was a child or adult with whom to play. It would be interesting to examine the differences in children's reactions to mishaps when someone unconnected to the event was present, versus the person who was affected. It is likely that in such a situation, the child's emotional and behavioral reactions would decrease, as there would be less of a need to avoid the audience member.

Contrary to expectations, commenting before or after being prompted, denying or minimizing the damage, and confession before being prompted by the experimenter did not differ as a function of age. This was surprising given that previous research using mishap paradigms has found avoidant children to be slower to tell the experimenter when a mishap occurred (Barrett et al., 1993). Although the definition of confession in the

present study was consistent with telling or commenting about the broken toy, the lack of findings may be related to the absence of the parent during testing. In Barrett and colleagues' mishap paradigm (1993), the parent remained with the child in the testing room even though the experimenter had left. In contrast, children in the present study were alone when the toy broke, perhaps allowing them to think that no one knew that the toy had been broken or that they were responsible. It should be noted that only 5 of the 61 children confessed before the experimenter prompted them.

Once children were prompted though, it was expected that a majority of children, especially older preschoolers, would confess. In essence, prompts acted as a way of informing the child that the experimenter knew the toy was damaged, but without placing specific blame on the child. Given that the child was the only one present, it would be natural to assume that he or she was therefore 'caught'. Still, only 33% of children confessed after being prompted. The age differences in this confession failed to reach significance, which is not surprising given the low number of children confessing. However, given the developmental trend present in these findings, particularly with more 4 year-olds confessing than either 2- or 3-year-olds, it is possible that older preschoolers do confess more after being 'caught', but that the present study lacked the power to detect these differences. These findings are consistent with empirical evidence of deception among preschoolers. When placed with an enticing, but forbidden toy, two-thirds of the preschoolers who 'peeked' at the toy then lied or did not respond when asked if they had 'peeked' (Lewis, Stanger, & Sullivan, 1989). In addition, these nonconfessors do not differ from confessors in emotional or behavioral reactions to the experimenter's probe. In contrast, when probed for information in another context, such as trying to hide a toy

from the experimenter, 3-year-olds do attempt to deceive the experimenter, but often leak information, and are therefore unsuccessful (LaFreniere, 1988; see also Chandler, Fritz, & Hala, 1989). Taken together, these findings suggest that younger preschool children may attempt to deceive others, but lack the cognitive sophistication to fully understand the other person's thoughts and perceptions.

The awareness of another's knowledge base, such as is necessary in deception, is one of the fundamental cognitive components of the preschooler's emerging theory of mind. Given that guilt and shame are particularly cognitive emotions, it is not surprising that many of the developmental patterns found in the present study parallel the age changes in the development of theory of mind. In addition to deception, preschool children are increasingly capable of belief-desire reasoning, and of understanding the appearance-reality distinction (see Flavell, 2000, for a review). Although researchers have consistently found that children do not pass false-belief tasks (Wimmer & Perner, 1983) or appearance-reality tasks (Flavell, Green, & Flavell, 1986) until they are about 4-years-old, several studies have challenged these findings as relying on too narrow a definition for these abilities. For example, children as young as 3-years-old are capable of knowing that emotions depend on desires and beliefs (Wellman & Banerjee, 1991), and that appearance and reality do not always match in everyday objects (Wooley & Wellman, 1990). It is not surprising then, that many of the emotional and behavioral differences found in children's reactions to the mishap paradigm were between 2-year-olds and older preschoolers.

Finally, as only 33% confessed, using the classification of guilt- and shame-prone, as originally designed revealed that only 7 children were guilt-prone (i.e., high in

confession and low in avoidance). As mentioned above, confession was relatively uncommon for preschoolers; therefore only measures of avoidance were used to create the avoidant and nonavoidant classification in the present study. As such, 26 children were nonavoidant and 35 avoidant. As hypothesized, classification as avoidant or nonavoidant did vary as a function of age. This finding lends support to Sroufe's (1995) tenet that guilt develops during the preschool years from a more global emotional reaction reflected in shame. In addition, the dichotomy of children into avoidant and nonavoidant groups reflects previous research that has found, using a similar classification strategy, that amending toddlers do exhibit many emotional and behavioral responses consistent with the experience of guilt (Barrett et al., 1993). Alternatively, given that guilt could not be directly addressed with this classification system, preschool children may not be capable of experiencing full-fledged guilt. Nonavoidant responding may simply reflect a mixed emotional response that indicates a transition from shame, as seen in younger preschoolers, to guilt, which may be fully formed later in development. Given the mixed developmental findings with respect to changes from 2- to 3- and 2- to 4-years-old, guilt and shame may exist along a single dimension, creating the possibility that there are actually 3 groups (e.g., guilt-prone, shame-prone, and mixed). The mixed emotional and behavioral responses seen in preschool children suggest that guilt may not develop during the preschool years. Rather, these findings suggest that nascent forms of guilt are beginning to emerge during this developmental period. Additionally, these age effects might not reflect a developmental sequence from global shame to specific guilt since the study was cross sectional in nature. Future studies could investigate the developmental progression of these emotions longitudinally.

### Situation and Affect

Verbal directions to the participants were designed to elicit or reduce feelings of personal responsibility in children. If children are told that the toy is already broken, for example, it is likely that they will not feel personally responsible if the toy does in fact break. Conversely, if they are given no information about the toy being broken, than they should be more likely to blame themselves or see themselves as personally responsible for breaking the toy. Given that guilt is theoretically linked to feelings of personal responsibility (Lewis, 1993; Mascolo & Fischer, 1995; Weiner, 1986), it was expected that children would display more guilt relevant reactions in this situation. Contrary to expectations, children in the personal responsibility condition showed a pattern of behavioral reactions such as greater avoidance and less reparation, which is typically associated with shame, not guilt (e.g., Lewis, 1993). It is possible that although personal responsibility is one of the constructs that differentiates guilt from other emotions, individual differences rather than context will elicit these feelings. Alternatively, as research with hypothetical situations and interviews suggests (e.g., Graybill, 1993; Stipek & DeCostis, 1988; Weiner & Graham, 1989) awareness of personal responsibility as a factor in guilt may not emerge during this developmental period.

### Affective Expressions

Findings in the present study did not support the hypothesis that children's affective expressions would differ as a function of the degree of personal responsibility. When the child was alone, only full joy was seen to decrease from baseline more in the personal responsibility condition than in the ambiguous responsibility condition. In addition, children expressed more mild fear in the ambiguous responsibility condition

than in the personal responsibility condition when the experimenter was present. This was surprising given that fear is hypothesized to signal knowledge of impending danger (Darwin, 1872/1965; Izard, 1993). It may be that children expressed mild fear when the experimenter returned because of the possibility of punishment. In addition, the finding that these expressions occurred more often in the ambiguous responsibility condition as opposed to the personal responsibility condition suggests that children were more fearful about the encounter with the experimenter when they had already been warned that the toy was broken and to be careful with it, but played with it and broke it anyway. This is consistent with research that demonstrates that early elementary school age children attribute shame or pride to story characters only when a parent is present (Harter & Whitesell, 1989). As Stipek (1995) notes, self-conscious emotions emerge after a child internalizes rules and standards, so that emotional reactions are no longer dependent on the evaluation of others. In the present study, children's emotional reactions when alone likely reflected a self-conscious evaluation, but these emotional reactions may have been intensified or altered with the presence of an audience member. Finally, early elementary age children mention that guilt is more likely or will increase, but that shame will decrease if a parent were present (Berti et al., 2000). However, the shame situations frequently reflected embarrassment, making the role of an audience member unclear in the easement or intensification of these emotions.

### Behavioral Reactions

When children were initially alone after the toy broke, children in the personal responsibility condition had longer latencies to repair and displayed more self-comforting behavior such as biting their lips or playing with their hair. In contrast, children in the

ambiguous responsibility condition were quicker to repair the toy than those in the personal responsibility condition since they were primed for this event to occur. This may reflect differences in the speed of processing a novel or unexpected event when compared to an event that was expected. Although not significant, the trend for children in the personal responsibility condition to try to leave the room more frequently is consistent with the general pattern of avoidant behavior. Alternatively, they may have been attempting to get help from the experimenter, as they had not expected the toy would break. The reason the child left the room was not assessed in this study, but given the low frequency of its occurrence, it is unlikely that analyses of these reasons would be meaningful in the present study.

Overall, this pattern suggests that children in the personal responsibility condition might have been experiencing shame rather than guilt as it was designed to do. The apparent paradox may be explained by the fact that children in the ambiguous responsibility condition had been warned by the experimenter that not only was the toy 'her favorite' but also that they should be careful, since it was already broken. Given the lack of consistent avoidant or nonavoidant responses as a function of condition, it is not surprising that the avoidant and nonavoidant classification was not related to this manipulation. Taken together, these findings suggest that the verbal instructions, although somewhat important, were not powerful enough to elicit an increase in feelings of guilt. In addition, the verbal instructions in some ways created patterns that were opposed to those hypothesized. As such, it was not easy to induce feelings of personal responsibility in the present study. As Saarni (1999) notes, the cognitive egocentrism of preschool children may make them more likely to think that they are responsible for events which



they actually have little or no control over. In the present study, it is reasonable to assume that children felt responsible for breaking the toy regardless of whether the toy was already broken or not, but these feelings of responsibility did not induce guilt, but rather shame.

### Age and Situation

#### Affective Expressions

When comparing the responsibility conditions within each age group, a more consistent pattern of affective expressions emerged. Specifically, within each age group, several negative emotions were more frequently expressed in the ambiguous responsibility condition than in the personal responsibility condition. For instance, when children were alone, 3-year-olds expressed more full anger and blends of fear with sadness in the ambiguous than the personal responsibility condition. When the experimenter was present, both 2- and 3-year-olds expressed mild fear displays suggesting that they were afraid of being punished.

When initially alone, and when the experimenter returned, 4-year-olds expressed more joy blended with tension/worry when they had been told that the toy might be broken than when they were not warned that the toy was broken. It is likely that the blending of these emotions is not a sign of ambivalent positive and negative feelings, but rather a nervous smile that was meant to ease the situation. Although expressions of embarrassment were not examined, it is possible that these anxious smiles reflected this emotion. Consistent with this interpretation, Barrett and colleagues (1993) found that children high in avoidance display more smiles followed by gaze aversion. These findings are in contrast to the present study, but may reflect the differences in the children's ages

(i.e., toddlers versus preschoolers) or the fact that there was a longer delay before the experimenter prompted the child in Barrett and colleagues' study. As such, the shorter time between the experimenter's return and the experimenter's prompts may have masked some individual differences that would reflect an avoider's discomfort with the situation.

### Behavioral Reactions

As with affective expressions, findings regarding behavioral reactions were in an unexpected direction. Interestingly, latency to repair appeared to be the most important variable examined in the present study, as it consistently differentiated age groups, and responsibility conditions, as well as the interaction of these variables, and was important in differentiating guilt and shame reactions in previous studies (e.g., Barrett et al., 1993). In particular, 2-year-olds took much longer to attempt to repair the toy when they had not been told it was broken. This finding has several implications. First, it suggests that the age effect for latency to repair, whereby 2-year-olds were slower to repair, is not likely due to psychomotor differences. When examining responses to the responsibility conditions within this age group, 2-year-olds attempted to repair the toy as quickly as older preschoolers when they had been warned that the toy was broken. It was when they were not primed for this event that they appeared much slower than their older peers. It is likely that latency to repair reflects cognitive and experiential differences, as well as emotional ones. Future studies could explore the significance of latency to repair, as this variable has begun to emerge as an important individual response to mishap situations, yet it remains unclear whether the behavior relates to cognitive processing differences or emotional coping styles, or both.

Finally, 3-year-olds continued to display more affection towards the toy in the ambiguous responsibility condition when the experimenter was present. Although 2-year-olds showed a trend for displaying more self-comfort and more gaze aversion in the personal responsibility condition, these behaviors failed to differ with respect to the responsibility conditions. It is likely that the present study lacked the power to detect these differences, possibly due to sample size. On the other hand, given the inconsistent and somewhat weak effects of the responsibility condition generally, the present study may have lacked power in the manipulation of the verbal instructions. Future research could examine the importance of situational differences in eliciting shame and guilt in preschool children.

### Individual Differences

#### Classification

Examination of the dichotomy revealed that the classification of children as avoidant or nonavoidant was theoretically meaningful, whether or not it reflects guilt and shame-prone responding. This is consistent with previous research that has found shame-prone children to be higher in avoidance and tension/worry (e.g., Barrett et al., 1993; Cole et al., 1992; Lewis, 1992) and guilt prone children to be higher in sadness and have shorter latencies to repair and point out the mishap (e.g., Barrett et al., 1993; Cole et al., 1992). However, an examination of the variables that contributed to this dichotomy should be interpreted with caution. Since the subject to variable ratio of the DFA was quite small, too many variables may have been included as “some variables will likely be included which do not contribute to the separation of groups...[and] a different subset would emerge from the repetition of the study” (Rancher & Larson, 1980, p. 350, as cited

in Stevens, 1996, p. 272). This is consistent with the fact that, although age was related to avoidant and nonavoidant classification, it did not weigh heavily in the discrimination of groups. As such, generalization of these findings as a true indicator of the variables that discriminate between avoidant and nonavoidant responding, and particularly as discriminators of guilt from shame, seems unwarranted. On the other hand, emotion variables, particularly joy blended with tension/worry, discriminated between these groups, as did affection and self-comfort. The results of the DFA can therefore be useful in directing the design of future studies to limit the number of variables examined and to increase the sample size, so that a more stable DFA can be examined. In addition, the present study was unable to analyze the importance of behaviors related to reparation such as confession or minimizing the mishap. Given the importance of these variables in the theoretical differentiation of guilt and shame, future research could examine how reparations aid in the discrimination of these emotions among preschoolers.

In addition, the discriminant function analysis assumes that the groups being examined are mutually exclusive categories. Although guilt and shame are conceptualized as mutually exclusive, it is possible that guilt- and shame-prone responding to a single mishap incident has some degree of overlap. For instance, whereas tension/worry reflects shame-prone responding, the expression of this emotion is not precluded from children classified as nonavoidant. In addition, tension/worry decreased with age, but sad and tension/worry blends increased with age, further suggesting that these may not be mutually exclusive in terms of emotional expressions. It is likely that, although the groups are theoretically distinct, their expressive components have considerable overlap. Alternatively, the fundamental significance of the dichotomy is not without value, as the

variables did separate the groups in theoretically meaningful ways. As Klecka (1982) notes “if the groups are not very different in the variables being analyzed, then all of the correlations will be low, because we cannot create discrimination when none already exists” (pp. 37-38). As such, the specific variables that discriminate may be unstable, but the dichotomy itself is likely to be meaningful.

### Gender Differences

Findings in the present study did not support the notion that avoidant and nonavoidant responding varied as a function of gender. This was not surprising given the inconsistency of gender findings in the literature, especially in young children (see Bybee, 1999 for a review). Recent studies using semi-structured interviews and hypothetical situations revealed few or no gender differences in young children’s understanding of the antecedents, consequences, or action tendencies (e.g., Berti et al., 2000; Olthof et al., 2000), or in the likelihood of being classified as guilt- or shame-prone (Ferguson, Stegge, Eyre, Vollmer, & Ashbaker, 2000). Additionally, the limitations of the present study’s avoidant classification system do not fully reflect the overall constructs of guilt and shame. As such, gender findings should be interpreted with caution.

### Affective and Behavioral Differences

Hypotheses regarding the emotional and behavioral differences in avoidant and nonavoidant children were partially supported in the present study. Only joy differed for avoidant and nonavoidant children, with nonavoidant children showing a greater decrease in mild joy both when alone and when the experimenter was present. Although the present study may have lacked sufficient power, there was a trend for avoidant children to express more fear blended with tension/worry, specifically when the experimenter

returned to the room. However, this finding does raise an interesting theoretical issue about how researchers can distinguish the separate emotions of shame and fear of punishment. The expressive and cognitive differences in attempting to avoid punishment versus reducing feelings of shame may have overlapping elements. Darwin (1872/1965) noted that fear is often expressed at first as a freezing of the body, “as if instinctively to escape observation” (p. 290), and that with shame “there is a strong desire for concealment” (p. 320). It is likely that fear of punishment may be associated with self-conscious emotions such as shame, as it reflects awareness that one has violated a standard.

Behavioral differences between avoidant and nonavoidant responding reflected the affective differences noted above. Nonavoiders had shorter latencies to repair, as was expected given that guilt is associated with reparation rather than avoidance. This adds further support to the identification of nonavoiders as experiencing guilt during the mishap paradigm. In addition, avoiders were more likely to try to leave the room, suggesting that they were uncomfortable and unable to remain regulated in the face of arousal. This is consistent with research that demonstrates that young children frequently cite reparation as a method of coping with guilt, and hiding or “doing nice things and forgetting or distracting” as methods of coping with shame (Berti et al., 2000). As Barrett (1995) notes, shame may be a method of coping used by children as a means of dealing with overarousal in a social situation such that children manage the arousal by directing their attention away from the incident or person. In addition, Denham (1998) notes that awareness of one’s arousal and how one redirects attention away from that arousal, is indicative of emotion regulation. In particular, redirecting attention away from feelings of

arousal may be adaptive in situations when a child experiences anxiety, but may be maladaptive if it damages the social bond. Children who experience shame may be unable to modulate their arousal in ways that would repair the damage to the social relationship, making it a less adaptive response, especially for older children who would be expected to have greater emotion regulation.

### Socioemotional Differences

Nonavoiders, when compared to avoiders, were rated by their teachers as more socially competent overall, even when controlling for age. These findings suggest that nonavoidant responding reflects a child's quality of adaptation in the preschool classroom such that avoidance is not characteristic of a socially competent preschool child. One interpretation of these findings that is consistent with what is known about guilt and shame in young children is that shame-prone responding is less adaptive than guilt-prone responding, and will reflect differences in social competence. Although results of the present study suggest that avoidant classification makes a unique contribution to social competence beyond its relationship with age, it remains unclear how to tease apart these constructs. For example, perhaps guilt and its expression are aspects of social competence such that children who express remorse for wrongdoings are likely to be more positively rated by their teachers. This is consistent with research by Holmgren, Eisenberg, and Fabes (1998) that has demonstrated that teachers rate children who are high in empathy as more socially competent than those who are low in measures of empathy. On the other hand, perhaps teachers do not notice the expression of guilt and shame per se, but are rating these children more positively due to their overall coping style. Future research

could examine the relationship between social competence as rated by teachers, and as reflected in peer relations, and children's proneness to experiencing shame or guilt.

In addition to global scales of the SCBE, nonavoiders, in comparison to avoiders, were rated as more tolerant, prosocial, and cooperative. As the SCBE scales reflect both positive and negative behaviors, avoiders were therefore rated as more angry, egotistical, and oppositional than were nonavoiders. As such, these children were also high in externalizing behaviors. Although this was expected, it is surprising that they did not differ in internalizing behavior as well. Overall, the avoidant response style would suggest an inability to regulate arousal and therefore it is likely that shame-prone children have less effective emotional regulation strategies, in some instances through avoiding these painful emotions. As Saarni (1999) notes, "what is intriguing about emotionally competent coping is that often it entails having to deal with our own feelings," and that by dealing with these emotions, we maintain our social connectedness (p. 219). Finally, the present study lends support to the notion that there is a relationship between shame and anger, as has been suggested by both psychoanalytic writers (e.g., Goldberg, 1999) and developmental theorists (e.g., Sroufe, 1995, Tangney, et al., 1996). For example shame-prone, in comparison to guilt-prone individuals, report more frequent use of maladaptive anger management, and often lack empathy (Tangney, 1995; Tangney et al., 1996).

#### Concurrent Validity

Findings in regard to the My Child further support the tenet that the nonavoidant and avoidant classifications reflect some of the theoretical differences between guilt and shame. Although the My Child was administered as a form of concurrent validity, in that this measure has been reported to reflect individual differences in the development of



conscience, it should be noted that the My Child was not specifically designed to test guilt and shame. Results of the present study suggest that a nonavoidant classification may reflect an overall proneness to guilt, given that, in comparison to avoidant children, their parents rated nonavoidant children as higher in apology/promise not to do it again, and reparations/amends. These scales reflect the reparations that are consistently used to theoretically differentiate guilt from shame. In addition, these children were rated as higher in the summary factor of active moral regulation/vigilance such that nonavoidant children, compared to avoidant children, were rated as more concerned with rules and prohibitions. This is consistent with previous research that has found that reactive girls as well as impulsive and sensation seeking boys score lower on active moral regulation/vigilance (Kochanska et al., 1994). In contrast, children scoring high on this scale are less likely to touch or play with a prohibited object, and instead occupy themselves with other activities (Kochanska et al., 1994). This pattern of results suggests that shame-prone and avoidant children may have difficulty in resisting temptation, and are therefore more likely to be punished or reprimanded by their parents. This adds further support to the finding that children who were told the toy might be broken were likely to experience shame-relevant reactions, as they may have interpreted their play as a forbidden act. In addition, nonavoiders, in comparison to avoiders, were rated as higher in concern over others' wrongdoing. This is consistent with the notion that guilt-prone children have internalized rules, and would therefore be more aware of their peers' transgressions.

In addition, nonavoiders, in comparison to avoiders, also scored higher on the summary factor of affective discomfort after wrongdoing, as was hypothesized. It is

likely that avoidant children scored lower on this scale since they are masking their arousal following these situations, whereas nonavoiders display these emotions so as to repair the relationship with the parent. This factor reflects not only the child's emotional response, but also a concern for the emotional response of others and a desire to apologize. As such, it may reflect a more empathic response focused on the social situation rather than simply a fear of punishment or desire to hide. Interestingly, scales within this factor represent guilt, a concern for the parent rather than the damaged object, a need to be reassured that the parent still loves them, and empathy with others (Kochanska et al., 1994). These scales appear to assess both shame and guilt-like behaviors, but may represent the child's focus on the relationship and need for repair rather than an inability to confront the possible damage to the relationship, the latter being more indicative of shame.

#### Limitations and Future Directions

Although the present study adds to the growing body of research on the importance of the development of guilt and its differentiation from shame in preschool children, several limitations to the validity and generalizability of the findings are worth mentioning. First, the participants of the study were primarily limited to white, middle- and working class families. As such, it is unclear if these developmental and individual difference findings would generalize to a more diverse population.

Second, although the results of the present study supports the notion that nonavoidant responding is more adaptive emotional and behavioral reaction than avoidant responding, adaptation is meant to imply only particular contexts. Specifically, the cultural implications of these findings should not be over-extended. It should be noted

that researchers have begun to explore the role of culture in the development of self-conscious emotions (see Wallbott & Scherer, 1998 for a review). Several studies have suggested that children's predominant shame or guilt reactions may reflect their prevailing collectivistic or individualistic cultural context. In particular, shame is more prevalent than guilt in collectivistic cultures, but within the socialization experiences of those cultures, shame is likely to be adaptive (Chiang, Barrett, & Nunez, 2000). In addition, although shame may have similar expressive components cross-culturally, it will likely have different experiential components. For example, parents in collectivistic cultures report that a child's misdeed reflects on the parent more than do parents in individualistic cultures (Chiang et al., 2000). Since misdeeds in a collectivistic culture are reflective of the parent as well as the child, shame experiences may be a more social and shared experience between the parent and child, whereas shame is a solitary emotion within individualistic cultures, felt only by the child (Saarni, 1999). Several studies have pointed to the adaptive as well as maladaptive nature of these emotions, but the expressive and experiential components that may make these emotions positive or negative in various cultures are not well understood (Ferguson et al., 2000; Ferguson, Stegge, Miller, & Olsen, 1999).

Third, age effects in the present study may have been artificially heightened by linguistic, cognitive, and expressive language differences between 2-year-olds and older preschool children. Behavioral categories were defined with these linguistic differences in mind. For example, telling the experimenter was defined not only as verbalizing that the arm was broken, but also as deliberately showing the experimenter that the arm was broken. In addition, simple utterances such as saying "I broke" were considered to be

examples of confession. It remains unclear whether these linguistic considerations were sufficient enough to allow less verbal children (e.g., 2-year-olds) to be accurately classified as nonavoidant, but instead made them likely to be classified as avoidant purely based on linguistic differences. Future research could examine verbal ability as a potential factor in the classification of guilt and shame.

Additionally, it should be noted that although behaviors and affect were compared to baseline free play, children were not presented with a broken toy during baseline. As Kagan (1981) notes, 2-year-olds are fascinated and sometimes distressed by broken or torn objects. In the present study, although 2-year-olds expressed more tension/worry than did 3-year-olds, children in each age group expressed some tension/worry, suggesting that these emotional reactions may reflect more than distress over a broken object, but distress over having caused the damage. Nevertheless, age differences between 2-year-olds and older preschool children in the present study should be interpreted taking into account Kagan's work.

The relevance of the broken toy paradigm for children of this age has face validity, and likely internal validity as well, as this is a fairly common experience for young children. However, the artifact of breaking a toy belonging to an adult, and in a controlled environment, may not accurately reflect natural mishaps. Several controls were used to regulate the artifice of the design. For example, children were not tested in an unfamiliar laboratory environment, but rather in rooms that were familiar to them in their own preschools or day care centers. In addition, children were tested only when the experimenter had built rapport with the child. It should be noted that younger children seemed to take longer to build rapport. This was expected, as 2-year-olds are less socially

competent than are older preschoolers (e.g., LaFreniere et al., 1992; Rubin, Bukowski, & Parker, 1998; Sroufe, 1995). However, given that amount of time per se was not controlled (rather degree of comfort with the experimenter was) it is possible that the age effects in the study are due to the confound between age and the amount of time spent with the experimenter. Although this point can be argued, the variability within each age group in children's ability to build rapport with the experimenter likely counteracts the variability between each age group. It is possible that shame-prone children need more rapport building time, as they are also less socially competent. In addition, Sullivan (2001) found that preschool children express more embarrassment and more pride, but not more shame, when tested by a familiar versus an unfamiliar examiner. Future research could continue to explore the role of familiarity with the audience member in the expression of these self-conscious emotions.

In conclusion, the present study supports the notion that shame is a developmental precursor to guilt, and that these emotions can further signal individual differences in adaptive strategies. To date, many questions about the expression of these emotions remain unanswered, as the expression of these emotions is often unclear. As Darwin noted, "with social animals, the power of intercommunication between members of the same community...is of highest importance to them" (1872/1965, p. 60). It is surprising then, that emotions that can mend or damage the social bond, and which refer to our actions and inactions in reference to the group, are expressed with such variety, and are so poorly understood. It is hoped that the present study can inform researchers about the development of guilt and shame, and the potential impact that these emotions have on children's socioemotional functioning.

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## Appendix A

### Informed Consent Form

Dear Parents or Guardians,

As a fifth year graduate student, I am working on a study as part of my doctoral dissertation at the University of Maine, and I am looking for parents and children who are willing to take part in the study. This study looks at preschool children and how they react to everyday events. I will be looking at how children react when a toy breaks, and how these reactions change with age. Specifically, I am looking at how preschool children become able to express responsibility. I am interested in how these behaviors relate to children's behavior in the classroom.

Your child will be asked to take part in one short session that will last no more than 10 minutes. This session will be done at your child's school, and will be run by an adult that your child knows well. I will tell your child that they can end the session at any time and for any reason. Your child will be shown a small broken toy and will be told it belongs to the researcher. This part of the study will be videotaped so that we can identify how your child responds to the broken toy. The child may not be told that the toy is broken, but will find out when he or she plays with it, so it is important that you do not mention this to your child. Your child may think that he/she broke the toy. I assume that some children may feel mild guilt if they think that they have broken the toy, but it should be like everyday mishaps that children experience. At the end of this session, I will reassure your child that the toy was already broken, and is easily fixed. I will also give your child a small prize (such as stickers) for his/her participation.

#### Videotaping

Many of the behaviors that we are looking for are often difficult to identify since they do not last very long (such as a smile or frown, hand and body movements, and eye contact). To find which children show these behaviors, it will be necessary to use a videocamera. The videocamera will be placed in a room across the hall from the testing room, and the door of the room will remain open throughout the study. The room is equipped with a one-way mirror. Parents are invited to watch their child from behind this one-way mirror if they wish to see how their child reacts to this session. The videotape of your child will later be coded by student raters, who will not know your child. These raters will look at short clips of the videotape to find the number of times that certain behaviors happen.

#### Confidentiality

Any information that is gathered about your child will be identified only with a confidential numerical identification code, which will be known only by me. No other identifying marks or names will be attached to any information that you or your child's teacher provides. All information about your child will be stored in a locked office. The data that you provide will only be used for the present study, and all ID codes and videotapes will be destroyed when the study is completed. Some parents may be contacted to get permission to use the tape for future educational purposes, but videotapes will not be used unless express permission is given at that time. All other videotapes will be destroyed when the study is completed.

### Questionnaire Packet

In this study, you will be asked to complete questionnaire with questions about your child's reactions to several types of everyday happenings. Please remember that although you may want to answer these questions so that you and your child appear in the best light, it is helpful if you answer these questions as truthfully and objectively as possible. You may skip any question you do not want to answer. You will be asked to rate how much you agree with questions about your child, such as: my child "may 'freeze' in place when caught doing something bad," and "will spontaneously say 'sorry' after having done something wrong." This questionnaire will take about half an hour to complete.

So that I can understand how your child acts outside the home, I will also be asking your child's teacher to fill out one questionnaire about how your child acts in the classroom. For example, teachers will be asked how often your child "delights in playing with other children" and "goes unnoticed in a group."

### Risks and Benefits

The researchers that will be conducting these sessions will all have considerable experience with children of this age. We will strive to put your child at ease in this novel situation and provide positive feedback to him/her. We hope that our attempts to make these activities fun and interesting will be successful. Children generally enjoy the individual attention that they receive in these sessions, and also enjoy the chance to get a small prize. Finally, these methods have been used in many research studies, and there are no known side effects associated with them. We will end the session if your child seems distressed, and we will quickly resolve any reactions by explaining that the toy was already broken, and by showing the child the toy is easy to fix.

If you have any questions, you may contact me, or my faculty advisor at the number listed below.

Thank you,

Jamie Walter  
Graduate Student  
Developmental Psychology  
581-2071

You may also contact:  
Peter LaFreniere, Ph.D.  
Director, Child Study Center  
Professor of Psychology  
581-2044

\*\*\*\*\*

## Permission Form

I have read the Informed Consent Form, and I understand that all the data will be identified only with a confidential ID code number that will be known only by the primary investigator. All sessions will be conducted by an adult known to my child, and my child will be told that he/she can withdraw at any time. The short videotape will be viewed only by the primary investigator and student coders that do not know the children. I understand that my participation is voluntary. I give permission for my child to participate in the study in the manner that it has been described to me and for my child's teacher to complete one questionnaire about my child. I understand that I will also be asked to fill out a questionnaire.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Your relationship to the child: \_\_\_\_\_

Date: \_\_\_\_\_

Phone Number: (optional) \_\_\_\_\_

## Appendix B

### My Child

**PLEASE READ THIS PAGE BEFORE STARTING**

You will see descriptions of young children's behaviors in typical daily situations. Many refer to children's reactions when they get into mischief, and are very common for toddlers and preschoolers. Please tell us how true each description is for your child.

- | Circle #   | If the statement is:   |
|------------|--|
| 1          | <b>Extremely untrue</b> of your child; s/he would be extremely unlikely to react in this way in this situation; not at all characteristic of him/her |
| 2          | <b>Quite untrue</b> of your child; s/he would be very unlikely to react in this way in this situation  |
| 3<br>react | <b>Slightly untrue</b> of your child; s/he would be rather unlikely to<br>in this way in this situation  |
| 4          | <b>May be true, may be untrue</b> ; neither true or untrue of your child's reaction in this situation; maybe   |
| 5          | <b>Slightly true</b> of your child; s/he would be rather likely to react in this way in this situation   |
| 6          | <b>Quite true</b> of your child; s/he would be very likely to react in this way in this situation  |
| 7          | <b>Extremely true</b> of your child; s/he would be extremely likely to react in this way in this situation; very characteristic of him/her           |

**All answers are OK; all behaviors described here are normal and common. Young children differ very much in how they respond to different situations. Also, children of different ages behave very differently. For example, most 2-year-olds get into trouble or mischief when unsupervised. These individual and age differences are exactly what we are studying.**

Please circle NA **only if you cannot remember your child ever being in this situation**; for example, if the description says "Rarely cries or looks upset when watching a sad TV show", and your child never watches TV. However, most situations are typical for all young children; most parents will rarely need to circle NA.

**PLEASE BE SURE TO READ EACH ITEM VERY CAREFULLY**

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	

\*\*\*\*\*

1. Will try to comfort or reassure another in distress.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
2. Is likely to scold another child who violates a household rule.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
3. Not particularly concerned or worried when s/he was broken a valuable object.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
4. Likely to offer toys or candy to a crying playmate even without parental suggestion.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
5. Likely to try a prohibited but attractive activity when alone.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
6. Will spontaneously clean up toys, even without being asked.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
7. May "freeze" in place when caught doing something bad.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
8. Will spontaneously say "sorry" after having done something wrong.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
9. May deny that s/he did something wrong even if confronted with the evidence.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
10. If asked to do something tedious (for example, clean up his/her toys), s/he is likely to complete the task without further supervision.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----
11. May occasionally tease a pet if unsupervised.  

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
12. When s/he does something naughty, this subject of wrongdoing is likely to come up during his/her play.							
1	2	3	4	5	6	7	NA
13. Feels good when good things happen to movie characters.							
1	2	3	4	5	6	7	NA
14. During “pretend” play with peers, may re-enact themes of wrongdoing or mischief.							
1	2	3	4	5	6	7	NA
15. Remembers for a long time past mishaps or instances when s/he did something wrong.							
1	2	3	4	5	6	7	NA
16. Unless specifically asked to do so, s/he is not likely to apologize on his/her own.							
1	2	3	4	5	6	7	NA
17. Acts upset when s/he sees a hurt animal.							
1	2	3	4	5	6	7	NA
18. Likely to feel responsible whenever anything goes wrong.							
1	2	3	4	5	6	7	NA
19. Likely to look remorseful or guilty when caught in the middle of a forbidden activity.							
1	2	3	4	5	6	7	NA
20. After doing something naughty, may replay that situation with toys.							
1	2	3	4	5	6	7	NA
21. Does not seem upset when s/he breaks a new toy.							
1	2	3	4	5	6	7	NA
22. Has to be reminded to say “sorry” when s/he has done something wrong.							
1	2	3	4	5	6	7	NA
23. When s/he has hurt a playmate, will try to make up for it by offering toys or prized possession to the other child.							
1	2	3	4	5	6	7	NA



1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
24. Likely to become quiet or subdued after doing something wrong.							
1	2	3	4	5	6	7	NA
25. Feels bad when reminded about past mischief or wrong doing.							
1	2	3	4	5	6	7	NA
26. Shows concern or makes a comment when comes to a torn page in a book.							
1	2	3	4	5	6	7	NA
27. May have trouble sleeping or poor appetite after having done something wrong.							
1	2	3	4	5	6	7	NA
28. During play, will introduce themes of wrongdoing or rules (for example, scold a teddy bear for being naughty).							
1	2	3	4	5	6	7	NA
29. Rarely cries or looks upset when watching a sad TV show.							
1	2	3	4	5	6	7	NA
30. It is easy to bring him/her to tears when discussing something that s/he has done wrong.							
1	2	3	4	5	6	7	NA
31. Even attractively wrapped presents can be left within his/her reach because s/he is not likely to tamper with them.							
1	2	3	4	5	6	7	NA
32. Rarely repeats previously prohibited behavior even if adult is not present.							
1	2	3	4	5	6	7	NA
33. Likely to show spontaneous nurturing and care-giving behavior towards an animal.							
1	2	3	4	5	6	7	NA
34. Seems relieved when given an opportunity to repair a damage s/he has caused.							
1	2	3	4	5	6	7	NA
35. It is enough to prohibit something once and s/he will probably not do it even when alone.							
1	2	3	4	5	6	7	NA

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
36. May confess to doing something naughty even if unlikely to be found out.							
1	2	3	4	5	6	7	NA
37. After having been naughty, seems to want reassurance that parent is no longer angry with him/her.							
1	2	3	4	5	6	7	NA
38. Is upset by criticism.							
1	2	3	4	5	6	7	NA
39. Shows interest when TV or story characters act naughty.							
1	2	3	4	5	6	7	NA
40. His/her feelings are not easily hurt by criticism.							
1	2	3	4	5	6	7	NA
41. Will try to stop another child from getting into trouble.							
1	2	3	4	5	6	7	NA
42. Can tell at just a glance how others are feeling.							
1	2	3	4	5	6	7	NA
43. Not likely to react when a visiting friend breaks a household rule.							
1	2	3	4	5	6	7	NA
44. If left alone with another child, will not try to keep them both out of trouble.							
1	2	3	4	5	6	7	NA
45. When watching TV or listening to a story, seems particularly interested in issues of responsibility, wrongdoing, etc.							
1	2	3	4	5	6	7	NA
46. Shows concern when a toy is broken.							
1	2	3	4	5	6	7	NA
47. May continue to feel bad even if forgiven for a mishap or blunder.							
1	2	3	4	5	6	7	NA

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
48. Not particularly likely to offer to clean up if s/he has caused a mess (for example, a spill).							
1	2	3	4	5	6	7	NA
49. On his/her own, is likely to promise not to do it again after doing something wrong.							
1	2	3	4	5	6	7	NA
50. After having done something naughty, asks to be forgiven.							
1	2	3	4	5	6	7	NA
51. Does not need to be reminded to say "sorry" when s/he does something bad.							
1	2	3	4	5	6	7	NA
52. If out of a parent's sight, may ignore a household rule.							
1	2	3	4	5	6	7	NA
53. If asked to do a chore (for example, help set the table), s/he does not need to be reminded about it.							
1	2	3	4	5	6	7	NA
54. Can stop her/himself in the middle of doing something forbidden without any intervention from an adult.							
1	2	3	4	5	6	7	NA
55. Gets upset when a guest breaks a household rule.							
1	2	3	4	5	6	7	NA
56. After being scolded for some mischief, seems particularly happy when parent praises him/her for some accomplishment.							
1	2	3	4	5	6	7	NA
57. Is not overly concerned about being forgiven after having done something naughty.							
1	2	3	4	5	6	7	NA

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
58. Likely to ask “what’s wrong?” when seeing someone in distress.							
1	2	3	4	5	6	7	NA
59. Will spontaneously say “sorry” to a playmate or sibling when necessary.							
1	2	3	4	5	6	7	NA
60. If not supervised, may get sloppy about his/her chores.							
1	2	3	4	5	6	7	NA
61. It is not easy to make him/her feel bad after s/he has done something wrong.							
1	2	3	4	5	6	7	NA
62. On his/her own, will rarely pick up things that are out of place.							
1	2	3	4	5	6	7	NA
63. Seems happy after doing a good job with a task or chore, even before others comment.							
1	2	3	4	5	6	7	NA
64. When s/he does something wrong, seems to feel relieved when forgiven.							
1	2	3	4	5	6	7	NA
65. Gets angry at aggressor, “Bad Guy”, who hurts a TV character.							
1	2	3	4	5	6	7	NA
66. Not likely to pay attention to or comment on dirty or torn clothing.							
1	2	3	4	5	6	7	NA
67. Will spontaneously admit fault or wrongdoing, either verbally or nonverbally.							
1	2	3	4	5	6	7	NA
68. Tries his/her best when doing chores.							
1	2	3	4	5	6	7	NA
69. If asked to do something, may not finish if not reminded.							
1	2	3	4	5	6	7	NA

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
70. Not too upset by mishaps or accidents s/he has caused (for example, spilling or breaking something).							
1	2	3	4	5	6	7	NA
71. Eager to make amends for doing something naughty.							
1	2	3	4	5	6	7	NA
72. May draw parent's attention to mishap or damage s/he has caused (for example, "Mark done it" or "broke").							
1	2	3	4	5	6	7	NA
73. On his/her own, will share household rules with a playmate at our home (for example, what is not allowed in the house).							
1	2	3	4	5	6	7	NA
74. After breaking something, doesn't seem particularly concerned about fixing the damage.							
1	2	3	4	5	6	7	NA
75. Is upset by stories in which characters are hurt or die.							
1	2	3	4	5	6	7	NA
76. Presents have to be well hidden because s/he will tamper with them if left alone.							
1	2	3	4	5	6	7	NA
77. Clearly hesitates before doing something forbidden, even when alone.							
1	2	3	4	5	6	7	NA
78. Seems relieved after s/he has confessed to a wrongdoing.							
1	2	3	4	5	6	7	NA
79. After doing something s/he is not supposed to do, may later check with parent to see if s/he is "good now".							
1	2	3	4	5	6	7	NA
80. May become extra nice toward the parent after being caught doing something wrong.							
1	2	3	4	5	6	7	NA

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							

81. When s/he as caused some damage (for example, dropped or broken an object), will try to put the pieces together, clean up, etc.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

82. When s/he breaks a toy during play, simply moves to another activity or other toys.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

83. Seems compelled to tell parents when s/he does something wrong.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

84. Shows interest when other people's wrongdoing is discussed.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

85. In play, may scold a doll or stuffed toy for imaginary wrongdoing.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

86. May not tell parent's when s/he has broken something.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

87. Likely to get into mischief when no adult is present.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

88. Will feel sorry for other people who are hurt, sick, or unhappy.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

89. Will not complete a tedious task (for example, cleaning up his/her room), unless reminded.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

90. When unsupervised, is likely to stop him/herself on his/her own when just about to do something wrong.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

91. Likely to blush when caught doing something wrong.

1	2	3	4	5	6	7	NA
---	---	---	---	---	---	---	----

1	2	3	4	5	6	7	NA
extremely untrue	quite untrue	slightly untrue	neither true nor untrue	slightly true	quite true	extremely true	
*****							
92. Can be left alone even with his/her favorite dessert and will not touch it if asked to wait until the guests arrive.							
1	2	3	4	5	6	7	NA
93. When having a friend over, is not likely to enforce family rules on his/her own.							
1	2	3	4	5	6	7	NA
94. Wants to stay physically closer to parent after being scolded for doing something wrong.							
1	2	3	4	5	6	7	NA
95. Pays attention to objects that are broken, do not work, or out of order (for example, missing buttons, broken toys, stained clothes, etc.).							
1	2	3	4	5	6	7	NA
96. Avoids eye contact if s/he has done something naughty.							
1	2	3	4	5	6	7	NA
97. Is not likely to become upset if a playmate cries.							
1	2	3	4	5	6	7	NA
98. Is casual about spills or damages that s/he has caused (for example, may suggest that the spill will dry by itself).							
1	2	3	4	5	6	7	NA
99. May hang his/her head and look down after being naughty.							
1	2	3	4	5	6	7	NA
100. Likely to get upset if s/he does something wrong in public.							
1	2	3	4	5	6	7	NA

## Appendix C

### Social Competence and Behavior Evaluation-Preschool Edition



### Social Competence and Behavior Evaluation-Preschool Edition

The following is a list of statements describing a child in three broad categories: emotional adjustment, social interactions with peers, and social interactions with adults. Use the following scale to rate the child by circling one choice for each statement to indicate the child's typical behavior or emotional state. Each of the ratings indicates how often a typical emotional state or behavior occurs:

<b>Rating</b>	<b>Description</b>
1	Almost NEVER occurs.
2 or 3	SOMETIMES occurs.
4 or 5	OFTEN occurs.
6	Almost ALWAYS occurs.

Make every effort to assign a rating to each statement; leave an item blank only if you have no way of evaluating the child on the particular statement. If more than a few items are left without any ratings, the results may not be meaningful.

Never Sometimes Often Always

1. Enjoys demonstrating new songs, games and  
other things he/she has learned..... 1...2...3...4...5...6
2. Maintains neutral facial expression (doesn't smile or laugh)... 1...2...3...4...5...6
3. Sensitive to another's problems..... 1...2...3...4...5...6
4. Wets or dirties pants at school..... 1...2...3...4...5...6
5. Curious..... 1...2...3...4...5...6
6. Tired..... 1...2...3...4...5...6
7. Easily frustrated.....1...2...3...4...5...6
8. Gets angry when interrupted.....1...2...3...4...5...6
9. Looks directly at you when speaking.....1...2...3...4...5...6
10. Irritable, gets mad easily.....1...2...3...4...5...6
11. Worries.....1...2...3...4...5...6
12. Laughs easily.....1...2...3...4...5...6

## Never Sometimes Often Always

13. Easily adjusts to new situations.....1...2...3...4...5...6
14. Gets bored quickly and appears uninterested in playing .....1...2...3...4...5...6
15. In a good mood.....1...2...3...4...5...6
16. Patient and tolerant..... 1...2...3...4...5...6
17. Takes pleasure in own accomplishments..... 1...2...3...4...5...6
18. Tolerates interruptions and disturbances..... 1...2...3...4...5...6
19. Difficult to console when he/she cries..... 1...2...3...4...5...6
20. Self-confident..... 1...2...3...4...5...6
21. Explores his/her environment..... 1...2...3...4...5...6
22. Readily adapts to difficulties..... 1...2...3...4...5...6
23. Timid, afraid (e.g., avoids new situations) ..... 1...2...3...4...5...6
24. Sad, unhappy or depressed..... 1...2...3...4...5...6
25. Anxious, nervous (e.g., bites fingernails)..... 1...2...3...4...5...6
26. Active, ready to play..... 1...2...3...4...5...6
27. Whines or complains easily..... 1...2...3...4...5...6
28. Inhibited or uneasy in the group..... 1...2...3...4...5...6
29. Listens attentively when spoken to..... 1...2...3...4...5...6
30. Screams or yells easily..... 1...2...3...4...5...6
31. Bullies weaker children..... 1...2...3...4...5...6
32. Forces other children to do things they don't want to do..... 1...2...3...4...5...6
33. Gets upset when the teacher attends to another child..... 1...2...3...4...5...6

Never Sometimes Often Always

34. Inactive, watches the other children play..... 1...2...3...4...5...6
35. Negotiates solutions to conflicts with other children..... 1...2...3...4...5...6
36. Remains apart, isolated from the group..... 1...2...3...4...5...6
37. Children seek him/her out to play with them..... 1...2...3...4...5...6
38. Does not respond to other children's invitations to play..... 1...2...3...4...5...6
39. Takes other children and their point of view into account..... 1...2...3...4...5...6
40. Self-centered, does not recognize other children's interests..... 1...2...3...4...5...6
41. Is involved wherever the children are having lots of fun..... 1...2...3...4...5...6
42. Hits, bites or kicks other children..... 1...2...3...4...5...6
43. Cooperates with other children in group activities..... 1...2...3...4...5...6
44. Gets into conflict with other children..... 1...2...3...4...5...6
45. Comforts or assists another child in difficulty..... 1...2...3...4...5...6
46. Has to be first..... 1...2...3...4...5...6
47. Refuses to share toys..... 1...2...3...4...5...6
48. Takes care of toys ..... 1...2...3...4...5...6
49. Doesn't talk or interact during group activities..... 1...2...3...4...5...6
50. Attentive towards younger children..... 1...2...3...4...5...6
51. Stays calm when there are conflicts in the group..... 1...2...3...4...5...6
52. Initiates or proposes games to other children..... 1...2...3...4...5...6
53. Spontaneously apologized to other children for  
causing a problem..... 1...2...3...4...5...6

Never Sometimes Often Always

54. Makes games competitive..... 1...2...3...4...5...6
55. Spontaneously helps a child pick up toys or other objects..... 1...2...3...4...5...6
56. Delights in playing with other children..... 1...2...3...4...5...6
57. Goes unnoticed in a group..... 1...2...3...4...5...6
58. Works easily in groups..... 1...2...3...4...5...6
59. Takes pleasure in hurting other children..... 1...2...3...4...5...6
60. Shares toys with other children..... 1...2...3...4...5...6
61. Recovers quickly when he/she falls or hurts self  
(Doesn't cry very long)..... 1...2...3...4...5...6
62. Hits teacher or destroys things when angry with teacher..... 1...2...3...4...5...6
63. Helps with everyday tasks (e.g., distributing snacks)..... 1...2...3...4...5...6
64. Persistent in solving own problems..... 1...2...3...4...5...6
65. Disrespectful of teacher..... 1...2...3...4...5...6
66. Accepts compromises when reasons are given..... 1...2...3...4...5...6
67. Clear and direct when he/she wants something..... 1...2...3...4...5...6
68. Stops talking immediately when asked..... 1...2...3...4...5...6
69. Needs teacher's presence to function well..... 1...2...3...4...5...6
70. Asks for help when it is unnecessary..... 1...2...3...4...5...6
71. Opposes the teacher's suggestions..... 1...2...3...4...5...6
72. Cries for no apparent reason..... 1...2...3...4...5...6
73. Is autonomous and able to organize him/herself..... 1...2...3...4...5...6

Never Sometimes Often Always

74. Defiant when reprimanded..... 1...2...3...4...5...6
75. Cling towards teacher in novel situations (e.g., field trip)..... 1...2...3...4...5...6
76. Takes initiative in situations with new people..... 1...2...3...4...5...6
77. Ignores directives and continues what he/she is doing..... 1...2...3...4...5...6
78. Accepts teacher's involvement in own activity..... 1...2...3...4...5...6
79. Cries when parent leaves..... 1...2...3...4...5...6
80. Asks permission when necessary..... 1...2...3...4...5...6

## Appendix D

### Verbal Directions Given by the Experimenter

1. Ambiguous Responsibility. “You can play with Elmo while I take care of some things in the other room. I think he might be broken, so take good care of him because he is my favorite toy”.
2. Personal Responsibility. “You can play with Elmo while I take care of some things in the other room, but take good care of him because he is my favorite toy”.
3. Both Conditions. (One minute after the experimenter returns to the room). “What do you think happened to make Elmo’s arm come off?” (Experimenter pauses for child’s response). “That’s too bad, Elmo is my favorite toy.” (Experimenter again pauses). “It’s OK, Elmo was already broken, so it’s not your fault.” (The experimenter will continue to reassure the child if necessary).

## Appendix E

### Coding System for Emotional and Behavioral Responses



### Coding System

Three periods will be coded for each subject and coders will rate the overall emotional reactions.

1. **Final minute of warm-up period:** This will be coded from one minute prior to when the experimenter begins to put Elmo back into the toy box. This period should end when the experimenter says that she has to get something/do some work in the other room.
2. **Experimental Condition:** This will be coded when the child first notices that Elmo's arm is broken. This period ends when the experimenter first returns to the room. In some instances, the experimenter will return briefly to remind the child to play with the doll. In these cases, coding should not take place until after the experimenter leaves and the toy breaks. This period will also end if the child leaves the room.
3. **Post Experiment:** Coding will begin when the experimenter returns to the room and is sitting at the table with the child. If the child has left the room, coding begins when the child and experimenter return to the room. This period has two parts:
  - 1) Before prompt: when the experimenter first enters, and
  - 2) After prompt: when the experimenter prompts the child by saying "What happened to make Elmo's arm fall off" and "That's too bad, he's my favorite toy. Coding ends when the experimenter tells the child that the toy was already broken. For example, the experimenter may say, "I think I made a mistake."
4. **Overall Emotional Reaction:** This is coded from the beginning for period 2 (experimental condition) to the end of period 3 (post experiment).

For each period, behaviors and emotions will be coded as listed on the coding sheets. Please be sure to record all instances of these emotional expressions and behaviors when they occur. Finally, it is important that you not try to form hypotheses about these behaviors and emotions. These codes will be used in ways that are not evident simply from viewing these tapes.

### Operational Definitions of Behavioral Codes

Behavioral Measure	Definition
Latency to repair	Number of seconds before attempting to repair the toy
Repairing the arm	Tries to fix the arm, whether the child is successful or not
Latency to comment	Number of seconds before verbalizing that the toy is broken
“Telling” E about the arm	Deliberately shows the E the broken arm and/or verbalizes that the arm is broken
Latency to Gaze	Number of seconds before the child looks at the experimenter’s face. This does not include when the door first opens or when the experimenter first returns to the room.
Gaze aversion	Looking at E then looking away toward any insignificant object (i.e., not at the toy). This includes looking at the ceiling, toward a corner, or at their laps.
Toy avoidance	Number of seconds with body turned away from the toy. Moves body from the direction of the toy.
Experimenter avoidance	Number of seconds with body turned away from experimenter after the experimenter re-enters the room
Leave	Number of occurrences where the child tries to leave room or asks to leave the room.
Affection	Number of occurrences where the child hugs, kisses, or pats the toy
Aggression	Number of occurrences where the child pushes, throws, or tries to destroy the toy
Minimizes/Denies	Denies responsibility for the mishap. Acts as though or says that the toy still works and/or says that they “Didn’t do it,” or claims that something else is responsible (e.g., makes up an excuse).
Confess	Child explains that the toy is broken, says “I broke” or “I pulled his arm off”
Self-comfort	Thumb sucking, finger in mouth, biting lips

### Operational Definitions of Emotion Codes

Affective Category	Facial	Vocal	Postural
Joy	smiling, wrinkling around eyes	giggling, increased pitch, laughing	relaxed muscles, loose posture
Anger	narrowed eyes, lips pressed and narrow	harsh, loud	tightened muscles, clenched fists
Sadness	eyes lowered, lips turned down	softened tone and volume, crying	sunken posture, head down
Tension/ Worry	alert, nervous twitches, tense facial muscles, brow may be lowered, eyes may shift rapidly	strained, nervous, tense	fidgety, tense posture, may get up from chair
Neutral	calm, no major activity	calm, relaxed, not excited	calm, attentive

**Overall Rating:** Rate the overall quality of the child's emotional reaction to the experiment and the prompting of the experimenter. Rate each child according to either of the following 2 categories, but not both:

- a. Regulated affect
- b. Dysregulated affect

Regulated affect - emotion that contributes to the continuation or flow of activity.

Dysregulated affect - emotion that disrupts activity

CODERS INITIALS \_\_\_\_\_

GENDER \_\_\_\_\_

**Final minute of warm-up period**

<b>Emotion</b>	<b>Seconds</b>	<b>Mild/Full</b>
<b>Joy</b>		
<b>Anger</b>		
<b>Sadness</b>		
<b>Fear</b>		
<b>Tension/Worry</b>		
<b>Blends (specify)</b>		

**Gaze Aversion (seconds)** \_\_\_\_\_**Avoiding E (seconds)** \_\_\_\_\_**Self comfort (# of occurrences)** \_\_\_\_\_

**Experimental Condition**

<b>Emotion</b>	<b>Seconds</b>	<b>Mild/Full</b>
<b>Joy</b>		
<b>Anger</b>		
<b>Sadness</b>		
<b>Fear</b>		
<b>Tension/Worry</b>		
<b>Blends (specify)</b>		

<b>Code</b>	<b>Seconds</b>
<b>Total Time</b>	
<b>Latency to Repair</b>	
<b>Toy avoidance</b>	

<b>Code</b>	<b>Occurrences</b>
<b>Leave</b>	
<b>Affection</b>	
<b>Aggression</b>	
<b>Self-Comfort</b>	

**Post Experiment**

<b>Emotion</b>	<b>Seconds</b>	<b>Mild/Full</b>
<b>Joy</b>		
<b>Anger</b>		
<b>Sadness</b>		
<b>Fear</b>		
<b>Tension/Worry</b>		
<b>Blends (specify)</b>		

<b>Code</b>	<b>Seconds</b>	<b>Code</b>	<b>Occurrences</b>
<b>Total Time</b>		<b>Leave</b>	
<b>Latency to comment</b>		<b>Affection</b>	
<b>Latency to gaze</b>		<b>Aggression</b>	
<b>Toy avoidance</b>		<b>Self-Comfort</b>	
<b>Gaze aversion</b>			
<b>Experimenter avoidance</b>			

**Minimizes/Denies**

before prompt    Y    N

after prompt    Y    N

**Confess**

before prompt    Y    N

after prompt    Y    N

**Overall Rating of Emotional Reactions**  
**(circle one)**

**Regulated****Dysregulated**

## BIOGRAPHY OF THE AUTHOR

Jamie L. Walter was born in Towson, Maryland on March 27, 1970. She graduated from Towson High School in Towson, Maryland in 1988. She then attended St. Mary's College of MD, where she was President of the Fine Arts Council, Secretary of the Crew team, and member of the Field Hockey and Crew teams. She graduated from St. Mary's College of MD in 1992 with a Bachelor of Arts in Psychology. After graduation, she worked as a Counselor and Case Manager for the mentally ill in the Baltimore and Washington, DC areas. In 1995, she was accepted into the doctoral program at the University of Maine to study developmental psychology. As a graduate student, she received several grants, presented at national conferences, and authored various papers in the field of developmental psychology. She worked as a Visiting Assistant Professor at St. Mary's College of MD for one year, and after graduation will be working at Albion College in Michigan as an Assistant Professor of Psychology. She is a candidate for the Doctor of Philosophy degree in Psychology from the University of Maine in August, 2001.