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Narrative Knowing: A Developmental Comparison of Aggressive and Non-Aggressive Children

by

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A THESIS

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ABSTRACT

This exploratory study was a part of a larger, cross-cultural study that investigated the developmental and interpretive differences in the narratives of aggressive and non-aggressive children at the grade four and grade seven levels. Aggressive and non-aggressive participants were identified using the Caprara and Pastorelli Behaviour Checklist for Children: Teachers' Version. The study's research questions were based on previous research indicating that aggressive boys are developmentally delayed in their performance on narrative tasks, as well as differ in the content of the stories they produce (Howard, 1994; McKeough, Yates, & Marini, 1994). Case's (1992) Neo-Piagetian model of cognitive development provides the structure to explain the developmental changes in narrative structure.

The subjects completed three narrative tasks: Problem Story, Family Story, and Conflict Story. The narrative tasks were chosen to elicit insight as to how the subjects developed plot, described their story worlds, and the complexity of the interpretation of their stories. Results indicated that the narratives written by participants show a developmental progression, with interpretive thought emerging at the grade seven level. Aggressive participants differed from non-aggressive participants in their evaluation of the purpose of family stories, the assignment of blame in conflict situations, and congruency of feelings to conflict. Gender differences were found in the developmental analysis of Problem Story, and in the evaluation of the purpose of family stories.

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DEDICATION

This thesis is dedicated to two very special people in my life.

To my fiancé, Matthew, the reality of your love, support, and friendship far surpass any fairy tale Prince Charming. I look forward to living happily ever after with you.

To my nephew, Niel, whose own valiant struggle between his behaviour and the light that shines within him was the inspiration for me to do this work.

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INTRODUCTION

Research has shown the violent expression of anger in children is a growing problem (Groves, 1997; Lehmann, Rabenstien, Duff, & Meyel, 1994; Ollendick, 1996). Increasingly, children witness and are, themselves, the victims of violence. Both experiences have been shown to cause them to behave aggressively, in turn (Cicchetti & Toth, 1995; Shakoor & Chalmers, 1991). The long-term outlook for many aggressive children is bleak. Outcome studies indicate that 33-50% of aggressive children persist in their behaviours into adolescence and young adulthood (Coie & Jacobs, 1993). These children also have been found to have an increased likelihood of acting violently throughout adulthood and to have lives plagued with "marital problems, erratic employment, heightened risk for multiple arrests, and drug and alcohol problems" (Quinn, Mathur, & Rutherford, 1995, p. 272). Although some children can be redirected toward more adaptive responses, they become increasingly resistant to change as they get older (Kazdin, 1987; Quinn, Mathur, & Rutherford, 1995).

Many efforts have been made to uncover the etiology of aggression. Besides being a witness to or victim of violence, factors that have been found to contribute to the development of aggression include parental style, infant temperament, emotional regulation, and errors in cognitive processing. All of these contributing factors are important, but understanding of the child's sense of self is still lacking.

The nature of the continuum of aggression to violence is another area that is not well understood. The way aggressive behaviour is expressed and how it develops appears to vary. Thus, there is no single clear-cut pathway to the development of aggression. It may express itself from one or many of the above mentioned factors.

Research has shown that errors in cognition are higher in aggressive children at each stage of cognitive processing than for non-aggressive children (Dodge, Harnish,

Lochman, & Bates, 1997; Dodge & Tomlin, 1987). These errors in interpretation eventually cause the aggressive child to misinterpret the situation and choose the wrong course of action. When these interactions end negatively, as they often do, the aggressive child is left with a feeling that the world is a hostile place justifying the use of aggression to achieve desired outcomes.

In the effort to understand the development of aggression, several typologies have emerged in the research. Shields and Cicchetti (1998) defined two different types of aggression: instrumental and reactive. Instrumental aggression is the use of aggression to obtain desired goals, this type of aggressive behaviour appears to be calculated and methodical. Reactive aggression is more emotional. Children with this type of behaviour are highly reactive, responding to threat or perceived threat (Shields & Cicchetti, 1998). Grotpeter and Crick (1996) also described two types of aggression. Overt aggression is described as acts of aggression that are directed towards others and are physical in nature, while relational aggression is the use of manipulation and exclusion. The definition of such typologies of aggression may be important in the understanding of the development of aggression, as evidence exists indicating that different life experiences may express itself in particular types of aggression (Cicchetti & Sheilds, 1998). It is also possible that differently categorized aggressive children represent their world in different ways, and thus react to it in different ways. Research in the area of developmental psychopathology has suggested that developing ways of understanding how children view the world and their own behaviour is fundamental to being able to help them change (McKeough, Yates, & Marini, 1994; Noam, 1988).

Over the last decade, numerous studies have shown that children's storytelling offers insight into how they organize the events of their life into meaningful experiences (Bruner, 1990; Polkinghorne, 1988; Sarbin, 1992). Children organize life events through stories in such a way that will give them perspective and fit the social context of their lives

(Gee, 1991). The social context is inextricably linked to the culture within which it occurs. As children learn to use language, they learn to develop stories that are congruent with their culture (Bruner, 1986). The ability to use a narrative framework emerges early, often by the third year of life. Children quickly learn to use stories as a way of expressing themselves and understanding the world around them (McAdams, 1993).

The development of self-concept is aided and enriched by the stories that we tell about ourselves. The story plots that we use are a reflection of our understanding of what our own desires and needs are (McAdams, 1998; Sarbin, 1986). The themes and sub-plots of our life stories provide a framework for future interpretation of social interaction, including those situations that are incongruent with our expectations (Smorti, 1998). We become expert at molding our experiences in such a way that will be consistent with the expectations of our own inner audience. If we are unable to create a story that makes sense, defense mechanisms come into play (McAdams, 1998). That is, we defend against what is incongruent or what is unacceptable to our own sense of self. Thus, self-narratives provide a key to the storyteller's psychological reality and social and cognitive functioning (McKeough, Yates, & Marini, 1994). Such an approach holds significant implications for working with children who have serious behavioural problems. Theorists have suggested that by looking at the differences in the self-narratives of behaviorally aggressive and non-aggressive children we are able to get a glimpse of their own perspectives (Bruner, 1990; McKeough, Sanderson, Martens & Salter, 1996). The way behaviorally aggressive children have interpreted and made sense of the world around them emerges through their stories offering adults unique insight into how these children see their world and how it differs from more typical children's views.

Statement of the Problem

Many different intervention programs have been developed to help children overcome aggressive behaviour (Ollendick, 1996). Long-term success rates for programs

is limited, indicating that the actions and belief systems of such children are resistant to change. Part of the reason for this failure may be the lack of a clear understanding of the aggressive child's world view. Lerner (cited in Ollendick, 1996) proposed that children need to be understood not only as products of their development, but active producers of it. One way of understanding how children construct their developing sense of the social world is through the stories they create as a part of their own understanding and development of self.

In summary, the research has highlighted the environmental factors contributing to the development of aggression, and the different patterns of aggressive behaviours. A clear picture of what the world of social interaction looks like for the aggressive child is still missing. The aim of this research is to investigate the pattern of development and themes in the narratives of aggressive children, and see how they differ from those of non-aggressive children. By working towards a better understanding of the developing sense of the social world of aggressive children, practitioners will be better equipped to make a difference in these children's lives.

Organization of the Thesis

In the following chapter a review of the theoretical and empirical literature related to the expression of aggression and the development of narrative in children provides the research basis for the current study. In Chapter III the methodology used in the study, including a description of participants, tasks and scoring criteria, is delineated. In Chapter IV the statistical procedures and the results are described. In Chapter V, the implications of the findings along with a review of their relation to the existing literature is discussed.

Chapter II

LITERATURE REVIEW

Aggressive Behaviour in Children

Research has clearly shown that young people perpetrating violence in our society is on the rise, and that once children begin to develop aggressive ways of interacting with the world, it is difficult to facilitate change (Kazdin, 1987). Considerable work has been done indicating that social environmental factors are significantly related to aggressive behaviour.

Patterns of parenting style have been linked to the development of aggression in children (Kingston & Prior, 1995; Ollendick, 1996). High parental rejection, lack of supervision, use of harsh punishment, failure to set limits, and unsatisfactory communication patterns are all typical of homes with aggressive children (Patterson et al., 1991). Single parent homes also show a higher incidence of aggression in children. Research has also repeatedly pointed to the contribution of maltreatment or the witnessing of violence in the development of aggression in children (e.g., Quinn et al., 1995; Shields & Cicchetti, 1998).

The culture that we live in may serve to confirm the beliefs that arise from negative early home environments when one considers the impact of the media, from commercials to video games, that continually provide examples of the use of violence as an effective and even desirable tactic for solving problems (Dietz, 1998). If aggression is then condoned, or reinforced in the home environment the aggressive response can become typical and expected. That is, the more opportunity the child has to engage in aggressive acts, the more likely the behaviour will continue to occur (Patterson, cited in Loeber & Hay, 1997).

The impact of social environmental factors on the development of aggression is strong, however, environmental factors may not be the only factors contributing to the

expression of aggression of children. Biological differences between aggressive and non-aggressive children have also been found.

Physiological Differences Between Aggressive and Non-aggressive Children

Physiological differences between aggressive and non-aggressive children are evident. Ellis (1991) reported that lower levels of the brain enzyme monoamine oxidase, lower heart rates, and reduced skin conductance response have been found in violent individuals in comparison to normal individuals. Lower levels of cerebral spinal fluid seratonin metabolites have also been found. Aggressive children have been found to have elevated levels of central seratonergic activity in general, suggesting that elevated seratonin may be a developmental precursor to seratonin deficiencies later in life (Pine, Coplan, Wassserman, Miller, Fried, Davies, Cooper, Greenhill, Shaffer, & Parsons, 1997).

The limbic system is one of the areas of the brain involved in the experience and expression of aggression, damage or insult to this area may contribute or be responsible for the expression of violence. The development of the brain is largely affected by the experiences one has early in life. The experience of trauma, such as abuse, neglect, or witnessing violence can impact brain development (Perry, 1994), possibly explaining differences in the limbic system. However, as not all children who experience trauma become aggressive, caution in interpreting such findings is needed. Further research on resiliency in maltreated children is needed for a better understanding of this area.

Such biological contributions to the expression of aggression paint a rather bleak picture, but it need not be the case. The delicate balance between the chemistry of the brain and our experiences is not fully understood. It is not clear whether the differences in physiological processes in aggressive individuals is causal to the aggression or a response to it. Perry (1994) stressed the importance of better and earlier intervention of maltreated children to minimize the possible long-term effects of the abuse on brain development. In

order to facilitate such interventions a better understanding of how these children view themselves and their world is needed.

The Development of Aggression in Children

Although there is some understanding of the environmental and biological impact on aggressive behaviour, the etiology of aggression is still unclear. Not every child that is aggressive follows the same pattern of aggressive behaviour. The age of onset of the aggressive behaviour, and when those behaviours desist seems to vary widely (Loeber & Hay, 1997). Even though there are several patterns of the expression and desistance of aggressive behaviour in children, a continuum of aggression does exist, from mildly aggressive behaviours to committing acts of violence. Within the various patterns of the onset of aggression, types of aggressive behaviours have emerged.

Grotpeter and Crick (1996) identified two types of aggressive behaviour: overt aggression and relational aggression. Overt aggression is the more physical type of behaviours, such as hitting, kicking, or even just the threat of physical harm. Relational aggression is more covert, including behaviours such as telling rumors, giving a peer the silent treatment, or any kind of manipulation that may promote one's own group status.

Grotpeter and Crick (1996) found that these two types of aggressive behaviours are also reflected in the friendships children have. Children who are overtly aggressive have friendships where joining together to act aggressively towards others outside of the friendship is highly valued. Females who are relationally aggressive have close friendships in which the other's telling of secrets is an important part of the relationship. This is thought to better position the aggressive child to engage in manipulative behaviours within the friendship. Interestingly, boys who were considered to be relationally aggressive did not have any close dyadic friendships (Grotpeter & Crick, 1996). It is possible that overt aggression is more accepted or tolerated by male peers. Children may incorporate the gender-related cultural expectations of the expression of aggression into their own

expression and acceptance of aggression. Research has shown that knowledge of gender stereotypes and gender roles is in place in early childhood (for a review, see Eisenberg, Martin, & Fabes, 1996). Although the effects of overt aggression are more obvious, they are not necessarily more damaging. Victims of relational aggression were reported to have "higher levels of depression, loneliness, and social anxiety" (Grotpeter & Crick, 1996, p.2331).

Dodge et al. (1997) found validity for the distinction between the typologies proactive and reactive aggression. Proactive aggression is aggression typified by dominating actions, such as bullying, teasing and coercive acts. Reactive aggression is typified by emotional reactivity, temper tantrums, and vengeful hostility. Children who are reactively aggressive are more likely to have a hostile attribution style in their cognitive processes than proactively aggressive children. Dodge et al. (1997) found that children who had witnessed violence were more likely to display proactive aggression, while children who had been abused were more likely to display reactive aggression.

Shields and Cicchetti (1998) also made these distinctions in typologies of aggressive behaviour in their research with maltreated children, however the proactive aggression type is labeled as "instrumental aggression". These researchers found a similar pattern of reactive aggression being more typical of maltreated children than of children who did not experience maltreatment.

Typologies of aggression are only one aspect of the research into the patterns of aggressive behaviour in children. Research has also shown that certain trends in the expression of aggressive behaviour are developmentally related.

Early Childhood

The age of onset of the aggressive behaviour appears to be important to children showing resilience, with the strongest predictor of a child engaging in violent acts being

the history of aggressive behaviour (Coie & Jacobs, 1993). Unfortunately, early violent behaviour remains comparatively stable (Kazdin, 1987).

The earliest predictor of the development of aggression is temperament (Kingston & Prior, 1995). Babies who are born with what is termed a difficult temperament have been reported to have a higher likelihood of later aggression. A parent's own personality, and how he or she responds to the child's temperament, or the quality of attachment, also has an impact on how the baby begins to learn to regulate his or her own emotions (Kingston & Prior, 1995). Attachment style, specifically disorganized attachment, has been found to be predictive of later aggressive behaviour (Crick & Dodge, 1994). It is through this attachment that the child forms with his or her primary caregiver that the child first begins to develop a sense of self that relates to others in a social world.

As well as attachment style, gender can also have an impact on the development of aggressive behaviours. Gender differences in the expression of aggression can be seen to emerge as early as infancy. Male infants express both negative and positive emotions at higher rates than female infants, which may be a precursor to later gender differences in the expression of anger (Weinberg & Tronick, cited in Loeber & Hay, 1997). Differences in the levels of aggression become particularly noticeable between the third and sixth birthdays (Loeber & Hay, 1997). Social interaction and the media serves to strengthen such differences. According to Dietz (1998) the media is flooded with clear gender stereotypes, many of them depicting males as the physical aggressors and females as the helpless victims (Dietz, 1998). Within a cognitive developmental view, children take up or adopt cultural scripts and use them to interpret what is gender-related typical behaviour. Perhaps because of this, girls more typically display relational aggression, while boys more typically display overt aggression (e.g., Grotpeter & Crick, 1996).

Middle Childhood

In middle childhood expressions of overt aggression are still seen while children begin to adopt other ways of responding to anger, and gender differences become more delineated (Coie & Dodge, 1997). It is during this time that boys can be seen to clearly display more overt types of aggression, while girls engage in more relational types of aggression (e.g., Grotpeter & Crick, 1996). Now in school, children begin to construct their representation of the world through the social interactions with their peers. The experiences the child has at school leads to a higher risk that the aggressive child will develop problems outside of school as well (Coie, Lochman, Terry, & Hyman, 1992).

Children who use aggression in peer relationships have a tendency to be rejected by their classmates (Coie et al., 1992; Coie & Jacobs, 1993). The rejected children are then cut off from positive social interactions, influencing how they feel in social situations. Restricted from prosocial interactions with peers, such children then become more likely to use aggression to attain social goals, intensifying the rejection by their peers. Aggressive children are trapped in a cycle where their attempts to gain social goals (e.g., attention) are frustrated. Rejected children are then more likely to escalate their own aggressive responses when they are the target of excluding behaviours such as teasing, or taunting (Coie et al., 1992). Exclusion by peers confirms the already developed view of self and others that an aggressive response is required and justified (Dodge, 1990). The result is a downward spiral of rejection and aggression until aggressive children are completely isolated from their prosocial peers. Without the example of prosocial peers, aggressive children are left without positive role models, and tend to seek out other aggressive peers (Coie et al., 1992). It is likely that these peers hold similar negative beliefs, thereby reinforcing the child's own understanding of the social world. Better understanding of the nature of these negative beliefs of the social world, and how the aggressive child makes meaning of those interactions is still needed.

One way of looking at these beliefs is using a social learning model. Ollendick (1996) used variables from social learning theory to describe differences between aggressive and non-aggressive children. He reported that nine to eleven-year-old aggressive children had lower levels of internal locus of control, and outcome expectancy for valued outcomes, compared to non-aggressive children. But they did not have lower levels of self-efficacy. This kind of pattern of world belief is similar to that of a learned helplessness paradigm (Ollendick, 1996). That is, aggressive children know what the prosocial response is, and believe that they are capable of performing it, but they also believe that such actions would not result in the desired outcome, and that they have no control over that outcome. Ollendick (1996) also reported that "five and eight year follow ups indicate that these social learning theory variables [locus of control and self efficacy] predict academic difficulties, peer- and teacher-reported aggression, school drop out, and commission of legal offenses"(p. 492). From this research a picture is beginning to emerge of a child who may know the expected prosocial response, but does not believe that response would work. What is still lacking is knowledge about how that belief is represented and understood by the child.

Given the impact of peer associations, school is a very important setting in the development of aggression. Factors in addition to the child's social interactions with peers can have an impact, however. The teacher's manner of organizing the classroom, how the teacher grades assignments, and teaching strategies all contribute to behaviour development (O'Donnell, Hawkins, & Abbott, 1995), and the child's developing sense of self. The environment provided affects how the child bonds at school, and thereby impacts the development of aggressive behaviour in early adolescence (O'Donnell et al., 1995).

Adolescence

In adolescence, aggressive behaviour generally declines. Conflict situations do not disappear, but the way such situations are handled changes. Typically, the conflicts that females experience continue to be less violent, although there is some indication that this trend may be changing (Cairns & Cairns, cited in Loeber & Hay, 1997). Males continue to use physical responses in conflict situations (see Loeber & Hay, 1997). However, for aggressive children the persisting behaviours become more serious, as the impact of their behaviour is more serious. This is due both to the increase in the physical strength of adolescents, and the use of weapons (Reiss & Roth, cited in Loeber & Hay, 1997).

Another change in the type of behaviour expressed by aggressive adolescents are collective forms of violence, such as bullying younger and weaker younger children to do things against their will. It is in adolescence that the existence of gangs emerge. Cross gender aggression also increases as the interest in sexual relationships develops. This may take the form of physical abuse, or sexual abuse (Loeber & Hay, 1997). Therefore, aggression is considered to decrease with age, while violence increases with age.

Traditionally, considerably less knowledge of how aggressive youth reason exists. However, work by researchers such as Dodge (e.g., 1998, 1997, 1994) has provided some insight into the cognitive processes of aggressive children and how they differ from the cognitive processes of non-aggressive children. A better understanding of how aggressive children differ from non-aggressive children, in their development, their interactions, and how they view the world around them is still needed.

Cognitive Differences between Aggressive and Non-aggressive Children

Using a linear information processing model, Dodge and Tomlin (1987) described the differences between aggressive and non-aggressive children by breaking it down into the cognitive steps that people take in social situations and what can go wrong at each of

these stages. Being able to break down the cognitive processes is important to understanding how a child makes meaning of the social world they live in.

Error can occur at each stage of interpretation, and it appears that aggressive children make multiple errors (Dodge & Tomlin, 1987). The first step, according a traditional cognitive processing model, is *encoding*. In encoding, an individual assesses the situation, making note of information that is relevant to the situation. Aggressive children seem to attend to less cues overall than non-aggressive children, and the cues that they notice frequently are not the ones that enable accurate interpretation. By making use of the most recent and stimulating cues, the aggressive child may have missed the subtleties of what happened, including the cues that build up to the situation.

The second step in the general information processing model is *interpretation*. In this step, one assigns meaning to the cues attended to. Error occurs at this step when the aggressive child assigns threatening intent to neutral social cues. This kind of interpretation has been referred to as the hostile attribution bias by Dodge and his colleagues (e.g., see Crick & Dodge, 1994).

In the third step, *goal formulation*, one decides what result one would like to achieve in the situation. In contrast to non-aggressive children, aggressive children choose goals that appear to be inappropriate to the situation, giving no or little thought to the consequences. These goals also tend to be counterproductive to their social relationships.

In the fourth step, *response search*, one generates possible responses to the situation based on the information encoded. At this step, aggressive children identify fewer response options than non-aggressive children.

In the fifth step, *response decision*, one decides which response is the most appropriate for the situation. Aggressive children evaluate aggressive responses more favorably than non-aggressive children, and therefore, are more likely to select such a response as the best one.

The sixth step in processing social interaction is *enactment*. It is here that the child completes the social interaction by carrying out the chosen response. After this process is completed it becomes incorporated into one's own sense of self and understanding of the social world. If the interaction has resulted in a negative outcome, aggressive children tend to assign the blame for the situation inappropriately, unable to see the contribution they themselves made to the outcome (Crick & Dodge, 1994).

The earlier information processing model described by Dodge and Tomlin (1987) is linear in nature, and although helpful in describing one pathway of response selection and action, it does not allow for the multiple cognitive processes that occur simultaneously. Crick and Dodge (1994) expanded on the linear model to describe a circular model using similar steps of cognition. The circular format, allows parallel processing of the cognitive steps to be considered. The cognitive steps of encoding, interpretation, and goal formulation all occur together, particularly the generation and evaluation of response options (Crick & Dodge, 1994).

Although the differences in the way aggressive children process social information provides us with knowledge of some of the general errors in cognition that can occur, it does not provide a clear picture of how aggressive children represent the social world, beyond that the world is a hostile one. To see the world as hostile can be seen to be adaptive for the child. Perhaps the child has been successful using such strategies in his or her social interactions, or the child may have learned to respond in such a way from the very start of his or her young life just to survive. Whatever the reason, a richer understanding of how that hostile world fits into the child's own life story is still needed. For it is at this level of representation of self and social interaction that one can begin to see how to reconstruct, or "re-author" (White & Epston, 1990) the life of the aggressive child.

The Development of Narrative Thought

The use of narrative thought as a tool of understanding in psychology has been explored from many different perspectives (Yussen & Ozcan, 1996). How human beings make sense of their world, develop a sense of self, and move through stages of cognitive development have all been looked at through the lens of narrative (Bruner, 1986; McAdams, 1993; Sanderson & McKeough, 1999). Narrative thought has provided us with conceptualization of how we make meaning of the world we live in and how our minds develop in the context of that world.

Meaning Making Through Narrative

Bruner (1986) has suggested that there are two modes of cognitive functioning or thought, and that one of these modes is narrative. Whereas the narrative mode of thought provides a context within which our experiences can be understood, the other mode of thought, the paradigmatic mode, is the more structured language of meaning making that we use in the scientific domain (Bruner, 1986). The ability to make sense of the world around us comes from being able to develop stories that can incorporate and interpret the many different lives and experiences that touch us on a day to day basis (Sarbin, 1986). Mancuso (1986) suggested that the average person will transform many different kinds of experience and information by imposing a story structure on it. Narrative thought thereby provides a way to understand all that we come in contact with in our social world.

The ability to make sense of our world through narrative is not an automatic process, however. It is only in the process of reflection on our experiences that we construct the narrative to understand them (Robinson & Hawpe, 1986). In this way we interpret or reinterpret according to what makes sense at that moment in time, taking into account all relevant information and any related external knowledge that may be present. The information that is deemed relevant or related will be influenced by the individuals past experiences, and the stories he or she has constructed around those experiences. In

so doing a causal pattern has been constructed. Robinson and Hawpe (1986) described successful meaning making through narrative as having an outcome that "is a coherent and plausible account of how and why something happened" (p. 11). The benefits of making meaning through narrative is that it is a flexible process; one story can be used as a schema in other situations (Robinson & Hawpe, 1986; Smorti, 1998; Yussen & Ozcan, 1996). The person drawing on that schema may highlight or emphasize different details of the story to suit the current situation. This could actually serve to change the way the original narrative is viewed or to see the story as a model that guides behaviour and helps us to understand experience.

The Cultural Influence on Narrative Thought

The story has long been an important form of sharing knowledge and communicating to others, and appears in every culture known (McAdams, 1993). The themes and imagery that make up the stories also reflect the influence of the cultural understanding of the storyteller and listener (McAdams, 1993).

The experiences that one has are shaped by the culture in which they occur, including the language with which they are organized in thought and shared in speech. Cultural understanding and knowledge are imbedded within the language that arises from it (Bruner, 1986). In other words, as we learn to speak a language, we are also learning the nuances of communication and interaction with others that are integral to the culture we live in. The cultural framework implicit in language thereby shapes and influences how information is understood and organized (Burner, 1986). Therefore, a cultural influence is present in social interactions, and is also a part of the stories one creates to explain those interactions.

The stories we create provide a mode of expressing the world to ourselves and others (Bruner, 1990; McAdams, 1993; Robinson & Hawpe, 1986). Stories also often reflect a social or moral lesson consistent with the culture (Yussen & Ozcan, 1996). For

example, folk tales often provide us with understanding of the interactions of people and the consequences for not complying with the cultural expectations. The narrative is therefore shaped by culture in several different ways. Culture guides narrative thought in an implicit way by being imbedded in the language in which it exists, and explicitly through the themes and morals of the stories that are shared as a part of cultural tradition.

Therefore, narrative thought is an effective approach to interpret social interaction from whatever cultural context in which a person lives (Smorti, 1998). Inextricable from the culture in which it occurs is children's understanding of the social world, and their development of a sense of self that is reflected in the stories they tell (Fox, 1997).

Development of the Self in a Narrative Framework

The formation of identity has often been interpreted from a narrative perspective (Bruner, 1990; Fox, 1997; McAdams, 1998; McAdams 1993; Noam, 1988). Identity is formed as experiences are reflected on and put into a narrative structure. As the base of experience is expanded, the beliefs, values, feelings and goals are either confirmed or disconfirmed, and the view of the self and the world continues to develop.

Identity is shaped by the life narrative that one develops while the cultural tradition of story telling and literary works serve to scaffold the self-narrative. Knowledge of narrative structure provides expectations that the outcome will be coherent and plausible (Sarbin, 1986). McAdams (1993) pointed out how fairy tales instill the belief that even scary monsters can be successfully conquered and how things have a way of working out. The recurring themes of these stories encourage children to face the world with "confidence and hope" (McAdams, 1993). Such beliefs are then incorporated into the child's own identity.

Bettelheim (1976) has also explored the how fairy tales are meaningful in children's lives. Fairy tales provide clear examples of what is good and what is evil, and the consequences of choosing one behaviour over another. Characters that are described

in such absolute forms speak to the child's unconscious desires, and provide models that are easy to identify with. As the child identifies with the hero in the story, he or she is able to experience vicariously the success for choosing the right path, and triumphing over evil (Bettelheim, 1976). Thus, the fairy tale helps to shape one's identity in a meaningful way.

McAdams (1998) used the concept of one's life story to describe identity development. He described identity as being the life story in its internalized form, which has an internalized audience that serves as the main reference point for understanding the self. In other words, we construct our lives in our minds in the form of a story, complete with setting, scenes, characters, plot and themes, that is told to an inner audience that has the capacity to approve, or disapprove. It is through this inner life story that we construct that we understand ourselves, and anticipate our future (McAdams, 1998). Given that this inner audience has the capacity to disapprove of the events in the life narrative, there are times when the experience that one has is not congruent with the narrative, or one's sense of self. McAdams (1998) believed that the role of defense mechanisms becomes important in these instances, for example, to repress the event. "Some forms of defense may involve the inability to tell personal experience in story form because there is no internalized audience available that will understand the story, will sympathize with it, or will approve of its internalized performance" (McAdams, 1998, p.1141). Thus, defense mechanisms influence what stories are shared and how they are told (McAdams, 1998).

The life narrative is flexible, allowing room to review, revise, and reconstruct self-understandings, both in the past and in the present (Noam, 1988). As one develops a life narrative, core life themes - central ways of interpreting the self and others - begin to emerge. Life experience is interpreted in ways that are consistent with the core life themes that are present. It is conceivable that there are situations where we are unable to find an appropriate audience to interpret our experience, and defense mechanisms are insufficient to protect one's sense of identity (McAdams, 1998). Such a situation, where one is

unable to reconstruct his or her self-understanding, could lead to some form of psychopathology, or otherwise interrupt human beings' natural pull towards self-actualization or growth. Noam (1988) described this as an earlier structure of the self failing to become transformed and integrated with new experiences and thus causing an encapsulation, where an older, less mature self-narrative co-exists with newer ones. As core life themes emerge or become well-defined, they act as "central bridges between the mature self positions and the encapsulations" (Noam, 1988, p.95). Incorporation of the encapsulations into the mature self may be facilitated through the core life themes. If the encapsulated narrative can be seen as fitting with a core life theme, the self-narrative can be inclusive, and consistent.

Narrative not only offers a mode by which we understand the world around us, it also serves to structure our sense of self, resulting in an identity that is integrated and flexible, so that we understand ourselves. Children develop this form of meaning making throughout childhood as members of a storied culture. The progression of children's understanding of psychological motivation, the social world, and a system of values can be seen through their written narratives (Fox, 1997).

Cognitive Structural Development of Narrative

The cultural and social influence on narrative knowing described above constrain the narratives that are created. There are also cognitive developmental constraints that impact narrative thought. Narrative thought and the corresponding ability to make sense of one's social environment changes over time. The ability to conceptualize the world in the form of a verbal narrative structure begins to emerge as early as three or four years of age, when encouraged by an adult (Mancuso, 1986; Sutton-Smith, 1986). A child's understanding and creation of narrative representation is dependent on his or her social and cognitive development (McKeough, 1986; McKeough, 1992; Yussen & Ozcan, 1996). The narratives that children produce reflect their knowledge of causality, social

interaction, intentionality, goals and values (Yussen & Ozcan, 1996). Therefore, it becomes important to have a theoretical framework by which children's knowledge of the world and complexity of thought can be understood. One theory that has been used to look specifically at this is Case's (1985) theory. In the following section a description of Case's model of cognitive development will be described to provide the background for the theoretical framework for the development of children's narratives.

Neo-Piagetian Model of Cognitive Development (Case, 1992)

Case (1992) expanded and revised Piaget's stage theory of cognitive development. He proposed cognitive development is both specific and general in nature. Development is general in that it progresses through stages and is dependent upon working memory or cognitive processing capacity. Working memory capacity increases with age, as children group or "chunk" information in such a way that incorporates more information within each working memory unit. As working memory capacity increases children coordinate the new information with the existing information and thus, their cognitive ability progresses through four stages of development.

The four stages of cognitive development that Case (1992) proposed were:

(1) the sensorimotor stage (4-18 months old): thinking is motoric.

(2) The interrelational stage (18 months to 5 years old): children think in terms of global relationships.

(3) the dimensional stage (5-11 years old): children think in terms of second order relations.

(4) the vectorial stage (11-19 years old): children think in terms of second order dimensions or categories, i.e., thinking becomes abstract.

Within each of these four stages, Case (1991) described four of substages that marked the progression through the stage by acquisition of working memory. The four substages were as follows:

(i) consolidation: an existing structure is chunked

(ii) coordination: two existing, chunked structures can be considered at one time

(iii) bifocal coordination: coordination of the two structures

(iv) integrated bifocal coordination: the two structures are integrated and consolidated

Case (1991) reported that if we conceptualize development as being under the constraints of working memory,

> it becomes possible to examine the knowledge structures children construct across a variety of content domains and social environments, and to look for similarities in form or complexity that are a product of these constraints. Then, having done so, it becomes possible to make predictions about the structure of children's knowledge in new domains and social environments (p. 211).

In addition to the general structural features, as described above, Case proposed that cognitive development is domain specific. That is, children assemble cognitive structures by consolidating, coordinating, and integrating specific conceptual understandings that they encounter as a result of specific environmental and cultural experiences.

It is this possibility of identifying both general and domain specific patterns of growth that creates a framework for investigating and understanding the development of children's narratives.

Empirical Investigations of the Development of Narrative Structure with the Neo-Piagetian Perspective

Narrative structure can be seen to develop in a progression that is consistent with the cognitive stages and sub-stages described by Case (1992) (McKeough, 1992). Empirical investigation has indicated how the narratives produced by children changes over time. As cognitive structures advance, the complexity of thought also matures.

Narratives progress from being simple, descriptions with little plot in early childhood, to interpretive descriptions of the psychological motivations of the characters by adolescence. What follows is a brief review of work done in this area (McKeough, 1986, 1991; McKeough, Sanderson, Martens, & Salter, 1996).

In a four-year-old's story, a related sequence of events is typically linked together to describe the world in action terms. These stories are similar to the social scripts described by Nelson (1981). The following story serves as an example:

> Once upon a time there was a little girl who lived on a farm with a very good horse. And she always rode to the country on the horse and they always had a picnic together. (McKeough et al., 1996, p.5)

By age six a shift towards intentional thought emerges. Typically, six-year-olds are able to include the use of mental states that motivate the action in the story. An example of this shift can be seen in the following story:

> Once upon a time there was a horse that wanted to be wise. And a little girl found him and she said, "Do you want to be wise?" And she teached him all the things that little horses are supposed to know. And so the little horse went to the farm and the little girl trained the little horse and the little horse had a happy life. (McKeough et al., 1996, p. 6-7)

In this story the mental state of wanting to be "wise" (intentional thought) begins the action sequence of the story, resulting in the final mental state of having a "happy life".

By eight years of age, children typically create greater complexity in the plot by including a series of failed complications in their stories along with associated mental states. For example, in the following story the author begins with a mental state, wanting a horse, but her attempt at achieving her goal is complicated by not having enough money:

> Once upon a time a little girl was walking down the street and she seen a happy horse that she wanted to buy. But she had not enough money. So she ran home to

tell her dad that if she could buy the horse and earn all the -- and earn some money. And her dad said yeah. So she kept -- so she was living in a cottage and was chopping down some trees. And on Monday she went back to that store and she seen the horse and she bought it and she went home and she went for a ride on it to the river. (McKeough et al., 1996, p.8)

By age ten, children become better able to integrate the complications in their story plot in such a way that a well developed sub-plot, with associated problems and mental states, is included thereby broadening the characters intentions. The following story serves as an illustration:

Sandy was a beautiful and kind girl. She lived with a loving family, but Sandy had a problem, she was deaf. She was born with it. She is 10 now and her hearing had got a little better but not much. She hated it when other people made fun of her. Sandy kept telling herself that somehow she would get better, somehow.

One day she was reading the newspaper and she saw a place where she could be trained to read lips. Quickly she showed the add to her mom. Her mom told her she couldn't go through all that yet. When Sandy heard that she ran to her room and cried.

Even though her mother told her she couldn't go, she was determined to, somehow. She decided that she could tell her father and if he said no she wasn't going to communicate with her parents ever again.

Next day she asked her friend (named Caroline) what she thought about the idea. Caroline loved the idea because she was also deaf.

That night Sandy asked her father what he though about it. Her father also liked the idea. So finally her parents decided to talk it over while she went to her room. Sandy waited anxiously in her room. Finally it was time to come out. Her

parents decided that she could go to the place where she could learn to read lips. Sandy hugged her parents and thanked them. She danced across the room to get her bedroom. She knelt down in front of her bed and said a prayer of thanks to God.

2 years later when she and Caroline finished the school they could talk to people and read lips easily. Sandy thought she was the happiest person on earth because she had solved her problem. (McKeough et al., 1996, p. 12-13)

In the above story we see several complications to the problem, one of these complications, the mother saying no, becomes a well developed sub-plot when the parents decide to discuss the school on their own. The sub-plot has its own associated mental states ("Sandy waited anxiously") creating a description of a character who feels nervous and hopeful while waiting for her parents decision. The sub-plot finally moves the story on to a resolution of the original problem.

At the twelve-year-old level the focus of the story shifts to interpretive type thinking. In other words, young adolescents begin to interpret the intentional states of the characters, and explain why particular mental states are held. This shift can be seen in the following 12-year-old story:

"Mooooom!" Ashley yelled, "I have to go to the party!"

Her livid mom yelled back "Thoughs people are not suitable for you!"

"What!, not suitable for me? Their my friends and I have fun with them!"

"I don't want you to hang around with that crowd! Today smoking tomorrow alcohol, and the next drugs! That what will happen!"

Ashley was stunned! Didn't her mom trust her, even a little bet? Smoking, alcohol, drugs? Her friends weren't like that. Her mom didn't know anything!

"I'm going whether you like it or not!" She screamed, fighting back tears(.) You can't stop me!"

"Do you want you father to hear about this?" Ashley stormed out of the room.

"I'm not staying here tonight(.) I've got to get away!" She thought to herself, My parents don't trust me, I can't go to the party, my dad's going to beat the ---- out of me! She turned up the radio full blast, messed up her room, and then called her best friend Jenny, she always understood. "Hi, Jenny?"

"Hi! How are you?"

Ashley started to cry, "My, My, pparents are at it again!"

"Oh no."

"I can't stay here tonight!"

"Well, you could come here. My parents are out of town for awhile."

"Thanks. can you meet me at the park?"

"Yeah."

"5 minutes!" Ashley ran to closet and packed her favorite clothes and night gown. As she snuck upstairs she heard her parents talking.

"Maybe we need a Social worker" Her dad suggested.

"A Social worker, Oh Ted!" Her mom started to cry.

Her dad yelled, "I've had it up to here with her!" She thinks she can do whatever she pleases, well, I've had enough!"

A social worker? Ashley's thoughts raced. No! No one can make me go! I'll never come back here! The next thing she did was run down-stairs to her bedroom to get her puppy Sandy. They both ran all the way to the park. When they got there Jenny was sitting on the monkey bars.

"Do you want to take about it?"

"No, Yes, Well not right here!"

"O.K. lets go to my house(.) no one will be home till Monday, that gives us a week." Jenny said, "Oh, how come you brought Sandy?"

"What! do you think I'd leave her there. With them?!"

"O.K. O.K. lets just go to my place."

Back at Jenny's home they talked quite a bit, about her problem. Ashley said that she loved her parents but she can't get alone with them. Jenny suggested that they talk to her parents tomorrow and try and straighten this mess out.

The next morning they both got up and went to Ashley's house. There her parents were in the living room watching t.v.. Ashley was now sure that she wanted to solve this problem and be a family again.

She said, "Dad, Mom can we talk?"

They did finally get it solved. Her parents tried to trust her more and she took it easy on them. When they did have problems they talked to each other, without the help of a social worker! (McKeough et al., 1996, p. 7-8)

In the above example, the conflict occurs between the characters (i.e., Ashley and her parents). Ashley interprets her mother's motivation in not letting her attend the party as a lack of trust. There is also evidence of character traits that are enduring across time and situations (e.g., "My parents are at it again!").

At age fourteen the conflict moves inward to a psychological conflict within the protagonist. Fourteen-year-olds begin to describe a dialectic, where two opposing states or traits motivate the protagonist in the story. In the following example, the problem revolves around difficulties in social relationships. The dialectic emerges when the character analyzes her friends' motivations, and then her own, leading her to greater understanding of herself:

Only the second week of school and already everyone's on my case. First my mom lectured me on not dressing properly for school; then I got in trouble

from Ms. Hegan, my History teacher, for not understanding the assignment she gave us. She's says I don't pay attention. Finally, to top it all off Nancy, my supposed - best friend, started giving me dirty looks; Lord only knows why. I wish just once things would go my way; but no that's just too much to ask.

The only good thing about today is that I get to go to Jenny's party tonight. It should be a blast; everyone's going. Anyway I hope Chad goes. Oh he's so!! good-looking. Just picture this; an A-1 student, made the football team, is the most popular, very sincere, and above all, the most gorgeous! What more could a girl ask for? The only problem is that he could have the choice of any girl in the school so he'd never fall for a girl like me.

That's the problem with some of my friends. Popularity is such an important thing to them. If your not popular you're definitely not one of them. I don't think they ever really accepted me. Sometimes I hate the way they criticize and make fun of people who don't live up to their standards. Now that I think of it, I'm really getting annoyed with the way they do things. It's like a water faucet. Sometimes they're your best friends with your best interests at heart. But when they don't feel like it they can turn off friendship just like that, and have no feeling at all. I'm sick of having to please them and prove myself to them. The problem is I don't have enough guts to tell them how I really feel. I wonder what they'd do if I did.

THE NEXT DAY

Jenny's party was absolutely awful. It was the worst. Linda was flirting with Chad all night. Her and her phony act. I couldn't believe Chad fell for all the garbage she was dishing out. Well, I can kiss my chances with Chad goodbye. Oh, it got even worse; as if this wasn't enough already! Nancy comes to me and

says I was ignoring and avoiding her; meanwhile it was her who was doing the ignoring and avoiding during school.

I just wan'na forget about this whole week. Thank-God it's Friday. I can't wait to get out of her and go home. Everyone's probably going to the movies tonight. They're not gon'na see me there, not after last night. I'm probably going to stay home all weekend and veg. out, but knowing my mother she'll have me working around the house in no time at all.

I just finished talking to Linda on the phone. She kept going on and on about Chad. I tried to be very calm about it. I never told anyone I liked Chad, but for some reason it felt like she was trying to rub it in. Thank-God she doesn't like long conversations, or I would have been there forever.

I've got to find a way to break apart from my friends. It's come to the point where I can't stand them. You know when you think about it's very stupid. I mean it wasn't long ago when I would have done anything to get into their group, and now that I'm with them I'll do almost anything to et out. I've just got to break apart from them slowly and hopefully find people that know the meaning of friendship. I can't wait for the day to come. The day that I can be me and the day when someone will like me just for being myself. (McKeough et al., 1996, p.8-9)

Case (1992) suggested that looking at the conceptual underpinnings of task-specific cognitive structures would reveal superstructures that can be applied to a range of tasks. These *central conceptual structures* are learned, can be culturally specific, and are subject to developmental constraints. If the conceptual structure of one task domain is culturally valued, it may be developmentally more advanced than related task domains. The culturally-valued task domain may then serve as a scaffolding for conceptually related task domains that are not as developmentally advanced. "Narrative is

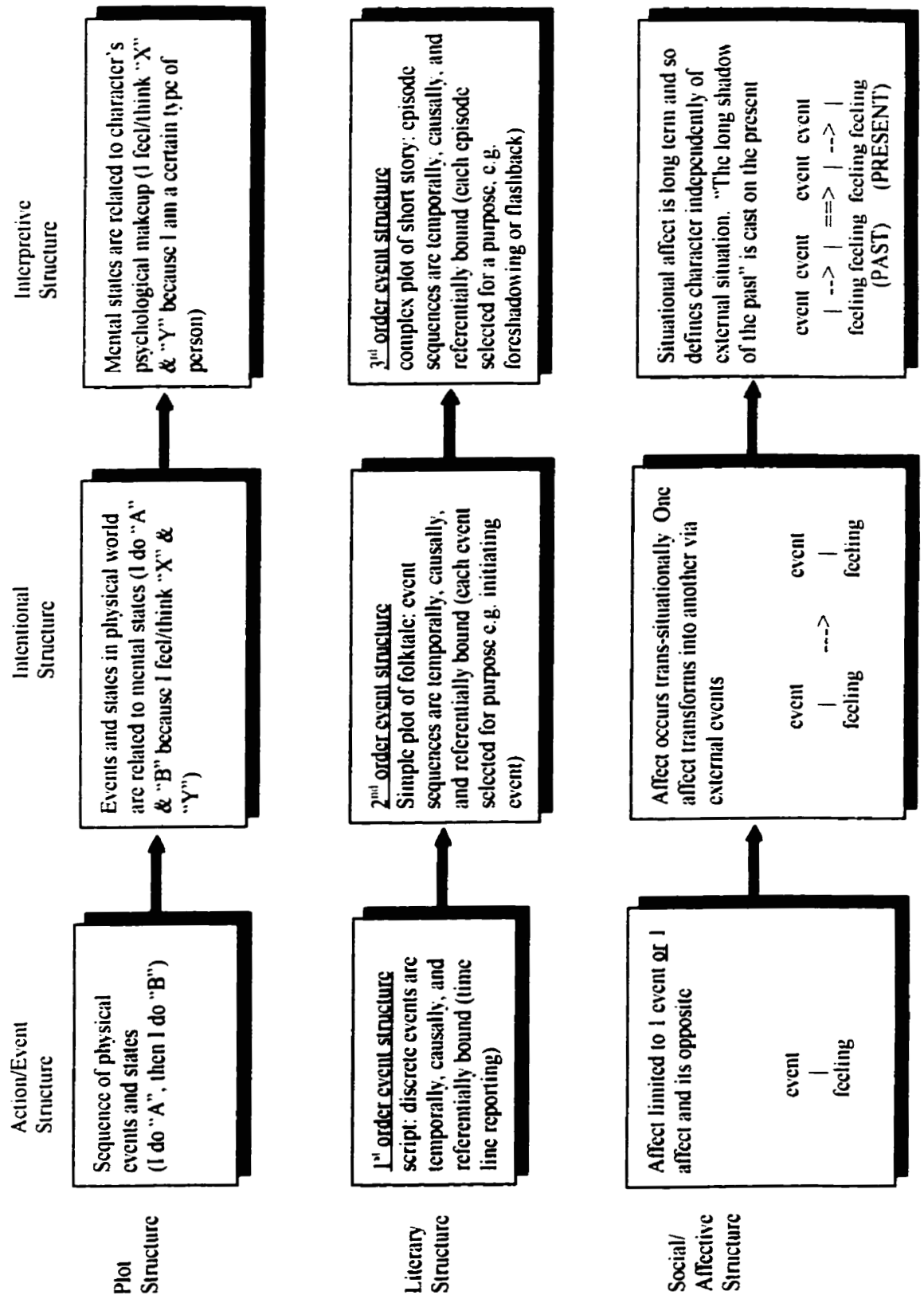
viewed as a central conceptual structure" (McKeough, Martens, Salter & Marini, 1998, p.3).

In early and middle childhood the central narrative structure develops to differentiate and integrate the external world of physical states and actions and the internal world of feelings and mental states. McKeough et al. (1998) found significant increases in structural complexity consistent with Case's (1992) theory across several tasks. The Problem Story Task: "I want you to write a story about someone who is about your age who has a problem he or she wants to solve" was given to fifth, seventh and ninth grade students. A shift in the nature of the thought process from intentional kinds of thought (i.e., first order mental states) to interpretive kinds of thought (i.e., the taking of a meta-position to the action) was seen to begin to emerge at the twelve year old level. Interpretive thought continues to become more integral to the narratives of grade nine students.

Next, the Family Story Task, given to participants aged 10, 12, 14, and 18 years, tested whether or not the same developmental pattern would emerge in the interpretation of the stories given. Again, a shift to interpretive thinking began to emerge at age twelve. Finally, a Moral Decision Making Task was given to fourth and seventh grade girls. The developmental trend towards an increase in complexity of thinking was supported.

To summarize, the central narrative structure McKeough et al. (1996) proposed "encompasses cognitive, social, and cultural development in its transformation from (a) action-based scripts, akin to Nelson social scripts (1978, 1981), to (b) intentional narrative, where Bruner's 'landscape of consciousness' is introduced (Bruner, 1986, 1990), and on to (c) interpretive narrative, where adolescents develop the landscape of consciousness and analyze and generalize beyond the given" (McKeough et al., 1996, p.26). The model of the development of narrative structure is presented in Figure 2.1.

Figure 2.1: **The Development of Narrative Structure**



Narrative Perspective on Aggression

Although a narrative framework has been used extensively to explore formation of identity, knowledge of self, and cognitive development, less attention has been given to understanding of children's behavioural problems from a narrative perspective. The following studies have specifically addressed aggressive behaviour in children using narrative techniques.

Smorti (in press) investigated a sub-category of aggressive behaviour, that of bullying, in young adolescents of 11, 12 and 13 years old. He examined the cognitive strategies (assigning responsibility internally, or to external forces) used by victims and bullies when interpreting socially incongruent situations. These discrepant situations are what Bruner (1990) described as a "violation of canonicality," where one's expectations of a situation are not consistent with the reality of the situation. Smorti (in press) described two types of unexpected interactions, progressive incongruent processes, in which a negative situation changes in a positive direction, and regressive incongruent processes, in which a positive situation changes in a negative direction. Bullies used both action and mental states to interpret the discrepant stories (Bruner, 1990), while victims relied more often on an action strategy of interpretation. Smorti (in press) interpreted these results as reflecting the underlying defense mechanisms of both victims and bullies. Being able to interpret incongruent situations as being the result of external forces serves to protect the victim's sense of responsibility and control in the situation. Interpreting the same situations according to action and mental states also offers the bully a manner in which to justify the action and thereby also protecting his or her own sense of responsibility (Smorti, in press). Use of a narrative perspective to understand how social relations are interpreted appears to be promising.

Cultural differences can also be explored from a narrative framework. Zahn-Waxler, Friedman, Cole Mizuta, and Hiruma (1996) used a story stem narrative task

in a cross-cultural study to examine differences in prosocial and aggressive themes in Japanese and American preschool children. Recall that Bruner (1990) described the important influence that culture has on narratives. Understanding of how themes of aggression differ between cultures may provide a clearer picture of the child's interpretations of the social world.

American children were found to use more aggressive behaviour, and language, and show more anger and under-regulation of emotion than Japanese children. Clear gender differences also emerged, with girls from both cultures expressing more prosocial themes than boys (Zahn-Waxler et al., 1996). These researchers suggest that differences in parenting techniques that promote the construals of self in each culture may account for these differences. This finding is consistent with the idea that the development of self, and narratives are imbedded in the culture in which they occur (Bruner, 1990; Fox, 1997; Yussen & Ozcan, 1996).

If aggressive themes in narratives can be reliably scored, then narratives may also provide useful information in the assessment process. The following studies are some examples of how indicators of developmental psychopathology can be reflected through children's narratives. Warren, Oppenheim, and Emde (1996) found that themes in children's narrative play reflect behavioural problems as measured by the Child Behaviour Checklist in preschool children. This study showed a link between the internal representations expressed through a narrative task and the measurable externalizing problems of the child. Such data provide information about how a children view themselves and their world, which can be used for both diagnosis and treatment planning in order to better make a positive change in their lives (Warren et al., 1996).

In a study by Sanderson and McKeough (1999), adolescent girls who had been living on the streets were compared to average adolescent girls using a life story task. Although the participants' narratives did not differ from average functioning girls

developmentally, significant differences in the content of their stories and the stance of the protagonist (themselves) emerged. The life narratives of the behaviorally troubled girls reflected their background of maltreatment, and the emotional and social difficulties they struggled with. It also emerged that the behaviorally troubled girls were significantly more likely to take a passive role in their stories, suggestive of a helpless or victim stance (Sanderson & McKeough, 1999).

McKeough, Yates and Marini (1994) investigated the developmental differences in the narratives of boys who had been clinically diagnosed with either conduct disorder, oppositional defiant disorder, or both with average functioning, non-aggressive boys. Boys in the aggressive group performed one half to one substage lower on measures of structural complexity of their narratives. The worlds that the aggressive boys created in their stories were also considerably less socially adaptive, or negative than the story worlds of the non-aggressive boys (McKeough et al., 1994). These results suggest that early experiences impact developing defense mechanisms, emotional regulation, and moral reasoning in such a way that a child's ability to interpret and react to social interactions is disrupted and delayed (Buchsbaum, Toth, Clyman, Cicchetti, & Emde, 1995; McKeough et al., 1994). Looking at the narratives of this population has the potential to zero in on where the child's cognitive development has been disrupted, and how his or her world view is maladaptive. The use of narrative has the potential to be useful as an assessment tool, or to enable professionals to better direct treatment (McKeough et al., 1994).

Summary

Studies such as those described above point to the importance of narrative tools in the understanding and treatment of behavioural problems in children. Anti-social behaviour patterns can be identified as early as age three (Quinn, Mathur, & Rutherford, 1995). A continuum of aggression to violence exists, and the strongest predictor of involvement in violent acts is early aggressive behaviour. From early adolescence on,

aggressive behaviour becomes more stable and resistant to change over time (Loeber & Hay, 1997). Aggressive young people persist in their antisocial behaviours in 33-50 percent of the cases. What causes the behaviours to desist the rest of the time is unknown (Ollendick, 1996).

The cognitive developmental theory of narrative may provide a theoretical framework to better understand aggression in children. The narrative mode of thinking permits children to interpret the world and to make meaning of social interactions (Bruner, 1990). The narrative mode of thought also allows us to develop a sense of self that is coherent and consistent with the culture of which we are a part. It is in this way that narratives can assist our understanding of how aggressive children view themselves and the work around them, and how this view differs from non-aggressive children.

The Current Study

In general, the current study stems from the narrative and developmental studies described above, more specifically it is based on the study by McKeough et al. (1994) which found significant developmental and thematic differences in a clinically diagnosed sample of aggressive boys. In other words, the current study explored whether or not those differences would extend to a non-clinical sample of aggressive children in the school environment. In this way a clearer picture of the development of aggressive behaviours, and the nature of the continuum of aggression may emerge.

Hypotheses and Research Questions

The research questions in this exploratory study sought to explore the differences between children identified by the teacher as displaying aggressive and non-aggressive behaviour in both grade four and seven classrooms . The following predictions and research questions were articulated:

1. Grade Differences

The prediction for the developmental differences in narrative structure was based on the previous findings that interpretive thought emerges around age twelve (McKeough, 1992; McKeough et al., 1996; McKeough et al., in press). The hypotheses and research questions for the developmental differences were as follows:

a) The structural level of participants' narratives will be found to be developmentally determined, that is the narratives will shift from being predominantly intentional to being interpretive (H_1).

b) What is the nature of the differences of the story content between the grade four and grade seven levels?

c) What is the nature of the differences in the interpretation of conflict between the grade four and grade seven levels?

2. Group Differences:

The research questions I will investigate are based on the findings of McKeough et al. (1994) and Howard (1994) who found that behaviorally aggressive boys scored lower on developmental scores of plot structure (2a), and that they were more likely to produce maladaptive responses and/or outcomes to their stories (2b). Additionally, 2c is based on researchers such as Crick and Dodge (1994) who have consistently found significant differences in the way aggressive children interpret social interaction, seeing aggressive behaviour as appropriate and justified. Therefore, the following research questions are being asked:

a) What is the nature of the differences between the aggressive and non-aggressive groups on the developmental scores on the three narrative tasks?

b) What is the nature of the differences of the story content between the aggressive and non-aggressive group?

c) What is the nature of the differences between the aggressive and non-aggressive groups and the interpretation of conflict?

3. Gender Differences:

Research trends also indicate that females are more likely to be less physically aggressive and more prosocial than males (Crick & Dodge, 1994; Zahn-Waxler et al.). Therefore the research questions being asked are as follows:

a) What is the nature of the differences between males and females on the developmental scores of the three narrative tasks?

b) What is the nature of the differences of the story content between males and females?

c) What is the nature of the differences between males and females on the interpretation of conflict situations?

Chapter III

RESEARCH DESIGN

METHOD

This exploratory study investigated differences between the narratives of behaviorally aggressive and non-aggressive children in both grade four and grade seven classes. The basis for the selection of these particular age groups is that a shift from an intentional to an interpretive focus in children's narratives can begin to be seen between the ages of ten to twelve (McKeough et al., 1996; McKeough et al., 1994).
This research expands upon previous research that found significant differences in the cognitive development of boys who met the criteria for either conduct disorder, or oppositional defiant disorder, or both (McKeough et al., 1996). Teachers rated students on the Caprara and Pastorelli Behaviour Checklist: Teacher's Version of the Aggressive and Prosocial Behaviour scales. The participants for the study were subsequently identified as being part of either the Behaviorally Aggressive or Non-aggressive group.

For this study, participants completed three narrative tasks during regularly scheduled class times[1]. Narrative task scoring included the developmental level of story structure, T-unit analysis, story content analysis, and an analysis of participants' interpretation of conflict situations. The results of the scoring process were then analyzed using two-way ANOVAs, t-tests and a series of chi-square tests.

Procedure

Subject Selection and Description

After receiving ethical approval from the school board and the Faculty of Educational Psychology at The University of Calgary, five publicly funded elementary

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[1]The current sample is a sub-group taken from a larger sample that is part of another study. Three other narrative tasks were also administered but are not reported in this document.

schools in a large urban centre in Western Canada were approached for participation. Upon consent from the school principal, initial contact was made in a personal meeting with the teachers that included a description of the specific procedures of the study. If at that time a teacher wished to participate, a teacher consent form (Appendix A) was provided. On signing and returning the form, participating teachers were supplied with letters of information (Appendix B), parental consent forms (Appendix C), and Parent Information Questionnaires (Appendix D) to be sent home with their students.

In order to be able to match the participants of the two groups, aggressive and non-aggressive, on socio-economic status (SES) and obtain information about the cultural background of the participants for descriptive purposes, the parents were asked to respond to questions about their occupation, education, and cultural heritage on the Parent Information Questionnaire. Cultural background questions were presented as optional. The cultural diversity of the present sample is presented in Table 3.1.

Table 3.1

Cultural Background of Sample

Ethnic Background	Non-Aggressive (%)	Aggressive (%)
European: English as 1st language	77.4	70.6
Asian	8.1	8.8
African	1.6	0
European: English as 2nd	3.2	2.9
Hispanic	4.8	0
Unknown	4.8	17.6

SES was estimated using the National Occupational Classification System (Employment and Immigration Canada, 1993). Each parent was rated on the 8 point education code from the National Occupational Classification System based on their reported job and education, the code from both parents were added together and assigned to the child as an SES rating unless it was indicated that it was a single income family. For example, a rating of 3 corresponded to an occupation requiring a high school diploma (e.g., managing a retail score), a 6 corresponded to an occupation requiring a technical

school degree (e.g., electrician), and an 8 corresponded to an occupation requiring more than an undergraduate university degree (e.g., doctor). There were no significant differences between the SES of the aggressive and non-aggressive groups.

Teachers rated each subject using the Caprara and Pastorelli Behaviour Checklist for Children (CPBCC): Teachers' Version. If participants were rated as falling above the 75th percentile on the Aggression scale, and below the 50th percentile on the Prosocial scale, they were identified as behaviorally aggressive; if participants were rated as falling below the fiftieth percentile on the Aggression scale, and above the fiftieth percentile on the Prosocial scale they were identified as non-aggressive. This criterion was selected to strengthen the identification of the students by using two behaviour groupings. The intent of the process for the identification of aggressive participants was to target specifically those students who are the particularly difficult ones in the class, however not necessarily requiring a clinical diagnosis. Therefore, using "above the seventy-fifth percentile" as a cut off on the aggression scale indicates that a high level of aggressive behaviour is noticeable; using "below the fiftieth percentile" as a cut off on the prosocial behaviour scale also suggests tendencies towards social inadequacy and aggressive behaviours. This is consistent with past research that indicated that a lack of prosocial behaviour is also indicative of social problems and aggression (Center & Wascom, 1987). Conversely, identifying those participants who were below the fiftieth percentile on the aggressive scale and above the fiftieth percentile on the prosocial scale provided a sample that could be considered non-aggressive.

Of a total of 238 potential participants, ninety-seven participants met the above-described inclusion criteria, with 15.5% of the total sample being defined as aggressive (N=35) and 26.1% were identified as non-aggressive (N=62). Fifty-four participants were in grade four. Of this group, 21 participants were identified as aggressive and had a mean age of ten years and one month; 33 participants were assigned

to the non-aggressive group and had a mean age of 9 years and 11 months. Forty-three participants were in grade seven. Of this group, 14 participants were identified as aggressive and had a mean age of thirteen years and 1 month; 29 participants were identified as non-aggressive and had a mean age of 13 years. A one-way ANOVA demonstrated no significant difference in ages between the aggressive and non-aggressive groups. Demographic information for the participants is presented in Table 3.2.

Table 3.2
Sample Demographics

Grade	Group	N (male)	N (female)	Age (years)	sd (mos.)	SES	sd
Grade 4	non-aggressive	17	16	9.92	3.98	8.91	3.32
	aggressive	11	10	10.07	5.37	7.97	2.53
Grade 7	non-aggressive	14	15	12.96	3.6	10.65	3.76
	aggressive	8	6	13.07	4.49	9.45	3.22

Screening Materials

Caprara and Pastorelli Behaviour Checklist for Children: Teacher's Version

The current study is a part of a larger, cross-cultural study comparing a sample of Canadian and Italian school-aged children. The Caprara and Pastorelli Behaviour Checklist for Children (CPBCC) was developed in Italy, and is available in both Italian and English versions, and was therefore selected for use in this study. The CPBCC is made up of three scales: Prosocial Behaviour, Aggressive Behaviour, and Emotional Instability; and can be utilized for self, peer, parent, or teacher ratings. As a clinical population was not being identified, for the purposes of this study only the Teacher's version of two scales, the aggressive and prosocial behaviour scales, were used (Appendix E). The Prosocial Behaviour scale was made up of fifteen items, including five control items. The Aggressive Behaviour scale was made up of twenty items, also including five control items. The original checklist was scored on a three point ordinal scale: 1=never, 2=sometimes, 3=often. Recognizing that the teachers in Canada may have limited contact with their students, especially in grade seven, 0=unknown was added to the version used

in the current study. By adding the numerical value of the each of the items, an overall score was arrived at for each of the scales. This translates to a maximum score of thirty for the prosocial scale and a maximum score of forty-five on the aggression scale.

Checklist Administration. One copy of the CPBCC for each participant was given to his or her teacher for completion on the first day of data collection. After a two-week time period, the teacher was again asked to complete a checklist on each child. This was done to provide a measure of test-retest reliability. The second set of checklists was eventually excluded from further analysis because of a lack of co-operation from some of the participating teachers. This will be discussed more fully in the results chapter.

Tasks

For the present study, each subject was asked to respond to three narrative tasks: Problem Story, Family Story, and Conflict Story. The tasks were given in a randomized order. Whereas two of the tasks required one class period of 30 minutes, one task, the Problem Story task required three half-hour periods. This latter task was included as three tasks in the randomization.

1) Problem Story (McKeough, 1992)

This task was chosen as it has been used successfully in past research to demonstrate developmental differences in plot structure (McKeough, 1992; McKeough et al., 1994; McKeough et al. 1996). The problem story task provides an opportunity for the participants to write about a problem situation in a story format. The instructions leave enough freedom for the subject to be creative as he or she wants and develop the structure of the story the way he or she wants. It is also expected that by asking to write about a problem situation, information about the social world participants choose to construct will be provided.

Task Administration

Instructions were given both verbally and in writing. Participants were told: "I would like you to tell me a story about someone, around your own age, who has a problem they want to solve. It can be real, made up, or sort of half and half." The researcher was available at all times to answer questions or provide direction.

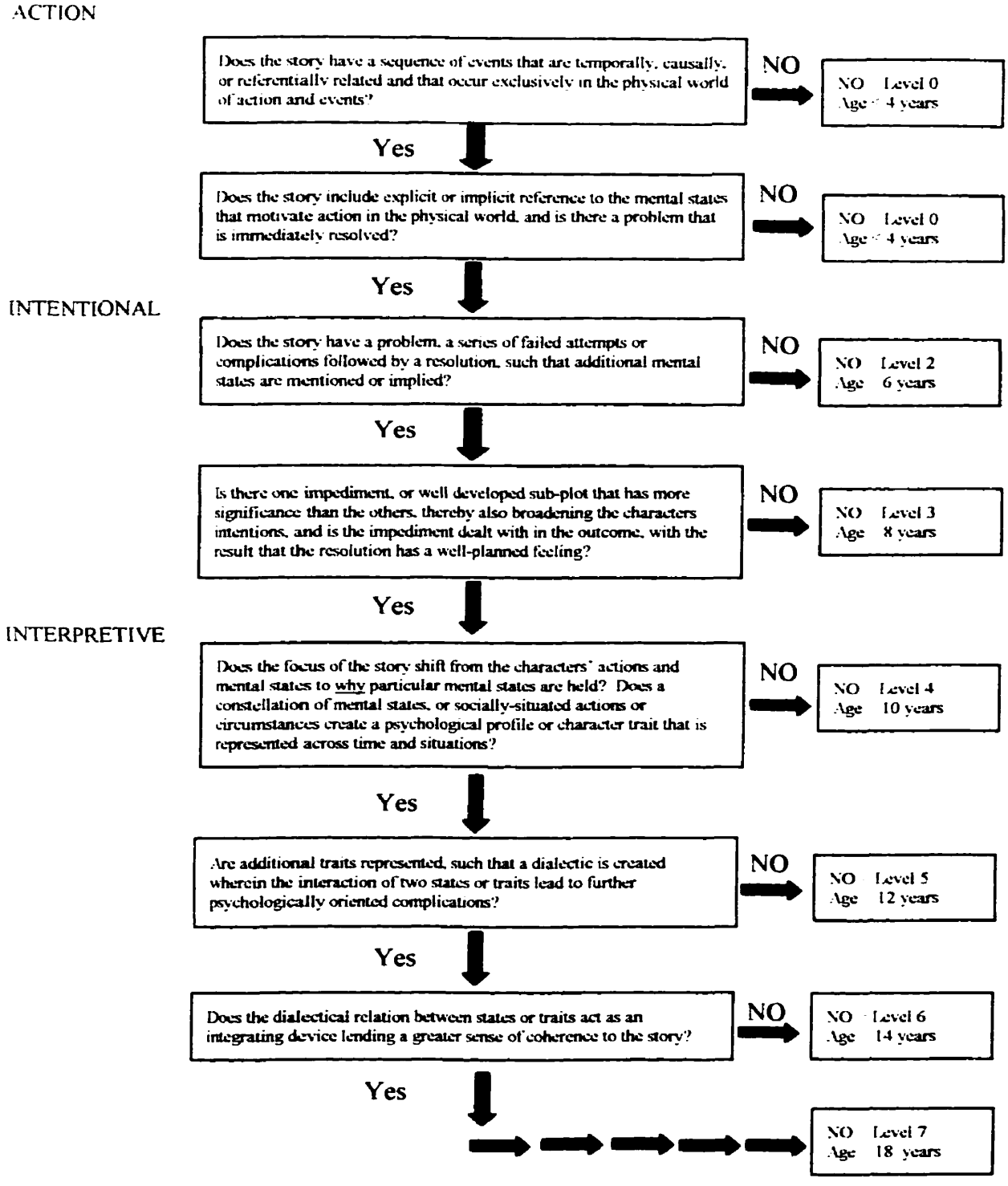
Scoring Procedures

The problem stories were scored according to two procedures, an analysis of developmental level of story structure and an analysis of the story world created by each participant. More specifically, how they articulated the protagonist's response to problems and the outcomes that occurred. This latter analysis will be referred to as problem response/outcome analysis or PRO. Both scoring criteria were utilized from past research (McKeough, 1992; McKeough et al., 1996).

Developmental Scoring. For the first analysis, the developmental level of story structure was identified by assigning a score from 0 to 7. This analysis was described in the literature review and sample stories were provided for each level. The scoring criteria for plot structure is presented in Figure 3.1.

PRO Scoring. The second analysis, which scored qualitative differences between the aggressive and non-aggressive groups, was arrived at by considering both the response to the problem and the outcome (Howard, 1994; McKeough et al., 1994). The response to the problem could be either prosocial or antisocial. Prosocial responses to problems included: self-initiated plan (with no aggression); seeking or being given help by another; and fortuitous events intervening (e.g., time passes). Antisocial responses to problems included: self-initiated plan with aggression; being refused help by another; and avoidance of the problem (McKeough et al., 1994). Outcome of the story could be rated as having a positive ending, a negative ending, or the outcome is left unknown. Linking these two dimensions (response and outcome) led to a rating of the story content as "adaptive",

Figure 3.1: Problem Story Scoring Criteria for Plot Structure



"maladaptive", or "indeterminate" based on the relationship between the 1) the response to the initiating problem (plan), and 2) the eventual resolution (outcome) articulated in the story. The scoring criteria for problem response/outcome are presented in Table 3.3.

Table 3.3

Scoring criteria for rating PRO

	OUTCOME		
Response to problem	**Positive**	**Negative**	**Uneven/Unstated**
Seeks/receives help	Adaptive	Maladaptive	Indeterminate
Initiates a constructive/ socially acceptable plan	Adaptive	Maladaptive	Indeterminate
Fortuitous events (i.e., time passes	Adaptive	Maladaptive	Indeterminate
Actively avoids/ignores problem	Maladaptive	Adaptive	Indeterminate
Acts aggressively/ antisocially	Maladaptive	Adaptive	Indeterminate

2) Family Story (McKeough et al., 1996; Salter, 1992)

Family stories are stories that are passed down to us from a family member. These stories might be a story shared by an aunt, cousin, sibling or parent. A family story is unique in that it typically tells us something about ourselves, or our family's history. The information shared in the story may become incorporated into our sense of self, or identity, offering a richer description of who we are, or where we came from.

This task was chosen as it has been used successfully in past research to demonstrate developmental differences in the interpretation of narratives (McKeough et al., 1996; Salter, 1992). It has not, however, been administered to children identified by their teachers as aggressive. Thus, the present study represents both an opportunity to replicate and extend previous work.

Participants were asked to write a family story, and then answer seven questions after the story was written. The questions were designed to elicit information about how

the subject understood, and interpreted the story, and how it has become a part of their meaning making system. The questions were as follows:

1. What is the most important idea in the story?
2. Who told you the story?
3. Do you think he/she was trying to teach you something or trying to give you a message?

    If YES, what was he/she trying to teach you and why?

    If NO, why did he/she tell you the story?

4. Does the story tell you anything about yourself or other people?

    If YES, what?

5. Has hearing the story ever influenced the way you have acted or thought?

    If YES, how?

    If NO, why not?

6. Has there ever been a time when thinking about the story helped you in some way, maybe to understand something or to figure something out?

    If YES, please describe:

        (a) THE TIME when thinking about the story helped you.

        (B) HOW did it help you?

    If NO, please explain why the story has not been of any help to you?

7. Overall, what does the story mean to you?

Task Administration

Participants were given instruction verbally and in writing. The instructions read as follows:

I want you to write me a family story. Family stories are stories that someone in your family told you about a family member. For example, it might be a story your mom told you abut how she met your dad; it might be a story that your

grandmother told you about something one of your relatives, like your aunt, or uncle, or grandfather did; it might be about something you did when you were young, or something a brother or sister did. Whatever the story you think of is about, it should tell about something unusual or important that happened to the person in the story. After you think of your story I want you to write it down.

Now I would like you to answer a few questions about your family story. I will read all the questions to you before you start to answer them. You can ask about any questions you don't quite understand.

Scoring Procedures

The purpose of the family story task in the present study was to gain understanding of the participants' interpretation and understanding of the family story they chose to tell. Thus, the current scoring of this task was completed on the questions that followed the story, not on the story itself. The questions for the Family Stories were scored for two types of information. The structural developmental level of participants' responses of all follow-up questions were scored and question #3 was scored for the purpose for which the story was told.

Developmental Scoring. The questions that followed the Family Story were each given a rating of one of five levels, with the highest rating taken as the overall level for the task. The five possible ratings corresponded to a developmental level based on age, from age 8 to 18. The scoring criteria for the developmental level of the family story questions are presented in Table 3.4. This task has not been used with a population younger than grade four (9 to 10 years of age). Therefore the scoring criteria begins at age eight, one level below that considered typical of a grade 4 student. In order to be consistent in the level assigned to responses across tasks, the Family Story scoring criteria begins at level three. Level three corresponds to a developmental age of eight-years-old for both the family story and problem story tasks. Both scoring protocols reflect the expected shift

Table 3.4

Scoring Criteria for the Interpretation of Family Stories

Age 8: Level #3

1. Simply repeat the story action or give descriptions of the subject's personal family history (i.e. "They got married"; "They would tell us that story every time we passed the hill".)

2. Describe simple historic descriptions.

3. No provision of reason (i.e. "I don't know"; "no reason")

4. No reference to : i) self unless simple historic description when asked about *self*
ii) story moral

Age 10: Level #4

1. Give a *social judgment* regarding the action or behaviour taken by the subject (e.g., "You shouldn't leave babies alone"; " Don't play in construction sites").

2. Provide comments that appear to be *social rules/moral or religious rules* (e.g., "God is important"; "Be good").

3. Apply social judgment to self in simple/action terms (e.g., "I will never cook without an adult").

4. Give a *determination* of action, thought, or feeling that arises directly from the family story (e.g., "I was an escapee"; "I was climbing on the chair"; "I felt sad that it happened"; "I know what I was like as a baby").

5. Report a character trait in response to story events that is implied by the story (e.g., "He was a goof").

6. No reference to: i) abstract principles (e.g., "Self-preservation is important")
ii) reasoning involved in moral thought

Age 12: Level #5

1. Refer to an inner psychological state not arising *directly* from the family story (e.g., "You should have determination"; "It makes me proud that...").

2. Coordinate retelling with reflection. Reflect on the psychological presentation/disposition of the story characters *or* storytellers. (e.g., Report a generalized trait that moves beyond the context of the story: "I was adventurous").

3. Apply/extend the story *moral* to *separate situation*, hence generalizing it.

4. Apply story moral to *self* in simple terms in accordance with story action or behaviour. *Psychological self-referencing* (e.g., "It makes me feel lucky...").

Age 14: Level #6

1. Make a statement regarding the psychological motivation of the characters (e.g., "He did it and that means he cares and loves me").

2. Provide two or more alternatives for the mental world of the subject.

3. Apply the story to self in more *complex terms* that separate themselves from the action of the characters (e.g., "It makes me wonder..."; "It makes me proud when reflecting on...").

Age 18: Level #7

1. Indicate and integration of the elements found in the story. For example, story events over generations integrated with the subject relating his current life situation to his events in childhood or to his parents' childhood.

2. Indicate a psychological interpretation or analysis in the form of an abstract concept (e.g., "To me the story means relationships, I think, between your cousins and your grandparents, and the importance of memories").

3. Provides an *abstract principal* or "rule for living".

4. Message in story is applied to self in complex way and at the same time applied to others (e.g., "If other people can be strong about facing death; I can be strong about facing life").

5. *Global rules*; not expressed in concrete way or in a rule-based way. *Beliefs* rather than rules.

into interpretive thought at age twelve.

Purpose Scoring. Family stories were also scored for the "purpose" of the story, that is, why the subject believed his or her family member told him or her the story. By looking at the purpose for the story a clearer picture may emerge as to what is the child's understanding of the story. Scoring was based on how the subject responded to the question #3:

> "Do you think he/she was trying to teach you something or trying to give you a message?" Yes or No.
>
> If YES, what was he/she trying to teach you and why?
>
> If NO, why did he/she tell you the story?"

Four categories emerged from the data. Stories were told for the following purposes: teaching a moral or lesson, understanding family/personal history, or for entertainment.

3) Conflict Story

The Conflict Story Task was included in order to investigate how the participants describe and interpret real life conflict situations. This task involved asking participants to write about a school related conflict situation that they had been involved in, been witness to, or had heard about. The story was followed by seven questions asked to provide information about how participants interpreted the conflict situation, that is, how they felt about it, how they assigned blame in the conflict, and whether or not they could generate alternative solutions. The questions were as follows:

1. To make sure we understand the situation you wrote about, please underline the part of your story that tells about the main or most important problem.
2. When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thoughts and feelings then.
3. Do you think any person was to blame for this situation? YES NO

4. If YES, who?

5. Was anyone else to blame? YES NO

6. If YES, who?

7. Try to think of another way the problem could have been handled.

participants were also asked to indicate how much each person was to blame on a number line scale that read 0% (none), 25% (a little), 50% (half), 75% (a lot), and 100% (totally).

Task Administration

Participants were given the following instructions both verbally and in writing:

> I want you to write a story about a time when you or one of your classmates were involved in a problem situation at school that needed to be solved. Maybe you were there when it happened, so that you actually saw it happening, or maybe you just heard about it a bit later. The situation might have happened in your classroom, somewhere else in the school or around the school. You can decide how long your story will be, but please make sure you describe the situation in enough detail that a stranger, who might be reading your story, will be able to understand what happened. After you finish writing your story, I have a few short questions for you to answer.

Scoring Procedures

Conflict stories were analyzed using two different scoring procedures, developmental level of T-units and participants' interpretation of the story. The stories themselves, and question #2 were scored developmentally by breaking the stories down into T-units. How the conflict situation was interpreted by participants was scored from the questions following the stories, and using the PRO scoring used in the Problem Story task. Question #2 was scored for whether or not the subject was able to identify feelings that were congruent with the conflict situation. Questions #3-6 assessed whether or not

blame was assigned appropriately. Question #7 was scored for whether or not pro-social alternatives for the situation were generated.

Developmental Scoring. The stories were broken down into T-units, or terminable units (Hunt, 1977). T-units are the shortest grammatically complete sentences that a written passage can be broken down into without creating fragments. The T-units were then scored for complexity of meaning at one of three levels. Each T-unit was categorized as either "action/descriptive", "intentional", or "interpretive". The scoring scheme was developed by McKeough et al. (1996) and enables the developmental analysis of the stories at the level of the sentence. The use of interpretive thought as seen through the T-units in the story is predicted to parallel the emergence of interpretive thought seen at the 12-year-old level in the Problem Story and Family Story structural scoring. The scoring criteria for T-unit analysis is presented in Table 3.5. Scores were assigned by tabulating the number of each type of T-unit (action/descriptive, intentional, and interpretive) that was used in the story, resulting in three scores. The percentage of each type of T-unit was calculated, so that the overall proportion of the story that was made up by each type of T-unit could be determined. Between group comparisons of the proportion of the story made up by each type of T-unit could then be made.

Developmental Scoring of Question #2. Question number two (When you saw the problem situation happen or when you heard about it, what did you think and feel?...) was also scored using the T-unit analysis. Instead of counting the T-units, however, as was done for the conflict story itself, the answer for question #2 was given the highest T-unit scored, corresponding to an answer as being either descriptive, intentional, or interpretive. This approach was used because typically, responses to question #2 were limited to one or two T-units.

Table 3.5

T-unit Scoring Criteria for Conflict Story

---

(1) Action or descriptive T-units: Action T-units describe physical movement (e.g., "Sue got up and got ready to go to school."), whereas descriptive T-units give information concerning settings or physical states and events transcribed by a copula verb (e.g., "July 16th was the day" and "she was deaf.").

(2) Intentional T-units refer to first-order mental states: They can be expressed in four ways:

(a) Thoughts, needs wishes, and plans that motivate action (e.g., "She then decided to do just that.").

(b) A social judgment that is context specific (e.g., "your (you're) doing all right for (as) a baseball player."), describes a general social trait (e.g., "a nice boy"), or social relation ("friend", "enemy", not title such as "teacher").

(c) Affectively-laden verbs that describe emotion (e.g., "She was really scared").

(d) Actions or descriptions that suggest underlying mental states (e.g., "'Leave me alone!', she screamed" and "her cold shaky hand".).

(3) Interpretive T-units refer to second-order mental states that underlie first order mental states. They can be expressed in several ways:

(a) Justification of a mental state or social judgment with a second mental state or social judgment [e.g., "Joey loved pets (first-order mental state) because he knew they wouldn't make fun of him" (second-order mental state).]. The initial clause, "Joey loved pets" would have been considered an intentional T-unit if it had stood alone. However, with the addition of the underlying motivation "because he knew they wouldn't make fun of him" the entire sentence is categorized as one interpretive T-unit. Both T-units occur within the same character, making the two units interpretive.

(b) Reflection on (or taking a meta position to) the psychological cause and effect of (i) affects (e.g., "On my way home I was really upset. Maybe I was really stupid coming here. I tried to stop a problem and all I did was create

another one."), (ii) cognitions (e.g., "Joey hadn't realized that if he had told them earlier it would have been much easier to face the facts", and (iii) social situations (e.g., "But remember there are always those few kids that are left out of everything, are loners and don't really care what they do. In other words, they're different than everyone else.").

(c) Statements denoting self understanding, self knowledge, self questioning, social understanding (e.g., "I was known to suck up to people. And now I know its true. Whenever someone was mad at me I would always be the first to apologize. Even if it wasn't my fault.").

(d) Enduring psychological/social state or trait, or understanding of long-term social consequences (e.g., "Teasing and nagging would always ring in his ears during the night.").

(e) Psychological/social similes and metaphors (e.g., "So now it's like the whole world has closed up around me." and "The wall had started to build. Not a wall of concrete or stone but a mental wall that no one, except for Rachel herself, could move or tear down.").

(f) Flashback and foreshadowing (e.g., "I thought about the first time I met her in grade one." and "That was one promise I wished I had kept.").

(g) Paradoxical consequences or juxtaposed alternatives (e.g., "And poor Laurie. An innocent girl who got what she did not deserve...Things like this sometimes happen. Too often though.").

(h) Perspective taking (e.g., "'I am sixteen and mature enough to handle the responsibility of a vacation alone.' No. That would be no good, it sounded to superior.").

Conflict/Feeling Congruency Scoring of Question #2. The answer to question #2 was also rated as either "adaptive" or "maladaptive" according to whether or not the description of the participants' thoughts and feelings were congruent with the conflict situation described. The scoring criteria for the congruency of feelings to the conflict situation are presented in Table 3.6

Table 3.6
Scoring Criteria for Conflict/Feeling Congruency

Thoughts and Feelings	Rating
Feeling bad, or sorry about the situation	adaptive
Expressing disapproval of the people involved in the situation	adaptive
Feeling happy that they acted as they did	maladaptive
Repeating the story action, or what they did (e.g. "I kicked him".)	maladaptive
Thinking about an aggressive act they had wanted to carry out.	maladaptive

Assignment of Blame Scoring. Given that past research has indicated that aggressive children possess a hostile attribution bias, making them more likely to see aggressive action as justified (Crick & Dodge, 1994; Schwartz, Dodge, Pettit, & Bates, 1997), it was predicted that the aggressive group would assign blame inappropriately significantly more often than the non-aggressive group. Blame was assessed from follow-up questions 3-6. Blame was considered appropriately assigned if the assignation was congruent with the situation described in the story. Otherwise, blame was scored as "inappropriate". Scoring of the assignment of blame will be described in more detail in the results chapter using illustrative examples of participants responses.

Generation of Prosocial Alternatives Scoring. As past research has indicated that aggressive children have greater difficulty generating alternative solutions to problem situations (e.g., Pettit, Dodge, & Brown, 1988), whether or not participants could consider the conflict situation and generate other ways to deal with the problem was also of interest. In keeping with past research, it was expected that the aggressive group would have a difficult time seeing alternatives to their aggressive response (Howard, 1994; Pettit et al., 1988). The answer to question number seven, whether or not the subject believed the conflict could have been handled differently, was therefore scored as either adaptive or maladaptive, based on whether or not the subject generated at least one prosocial alternative resolution. The scoring procedure for question #7 is presented in Table 3.7.

Table 3.7

Scoring Criteria for Alternative Resolutions

Alternative Resolution	Rating
Way to avoid the situation (e.g., telling the teacher, walking away)	Adaptive
Way to amend the situation after it happens (e.g., saying sorry)	Adaptive
Generating adaptive alternatives but holds the belief that they will not work (e.g., say sorry," but that wouldn't work at all")	Maladaptive
Alternative antisocial or aggressive acts (e.g., called him/her a name instead of punching)	Maladaptive

PRO Scoring. The Personal Conflict Stories were also scored for the adaptiveness of the response and outcome of the story using the same PRO scoring criteria used for the Problem Story task. Recall that the score for outcome was arrived at by considering the response to the problem as either aggressive or prosocial, and whether

that response led to a positive or negative outcome (Howard, 1994; McKeough et al., 1996). The story was scored as "adaptive", "maladaptive", or "indeterminate" using the two dimensions of problem response and outcome to create an overall picture of the story world. The scoring criteria is presented under Problem Story: PRO scoring in Table 3.3.

Summary

Participants completed the three narrative tasks in 5 to 7 sessions with the rest of the class during class times previously arranged with the teachers. At least one researcher was present at all times to provide instructions and answer questions. Randomly assigned numbers identified participants once all four tasks had been completed. Participants and parents were ensured of anonymity and confidentiality, and were informed of their right to withdraw from the study at any time without penalty.

The Problem Story task required participants to write a story about someone their own age who had a problem, the story was then scored for the developmental level of the plot, as well as the PRO scoring of the adaptiveness of the story world. In the Family Story task, participants were asked to share a story told to them by a family member and then answer six questions. The questions were then scored for the developmental level of the interpretation of the story, and what the participants believed the purpose of the story to be. Finally, on the Conflict Story task, participants were asked to write a story about a conflict that occurred at school and then answer seven questions. The Conflict Story, and question #2 was scored developmentally by T-units. Story outcome was scored using the PRO analysis. The Conflict Story questions were scored for congruency of feelings with conflict, appropriate assignment of blame, and generation of alternative resolutions.

Plan of Statistical Analysis

The CPBCC: Teacher's version was analyzed using a Factor analysis to confirm the constructs used in the study and a series of 2-way ANOVAs to define the behavioural groups. The tasks were scored for level of cognitive development and thematic content

using both qualitative and quantitative analysis. The chi square, t-test, and 2-way ANOVA were employed to explore any differences within and between groups. All analyses were declared significant at the 0.05 level. The results of all statistical analyses are presented in the Results chapter.

Chapter IV

RESULTS

Introduction

The purpose of this study was to investigate developmental and thematic differences between aggressive and non-aggressive, and grade four and grade seven groups on three narrative tasks. It was predicted that developmental differences would be found to be significant between the two grades. Differences between the aggressive and non-aggressive groups were explored for developmental differences, story content and story interpretation were explored. Gender differences were also explored.

Scoring criteria for the three tasks were developed in previous studies (McKeough, et al., 1996), however, some of the scoring schemes were revised in order to better capture the differences that emerged. These will be discussed in the present chapter. All scoring was done by the researcher, with reliability checks completed by a trained rater. Differences were resolved through discussion.

The chapter is organized by first reporting the results of the analysis of the Caprara and Pastorelli Behaviour Checklist for Children: Teacher's Version, followed by an overview of the statistical tests used in the analysis of the narrative tasks. The significant results of these statistical tests will then be presented by task.

Caprara and Pastorelli Behaviour Checklist for Children: Teacher's Version

Teachers completed the CPBCC at the beginning of the study, and then repeated the checklist on each child after a two week interval. Checklists were scored by deleting the five control items, and tallying the Likert scale. Recall that, for this study, rather than a forced choice scale, the option of "0=unknown" was added to the original scale. This system resulted in a large amount data appeared as if it was missing, as teachers appeared to have some difficulty responding to a number of questions, answering "unknown" for many questions. In order to circumvent this problem, and end up with a meaningful score,

questions to which teachers responded "unknown" more than 25% of the time were removed from the scale. The remaining questions were averaged, instead of summed, resulting in a possible score from 1-3 (i.e. "never", "sometimes", and "often"). Items that were omitted from the analysis are presented in Table 4.1.

Table 4.1

Items Deleted from the Prosocial and Aggressive Behaviour scales of the CPBCC

Aggressive Behaviour Scale	Prosocial Behaviour Scale
A3. The student kicks and hits or punches.	PB10. The student lets others use his or her toys.
A8. The student bites others to harm them.	PB15. The student hugs his or her friends.
A10. The student argues with older children.	
A11. The student is envious.	
A12. The student tells lies.	
A20. The student likes to fist-fight.	

Some teachers had more difficulty answering the CPBCC than others, responding "unknown" for the majority of the questions. To avoid including children when minimal information on their behaviour was available, participants having more than fifty percent of the items answered "unknown" on either of the checklists was omitted.

The checklist was given to teachers twice, at a two-week interval to measure test-retest reliability. The results of the t-test showed the mean scores at time two to be significantly lower than at time one. By looking at the frequencies of the items it could be seen that the teachers responded unknown more often at time two to items they answered at time one, therefore, test-retest reliability could not be accurately determined. The time two results were not used for further analysis.

Factor Analysis of the CPBCC

A principal components factor analysis was performed on all remaining items in both scales of the CPBCC. A restriction of two factors was imposed on the analysis in order to enhance the theoretical interpretation of the solution and to be consistent to the authors of the scale. The resulting two factor solution accounted for 58.9% of the variance. The factor loadings for each of the scale items is presented in Table 4.2.

Table 4.2

Two Principal Components Rotated to a Normalized Varimax Criterion for the CPBCC

Scale Item	Factor One	Factor Two
A15.The student insults other kids or calls them names.	0.88	-0.3
A5. The student hurts others.	0.88	
A13. The student says bad things about other kids.	0.86	
A4. The student gets even when she or he is mad.	0.86	
A7. The student threatens others.	0.83	
A18. The student teases other kids.	0.8	
A19. The student uses bad words (she or he swears).	0.8	-0.3
A16. The student pushes and trips others.	0.79	-0.41
A1. The student gets into fights.	0.77	
PB5. The student is gentle.	-0.67	0.47
A8. The student bites others to harm them.	0.3	
PB1. The student tries to make sad people happier.		0.76
PB4. The student tries to help others.	-0.38	0.76
PB12. The student likes to play with others.		0.74
PB2. The student spends time with his/her friends.		0.74
PB9. The student helps others with their homework.	-0.4	0.73
PB13. The student trusts others.	-0.48	0.66
PB7. The student shares things she or he likes with her or his friends.	-0.33	0.65

The prosocial behaviour scale consisted of seven items, and the aggressive behaviour scale consisted of ten items. One of the original prosocial behaviour items (The student is gentle), loaded more heavily on the aggressive behaviour scale (-0.61171), than it did on the prosocial behaviour scale (0.36654) and was included on the aggressive behaviour

scale. The negative coefficient indicated that the item was negatively related, and was reverse scored for the analysis of the means of the aggressive scale. The two factors of the CPBCC used for further analysis are presented in Table 4.3.

Table 4.3

The Two Adjusted Factors for the CPBCC

Factor 1: Aggressive Behaviour Scale	Factor 2: Pro-Social Behaviour Scale
A1. The student gets into fights	PB1. The student tries to make sad people happier.
A4. The student gets even when she or he is mad.	PB2. The student spends time with his/her friends.
A5. The student hurts others.	PB4. The student tries to help others.
A7. The student threatens others	PB7. The student shares things she or he likes with her or his friends.
A13. The student says bad things about other kids.	PB9. The student helps others with their homework.
A15. The student insults other kids or calls them names.	PB12. The student likes to play with others.
A16. The student pushes and trips others.	PB13. The student trusts others.
A18. The student teases other kids.	
A19. The student uses bad words (she or he swears).	
PB5. The student is gentle.	

Using the resulting distribution of scores on the CPBCC, the participants to be included in the aggressive and non-aggressive groups were selected. As described in the Methods chapter, the participants scoring higher than the 75th percentile on the aggressive behaviour scale and below the 50th percentile on the prosocial scale, were classified as the "aggressive" group. Those scoring lower than the 50th percentile on the aggressive behaviour scale and above the 50th percentile on the prosocial behaviour scale, were classified as the "non-aggressive" group. As the t-tests of the means for males and females and the grade four and grade seven groups were significantly different, the means on both variables were calculated independently when defining the groups. Results of the t-tests of the means for the Prosocial and Aggressive Behaviour scales are presented in Table 4.4.

Table 4.4

CPBCC Prosocial and Aggressive Scale Means and Standard Deviations

Grade	Gender	Prosocial	sd	Aggressive	sd
four	male	2.39	0.43	1.34	0.4
	female	2.69	0.3	1.25	0.36
seven	male	2.44	0.33	1.66	0.54
	female	2.7	0.29	1.14	0.41

t-Test Analysis

Although the participants in the current study were compared on three dimensions (gender, group, and grade), a three way ANOVA was not considered appropriate due to the small N in each group. Two sample independent t-tests were conducted on all pair wise comparisons as an initial overview of the results to test for any differences between groups in order to determine if any of the groups could be collapsed in a two way ANOVA. All resulting t-values are presented in Table 4.5.

The t-tests by group (i.e. aggressive and non-aggressive) showed no significant results on any of the tasks. Therefore, two-way gender by grade ANOVAs collapsed across groups could be used to test for interactions. The two-way gender by grade ANOVAs will be used to report all significant main effects and interactions. The tables for the results of the grade by gender ANOVAs are presented in Tables 4.6-4.14. The complete ANOVA results for all pair-wise comparisons are presented in Appendix F. Chi square tests were conducted on all content and interpretation analyses. All results were declared significant at the 0.05 level.

Table 4.5

Results of t-tests by Group, Gender and Grade

Task	t-test by Group			t-test by Gender			t-test by Grade		
	t-value	df	p	t-value	df	p	t-value	df	t-value
Family Story	-0.72	91	0.472	1.63	91	0.106	-5.58	91	0.000**
Problem Story	0.05	94	0.964	2.02	94	0.046*	-12.11	93.33	0.000**
Conflict Story # descriptive T-units	-0.92	95	0.362	-0.8	95	0.427	-1.62	95	0.109
Conflict Story # intentional T-units	0.23	95	0.815	2.41	95	0.018*	0.05	95	0.957
Conflict Story # interpretive T-units	0.36	95	0.72	0.45	95	0.654	-3.24	49.86	0.002**
Conflict Story % descriptive T-units	-0.44	95	0.661	-1.16	95	0.248	-0.65	95	0.518
Conflict Story % intentional T-units	0.11	95	0.912	1.55	95	0.124	2.6	95	0.011*
Conflict Story % interpretive T-units	0.5	95	0.622	-0.69	95	0.493	-2.85	44.2	0.007**
Conflict Story question # 2	1.89	72.04	0.063	1.55	90.43	0.125	-3.82	76.72	0.000**

** = significant at the $p < 0.01$ level ; * = $p < 0.05$

Table 4.6

ANOVA Results: Family Story Developmental Score

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	56.1	89	0.63		
Gender	2.25	1	2.25	3.57	0.62
Grade	20.23	1	20.23	32.09	0
Gender by Grade	0.38	1	0.38	0.6	0.44

Table 4.7

ANOVA Results: Problem Story Developmental Score

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	26.11	92	0.28		
Gender	3.06	1	3.06	10.8	0.001
Grade	44.41	1	44.41	156.49	0
Gender by Grade	0.01	1	0.01	0.03	0.874

Table 4.8

ANOVA Results: Conflict Story # of Descriptive T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	428.69	93	4.61		
Gender	1.47	1	1.47	0.32	0.574
Grade	13.79	1	13.79	2.99	0.087
Gender by Grade	25.64	1	25.64	5.56	0.02

Table 4.9

ANOVA Results: Conflict Story # of Intentional T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	415.13	93	4.46		
Gender	25.83	1	25.83	5.79	0.18
Grade	0.02	1	0.02	0	0.95
Gender by Grade	0.34	1	0.34	0.08	0.784

Table 4.10

ANOVA Results: Conflict Story # of Interpretive T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	35.04	93	0.38		
Gender	0.06	1	0.06	0.15	0.702
Grade	4.63	1	4.63	12.28	0.001
Gender by Grade	0.12	1	0.12	0.31	0.579

Table 4.11

ANOVA Results: Conflict Story % Descriptive T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	48940.1	93	526.24		
Gender	455.69	1	455.69	0.87	0.354
Grade	284.74	1	284.74	0.54	0.464
Gender by Grade	2557.81	1	2557.81	4.86	0.03

Table 4.12

ANOVA Results: Conflict Story % Intentional T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	51311.05	93	551.73		
Gender	1198.06	1	1198.06	2.17	0.144
Grade	3940.18	1	3940.18	7.14	0.009
Gender by Grade	841.9	1	841.9	1.65	0.22

Table 4.13

ANOVA Results: Conflict Story % Interpretive T-units

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	19820.44	93	213.12		
Gender	175.99	1	175.99	0.83	0.336
Grade	2106.51	1	2106.51	9.88	0.002
Gender by Grade	464.8	1	464.8	2.18	0.143

Table 4.14

ANOVA Results: Conflict Story Question #2 Developmental Score

Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	17.93	90	0.2		
Gender	0.52	1	0.52	2.59	1.111
Grade	3.07	1	3.07	15.4	0
Gender by Grade	0.07	1	0.07	0.34	0.563

Descriptive and Inferential Statistical Analyses

Problem Story

Problem Story was scored using two different types of analyses. Stories were scored on the structural level, and on whether the outcome was adaptive or maladaptive.

Developmental Analysis of Intentional and Interpretive Thought

The developmental analysis of the problem story task was found to be consistent with the development of children's narrative composition described by McKeough (1992). The grade by gender ANOVA revealed significant differences between the grade 7 students and grade 4 students ($F(1,92)= 156.49$, $p=0.001$), with grade seven participants scoring higher than grade four participants. Consistent with earlier work (Genereux, 1998; McKeough, 1992), a significant difference was also found between male and female participants ($F(1,92)= 10.80$, $p=0.001$), with male participants averaging almost half a level lower than female participants. The grade by gender interaction was not significant ($F(1,92)= 0.03$, $p=0.874$). The means for each group are presented in Table 4.15.

Table 4.15

Means and Standard Deviations for Problem Story Developmental Score

Grade	Gender	Mean	Standard Deviation
Grade 4	female	3.673	0.509
	male	3.296	0.609
Grade 7	female	5.024	0.512
	male	4.682	0.477

The scores ranged from level 2 to level 4 for grade four participants. Level 4 was the predicted score for grade 4 participants. Grade seven participants' scores ranged from level 4 to level 6. Level 5 was the predicted score for grade 7 participants (McKeough et al., 1996). The frequencies for each level are presented for both grades in Table 4.16.

Table 4.16

Frequencies by Grade of Problem Story Developmental Levels

Structural Level	Grade 4	Grade 7
Age 6	2	0
Age 8	24	0
Age 10	27	10
Age 12	0	30
Age 14	0	4

What follows are examples of stories at the most common levels found in this study, levels 3 to 5. All stories are reported verbatim, except for spelling, which has been corrected for easier reading.

Level 3: Age 8. In this story, the author meets all of the criteria for a level 3 score. He presents a problem, a series of complications and failed attempts followed by a resolution. Mental states are implied in the story.

> A boy named Victor had a problem. He was always arguing with Joe. One day Joe was bragging to some of his friends. Victor went up to Joe and asked him why he was always bragging. Joe said he doesn't. Victor said he does. So they argued and argued until the teacher saw them. The teacher asked them why they were arguing. Victor said Joe was always bragging. Then Joe said he didn't. So the teacher said that they should both get problem plan sheets and sit in the time out corner. So they said okay. Now Victor and Joe don't argue.

The problem in the above sample story is that Victor was always arguing with Joe. The series of complications and failed attempts occurs when Victor tries to find out why Joe is bragging, which leads to more arguing. The teacher then intervenes, they continue to argue, and finally the teacher provides the solution to the problem. The problem is resolved when they both agree to do problem plan sheets and sit in the time out corner. Mental states of anger, frustration, or upset are implied by the boys arguing, while bragging implies pride, conceit, or self-assurance.

Level 4: Age 10. Level four is typified by the inclusion of one impediment that has more significance than the others, or by creating a well developed sub-plot. In this story, written by a grade four girl, the author presents the problem of finding a lost puppy. The main character finds the puppy's owner, but the story becomes more complicated when she does not want to return the puppy.

One day I was walking to the ice-cream shop to meet Kathryn. I heard some rustling in the bushes. So I went closer towards them. I quickly pulled apart the bushes and there was a tiny puppy. So I grabbed it because it seemed to be hurt on one leg. I ran home and told my mother what had happened. She helped me bandage it all up. Then the big question came out "can I keep it?". My mom said yes but if anyone came looking for a puppy we would have to give it back. So I ran for the phone to tell Kathryn about the puppy. She asked me "what did you name it?" I said, "I'm not sure". Then she started to tell me names. We agreed on Wrinkles for his name. Wrinkles suits the dog I said because he has wrinkles on him.

The next day at school people were asking me what the dog's name was and where I found it. Then at recess a small boy was crying so I asked if he could tell me what was wrong. He said that he lost his puppy dog. So I thought of Wrinkles. I asked him what it looked like. He explained it exactly like the way Wrinkles looked. So I went home and looked at Wrinkles. Then I noticed that it had a tag on it's ear. So I went back to school and asked if his dog had a tag on it's ear and he said "yes". So I began to worry that his dog was my dog. A few days later I asked the same boy if it had a collar on it when he lost it. He told me that he was running and he lost grab of the leash. So the next day on the way to school I checked if there was a leash in the bushes. But their wasn't. So I decided to just keep my dog quiet so nobody would know except some of my friends. So then the next week I saw flyers stapled to trees. So I decided to turn my dog in to this boy. I ran home and took my dog to school to give to the boy. When he was happy with his puppy I became sad. My mom asked me if I was in the mood for surprises. I said "yes, anything to cheer me up". So my mom pulled a kennel out of the closet and opened it. Out jumped a small puppy exactly like

Wrinkles. My mom told me that because I was so generous as to giving up my puppy she bought me one. I was so happy that I didn't have to worry. The moral of the story is if you give up something someone will repay you.

At the ten-year-old level the intentional type thoughts become better developed giving the reader a clear understanding of what the intentions were that motivated the character. The complications in the 8-year-old story develop into a complete sub-plot in the 10-year-old story (meeting the little boy), with its own problems and associated mental states (wanting the puppy but feeling badly for the boy), leading to a well planned resolution. This differs from the 8-year-old story in that although a mental state was implied in the arguing of Victor and Joe, little information was provided as to any other associated mental states that motivated the characters.

Level 5: Age 12. In a level five story a shift towards interpretive thought is seen to emerge. Whereas in earlier stories, evidence of story characters intentions are present, in the interpretive stories the focus shifts to why those thoughts and feelings are held. In this sample story the main character struggles with guilt when she wants to quit gymnastics. The reader gets a sense of the problem, and why the character feels the way she does.

There once was a girl named Carrie who had a major distress. She was a gymnast who was very small. She hated being smaller than everyone else because gymnastics stunts your growth. Everyone always made fun of her because she was so tiny.

There was also another problem she had. She didn't really want to be a gymnast anymore. She didn't have any time to spend with her friends, play sports or do anything fun. More than anything she wanted to play basketball but she couldn't because she was always at the gym and everyone made fun of her because she wasn't as tall as some of the other girl basketball players.

One day she went to tell her mom and dad how she felt about these dilemmas of hers. She said calmly and coolly "Mom, dad, I love you both very much and I appreciate your time, effort and money put into my gymnastics but I can't do it anymore. I want to live like a normal teenager."

Holding her breath waiting for an answer from the zombie eyed look from her parents. She had a feeling they didn't like what she had said.

"Carrie, darling. Gymnastics has improved your balance and made you more muscular and confident. I think you should stay in!" said her mother in her calm sweet voice.

"Yes I also agree Carrie. Your wonderful at gymnastics. Talented and brave. Stay in!"

"Is anyone listening to me!??!" "I don't want to do gymnastics! I wanna play other sports like basketball, badminton and volleyball! But I can't I'm always at the gym!! I never ever get to eat junk because you can't get good height. Please let me make this decision on my own!" With that Carrie picked up her school books and left the kitchen. Leaving her parents standing in awe that she said all she did.

Later that night Carrie came downstairs and her parents were sitting at the kitchen table in a gaze of deep thought sipping cups of tea. "Mom, Dad. I'm sorry for the way I acted but I needed to tell you how I felt." She still felt a pang of guilt at how the way she spoke to them earlier.

"It's all right Carrie, your father and I understand that people need to move on in life and this is what your doing." replied her mother with her well known soft comforting voice. Her father nodded to her mother's remark. "Thanks you guys for understanding. I'm glad I had your support and I love you!"
The end.

At the twelve-year-old level we can see the shift from the character's mental states to why they hold the mental states that they do, in other words there is a shift to "interpretive" thought (McKeough, 1992). The inner, psychological world of the character begins to be developed more fully. In the above sample story, the reader is given a description of the problem (not wanting to be a gymnast), and the associated mental states as in the ten-year-old story, but the reader also gets an idea of why Carrie feels the way she does. Carrie wants to feel like a "normal teenager" and do the things her friends are doing. Carrie is able to consider her own problem, and the impact her wishes may have on her parents. We see this ability to take a different perspective when Carrie confronts her parents, evaluates their response, and then feels guilt for the way she spoke to them.

An interrater reliability check was conducted on the developmental scoring. The two raters agreed on 0.90 of the levels assigned.

Problem Response/Outcome (PRO) Analysis

Recall for the PRO analysis that the response to the story problem and the outcome of the story were linked to produce a rating of an adaptive, maladaptive, or uneven/indeterminate story world. Chi square tests revealed no significant results for the outcome of the problem stories by group ($X^2(2)= 4.38$, $p=0.11$), grade ($X^2(2)= 2.33$, $p=0.31$), or gender ($X^2(2)=2.29$, $p=0.32$).

An interrater reliability check was conducted on the PRO scoring. The two raters agreed on 0.95 of the levels assigned.

Family Story

The family story task was scored for the structural level in participants' interpretation of the stories, and for the purpose of the family story, i.e. whether the subject believed the story was told to them for entertainment, teaching, or for knowledge about themselves or a family member.

Developmental Analysis of Intentional and Interpretive Thought

Stories were scored by assigning a structural score from 3 to 7 for each question following the story, the highest level achieved in the subject's answers was then used as the overall score for the task. A gender by grade ANOVA was conducted, revealing significant differences between the grade 7 students and grade 4 students ($F(1,89)= 32.09$, $p<0.001$), with grade seven participants scoring higher than grade four participants. This is consistent with earlier work that showed that interpretive thought is seen to emerge at age twelve (McKeough et al., 1996). No significant differences were found between genders ($F(1,89)= 3.57$, $p=0.062$). The grade by gender interaction was not significant ($F(1,89)= 0.60$, $p=0.44$). The means for each grade are presented in Table 4.17.

Table 4.17

Means and Standard Deviations for the Interpretation of Family Story

Grade	Gender	Mean	Standard Deviation
Grade 4	male	3.8	0.707
	female	4.24	0.663
Grade 7	male	4.864	0.774
	female	5.048	1.024

Scores for these participants ranged from level 3 (age 8) to level 7 (age 18). The frequencies of the levels scored for both grades are presented in Table 4.18.

Table 4.18

Frequencies by Grade of Family Story Interpretation Levels

Level	Grade 4	Grade 7
Age 8	11	0
Age 10	28	7
Age 12	10	24
Age 14	1	7
Age 18	0	2

What follows are examples of stories scored at the most typical levels in this sample: level 4 (age 10) and level 5 (age 12).

Level 4: Age 10. Level 3 stories are typified by the use of a simple social judgment/rule, simple morals, and reporting mental states that are implied by the story.

One day my mom told me that when my brother was little he always use to put his foot down the toilet. One day my brother put his foot down the toilet stuck. So my dad had to unscrew the toilet and take him outside, so he tried to pull on his leg so we had to break open the bottom of the toilet. Just then his foot came out. And his foot was fine. The End.

1. What is the most important idea in the story?

"To unscrew the toilet and take it outside."

2. Who told you the story?

"My mom."

3. Do you think she was trying to teach you something or trying to give you a message?

Yes "Do not stick your foot down the toilet."

4. Does the story tell you anything about yourself or other people?

Yes "We helped him get out."

5. Has hearing the story ever influenced the way you have acted or thought?

Yes "We got my brother out of the toilet."

6. Has there ever been a time when thinking about the story helped you in some way, maybe to understand something or to figure something out?

No "I don't stick my foot down the toilet."

7. Overall, what does the story mean to you?

"Just a story that my mom tells."

The nature of the answers for this story are intentional in structure, the author states simple rules ("Don't stick your foot down the toilet.") and applies them in a very literal sense (the story does not help him because he does not stick his foot down the toilet).

Level 5: Age 12. It is at age 12 that we expect to see the emergence of interpretive thought. Level 5 stories are elaborated on by generalizing a trait that is not implicit in the story, extending the story moral to other situations, or referring to a mental state not arising directly by the story. Consistent with McKeough et al. (1996), participants in grade 7 showed an emergence of interpretive thought.

> My story is about when my mom met my dad. My mom's brother was her best friend since they were a year apart. My uncle was always one of the popular ones and that's how he met my dad. They were playing broomball in Nova Scotia and became friends. Then they were playing baseball and my uncle introduced them to each other and my mom thought he was such a dork! He came over to their house all the time and my mom just gradually fell in love with him and then he popped the question and now 19 years later they have great jobs, two wonderful children and my mom still thinks he's a dork. The End.

1. What is the most important idea in the story?

   "How my parents met."

2. Who told you the story?

   "My mom told me the story."

3. Do you think she was trying to teach you something or trying to give you a message?

   Yes "Yes because she was saying if you meet someone and you don't like them at first, wait because they might grow on you."

4. Does the story tell you anything about yourself or other people?

   Yes "Yes it tells me my dad was a dork."

5. Has hearing the story ever influenced the way you have acted or thought?

   Yes "It's influence me to always give people a chance."

6. Has there ever been a time when thinking about the story helped you in some way, maybe to understand something or to figure something out?

> Yes "When this girl was different but I got to know her and now we are friends."

7. Overall, what does the story mean to you?

> "The story means to give people a fair chance."

In this story the shift to interpretive statements can be seen to emerge. The author generalizes past the story ("to always give people a chance"), and she is able to apply the moral to other situations.

An interrater reliability check was conducted on the structural scoring. The two raters agreed on 0.75 of the levels assigned.

Analysis of Story Purpose

As mentioned above, family stories were scored for the purpose of the story, or what the participants' understanding of why the story was shared with them. Scoring was based on how the subject responded to question #3:

> "Do you think he/she was trying to teach you something or trying to give you a message?" Yes or No.
>
> "If YES, what was he/she trying to teach you and why?"
>
> "If NO, why did he/she tell you the story?" Three types of stories emerged: teaching, entertainment, or self/family knowledge.

Many of the stories could be interpreted as being for more than one purpose. For example, the sample twelve-year-old story was about the way the subject's parents met. In response to question # 3 the subject could have said that the story's purpose was to know how her parents met, or that it was told because it was funny. In some family stories a moral or history was shared, but the subject did not report it in answer to the

question. To avoid assuming the child had interpreted the story as the researcher saw it, the purpose was assigned based on what the subject reported it to be in question # 3.

Chi-square tests revealed that the aggressive group declared teaching as the purpose of their family story more often than the non-aggressive group ($X^2(2) = 6.12$, $p=0.047$). Significant results were also found with respect to gender, females were more likely to report that the story was for teaching a lesson, while males were more likely to report that the story purpose was to share family or personal knowledge ($X^2(2) = 6.44$, $p=0.040$). No significant differences were found between the grade 4 and grade 7 groups ($X^2(2)= 1.71$, $p=0.43$). Results of the significant Chi-square tests are presented in Tables 4.19 and 4.20.

Table 4.19

Crosstabs Table: Family Story Purpose by Group

	Non-Aggressive	Aggressive	Row Total
teaching	19 32.8	17 56.7	36 40.9
entertainment	17 29.3	3 10.0	20 22.7
self/family knowledge	22 37.9	10 33.3	32 36.4
Column Total	58 65.9	30 34.1	88 100.0

Table 4.20

Crosstabs Table: Family Story Purpose by Gender

	Female	Male	Row Total
teaching	22 51.2	14 31.1	36 40.9
entertainment	11 25.6	9 20.0	20 22.7
self/family knowledge	10 23.3	22 48.9	32 36.4
Column Total	43 48.9	45 51.1	88 100.0

An interrater reliability check was conducted on the family story purpose scoring. The two raters agreed on 0.89 of the levels assigned. Examples of the different types of family story purpose are presented below, at both grade levels.

Examples of Family Stories for Teaching.

Grade 4

Recall the above story about the little brother sticking his foot down the toilet. This story is an example of a family story with a teaching purpose. The subject responded, YES to question #3 "Was she trying to teach you something, or trying to give you a message?". The subject gave a simple social rule: "Do not stick your foot down the toilet".

Grade 7

The above grade 7 story about how the author's parents met is another example of a story told for the purpose of teaching. At the 12 year old level, the subject also responds with a social rule, but generalizes beyond the story:

3. Do you think he/she was trying to teach you something or trying to give you a message? YES.

"because she was saying if you meet someone and you don't like them at first, wait because they might grow on you".

Examples of Family Stories for Entertainment.

Grade 4

In this story the subject does not see any lesson in the story, just it's entertainment value.

My dad and my Grandpa both told me a long long time ago my auntie Kelly had 4 chickens living in her back yard when she was 9.

3. Do you think he/she was trying to teach you something or trying to give you a message? NO.

If NO, why did he/she tell you the story?

"he thought it was funny"

Grade 7

When I was little my Mom said that I used to watch her clean my cloth diapers in the toilet. She used to wash them in the toilet then take them out, so I used to copy her. The only problem was that I forgot to take the diapers out of the toilet before I flushed. My Mom said that through an entire year we had a plumber in quite a bit. We went through a lot of diapers.

3. Do you think he/she was trying to teach you something or trying to give you a message? NO.

If NO, why did he/she tell you the story?

"Because it was funny".

Examples of Family Stories for Personal/Family Knowledge.

Family stories for personal or family knowledge share with the child what he or she was like when they are younger, or about the past of his or her relatives. Such stories lend a richness to one's heritage and contributes to a sense of identity.

Grade 4

My dad told me how my parents met each other. My parents both worked in a clothing store called Hutsons. Because they were both cashiers at the store. They started off to be friends. They told each other about where they were born and where they lived. It turned out to be that when they were born they lived pretty close to each other. My mom was born in Orila and my dad was born in London, Ontario. So they became to be good friends. Then one day my dad asked my mom will you marry me? and she said yes. Then 2 years later they had me.

3. Do you think he/she was trying to teach you something or trying to give you a message? NO.

If NO, why did he/she tell you the story?

"Because I guess he just wanted me to know how he met my mom".

Grade 7

My dad was adopted from my grandparents. They said that they were on the list of adopting someone for seven years. When they got my dad they said he was bruised up, not taken care of very well. When they first got him his name was Richy, but they decided to call him Robert. After about a year of having him, my dad was back in perfect shape. Which meant he was a clean boy, had enough food, and was well care for. The only thing that my dad/grandparents found hard was whenever he asked to know something about the past, they couldn't answer. I think that my dad was happy when he got adopted, because then he would be treated nice. And I think my grandparents were happy, so then they at least had a children. Ever since then my dad has been a very happy man, same with my grandparents.

3. Do you think he/she was trying to teach you something or trying to give you a message? NO.

If NO, why did he/she tell you the story?

"So we could know that my dad was adopted and what happened".

Conflict Story

Conflict stories were scored two different ways: structurally and the interpretation of the story. The structural scoring included the T-unit analysis of stories, and the T-unit level for question #2. The interpretation of the stories included the PRO score, emotional congruity in question #2, generation of prosocial alternatives, and the appropriate assigning of blame.

Developmental Analysis of Intentional and Interpretive Thought

Personal conflict stories were analyzed by breaking each story into terminal units (T-units) (Hunt, 1977), as described in the Chapter 3. Each T-unit was scored as being action/descriptive, intentional, or interpretive. See Table 3.3 for the scoring criteria. Given the nature of the instructions ("I want you to write a story about a time when you or one of your classmates were involved in a problem situation at school that needed to be solved...") it became apparent that T-units that would be considered intentional were being used as descriptive statements to establish the setting of the short story. For example, a story might begin: "The problem was Joe and Ben were fighting". According to the scoring criteria "fighting" would be considered an action implying a mental state, however, it seemed that these kinds of opening statements were being used more to describe the setting of the story, so for this task were scored as a descriptive T-unit. If the opening statement included a phrase such as "my friend Ben" (social judgment), or was in the first person, "I was fighting with Tim" (implying a mental state), the T-unit was scored as intentional. Examples of Personal Conflict Stories and the follow-up questions are presented in Table 4.21.

T-units were looked at in two ways, by raw score and percentage. This allowed a comparison of how many T-units of each kind were used in a story versus what proportion of the story was descriptive, intentional, or interpretive. The two-way gender by grade ANOVA revealed the same results for both number and percentage scores. Discussing the proportion of T-units that make up the story is conceptually easier to follow, therefore only the percentage results will be presented.

In grade 7, participants' interpretive thought should be emerging (McKeough, 1992). Consistent with expectations, the two-way gender by grade ANOVA revealed that grade 7 participants included significantly more interpretive T-units in their stories than

Table 4.21

Examples of Personal Conflict Stories and Follow-up Questions

The following stories have been broken down into T-units. Action/descriptive T-units are in plain text, intentional T-units are in italics, and interpretive T-units are underlined.

Grade 4 Girl (Non-Aggressive)

One day at school we had to do a song with are recorder *and Rachelle wanted to do the same song is me/ so I let her have the song she wanted* and I pick another song to do.

2. When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thought and feelings then.

"I felt good because I gave her the song".

3. Do you think any person was to blame for this situation?

No

7. Try to think of another way the problem could have been handled.

"Rachelle could of let me have the song".

Grade 4 Girl (Aggressive)

In the winter Nikki, Marjorie and Melody were walking around telling little kids what to do like big shots, and I told them not to *and melody called me a name* so I walked away. *At the end of the day we apologized/ and we were friends again.*

2. When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thoughts and feelings then.

"I felt like going up to them and kicking there ass, but I didn't".

3. Do you think any person was to blame for this situation?

Yes "Melody".

5. Was anyone else to blame?

No

7. Try to think of another way the problem could have been handled.

"Just call Melody a name back".

Grade 7 Girl (Non-Aggressive)

One time at school, my friend needed money really bad. *At the end of the day, my friend noticed the $5.00 bill on our teachers desk.* My friend took the money and left. *The next day our teacher noticed that her money was missing. My friend didn't confess. But eventually she was caught stealing from the teacher again.* My friend got in a big mess with her teacher and her friends. No one could trust her.

2. When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thoughts and feelings then.

"I knew that taking the money was wrong but I didn't tell her to stop because she would get mad at me".

3. Do you think any person was to blame for this situation?

Yes "My friend".

5. Was anyone else to blame?

Yes "Me".

7. Try to think of another way the problem could have been handled.

"I should have told her not to do it. even if she got mad at me, at least I tried to stop her. I felt bad just letting her do it".

Grade 7 Boy (Aggressive)

It was the first day of school in Grade 2./ My friend Kiel just came to ask us to play soccer/ *and Kiel started making fun of me. So I punched him in the back of the head./ When he fell on the ground I repeatedly kicked him in the stomach.* To this day he no longer makes fun of me. *Shortly after Idin make fun of me.* Idin was the only one doing it. *I taught him a lesson to.*

2. When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thoughts and feelings then.

"I felt happy because I taught him a lesson for calling me names".

3. Do you think any person was to blame for this situation?

Yes "Kiel"

4. Was anyone else to blame?

Yes "Idin".

7. Try to think of another way the problem could have been handled.

"Telling the teacher instead of taking matters into my own hands".

grade 4 participants (F(1,93)= 9.88, p= 0.002). Grade 4 participants included significantly more intentional T-units than Grade 7 participants (F(1,93)=7.14, p= 0.009). There were no significant differences between grades in the percentage of descriptive T-units used the stories (F(1,93)=0.54, p= 0.46). The interaction between gender and grade for percentage of action/descriptive T-units was significant (F(1,93)= 4.86, p= 0.030). Girls used action/descriptive T-units more often in grade 7 (39.4%) than in grade 4 (25.6%), while boys used more action/descriptive T-units in grade 4 (40.3%), than in grade 7 (33.4%). The mean percentage of T-unit type used in grade 7 and grade 4 personal conflict stories are presented in Table 4.22.

Table 4.22

Means and Standard Deviations for Percentage of T-unit Type

Grade	Gender	actn/dscriptve	sd	Intentional	sd	Interpretive	sd
four	male	40.3	26.9	59.4	27.3	0.357	1.89
	female	25.6	21.3	72.4	19.9	2.05	5.2
seven	male	33.4	21.7	52.5	21.9	14.15	27.75
	female	39.3	20.2	53.6	23.6	7.03	11.99

An interrater reliability check was conducted on the conflict story developmental scoring. The two raters agreed on 0.96 of the levels assigned.

Developmental Analysis of Question # 2

Question # 2 asked participants the following: "When you saw the problem situation happen or when you heard about it, what did you think and feel? Try to think back to the situation and tell as much as possible about your different thoughts and feelings then". This question enabled the researcher to get a sense of the complexity in thought when considering the situation.

Question #2 was scored as the stories were, using T-units. Instead at looking at the proportion of the different types of T-units, the highest level used in the answer was assigned as the score. Therefore, question #2 was scored as either descriptive (1), intentional (2), or interpretive (3). The gender by grade ANOVA revealed a shift to more

interpretive type thought in the grade 7 participants ($F(1,90)$,=15.4, $p<0.001$). No significant difference was found for gender ($F(1,90)= 2.59$, $p=0.11$), or for the interaction between grade and gender ($F(1,90)= 0.34$, $p=0.56$). Means for the T-unit scores by grade are presented in Table 4.23.

Table 4.23

Means and Standard Deviations for Question #2 Developmental Scores

Grade	Gender	Mean	sd
Four	male	2.04	0.34
	female	2.24	0.44
Seven	male	2.46	0.51
	female	2.55	0.51

In the sample stories presented in table 4.21, both grade 4 participants used intentional thoughts to describe their feelings about the situation. For example, "I felt happy because I gave her the song" describes a first order mental state. Both grade 7 participants gave answers that were interpretive in nature. For example, "I felt happy because I taught him a lesson for calling me names". Here the author uses justification in his reasoning, he felt happy because of what he did.

An interrater reliability check was conducted on the question #2 developmental scoring. The two raters agreed on all of the levels assigned.

Question #2: Congruency of Feelings to Conflict

Question #2 was also analyzed for whether or not participants had thoughts or feelings about what happened that were congruent with the situation. Categories of responses were rated as either "adaptive" or "maladaptive".

Chi-square tests revealed significant differences between aggressive and non-aggressive groups ($X^2(1)= 7.33$, $p=0.01$). Aggressive participants responded to question #2 in a maladaptive way 27.3% of the time, while non-aggressive participants responded in a maladaptive way 6.8% of the time. No significant differences were found between grades ($X^2(1)= 0.002$, =1.00), or gender ($X^2(1)= 1.77$, $p=0.24$).

In the sample stories in Table 4.21, the nature of the responses of the aggressive participants were clearly qualitatively different from those of the non-aggressive participants. While the non-aggressive participants felt good for doing something good (e.g., sharing), aggressive participants felt happy for acting aggressively, or some did not feel anything at all (e.g., "I kicked him. I didn't feel anything.").

An interrater reliability check was conducted on the congruency of feelings to conflict scoring. The two raters agreed on 0.96 of the levels assigned.

PRO Analysis

The Conflict Story task was scored for what kind of endings participants reported in the conflict situation. Outcomes could be scored as: "adaptive", "maladaptive", or "indeterminate/uneven". The same scoring criteria was used as in the Problem Story task. No significant differences were found by grade ($X^2(2)= 2.78$, $p=0.25$), gender ($X^2(2)= 0.55$, $p=0.76$), or group (aggressive/non-aggressive) ($X^2(2)= 0.73$, $p=0.69$).

An interrater reliability check was conducted on the conflict story PRO scoring. The two raters agreed on 0.91 of the levels assigned.

Assignment of Blame

In order to investigate whether there would be differences in how aggressive and non-aggressive children assigned blame to the conflict situations, the following questions were asked:

3. Do you think any person was to blame for this situation?

YES NO

4. If yes, who? _____

Mark on the scale below how much you think this person was to blame:

0%	25%	50%	75%	100%
(none)	(a little)	(half)	(a lot)	(totally)

5. Was anyone else to blame? YES NO

6. If yes, who? _____

Mark on the scale below how much you think this person was to blame:

0%	25%	50%	75%	100%
(none)	(a little)	(half)	(a lot)	(totally)

It was evident from looking at the completed protocols that the children were not clear on the meaning of percentages, or else they ignored the scale completely, therefore the weighting of blame was not used in the analysis. For example, a subject may have indicated that person A was 75% to blame, while person B was 50% to blame.

Blame was coded as either "appropriate" or "inappropriate" and was based on the story the subject wrote and whether or not they were able to identify the contribution that they themselves, or the protagonist might have made in creating the conflict situation. Chi-square tests revealed no differences in the appropriateness of blame for either gender ($X^2(1)= 3.27$, $p=0.10$) or grade ($X^2(1)= 0.52$, $p=0.54$). Significant differences were found between the aggressive and non-aggressive groups ($X^2(1)= 10.56$, $p=0.001$). Aggressive participants were more likely to assign blame inappropriately in their conflict situations (62.9%) than non-aggressive participants (29%). Complete results of the chi square for assigning blame are presented in Table 4.24.

Table 4.24

Crosstabs Table: Assignment of Blame

Blame	Non-Aggressive	Aggressive	Row Total
appropriate	44 71.0	13 37.1	57 58.8
inappropriate	18 29.0	22 62.9	40 41.2
Column Total	62 63.9	35 36.1	97 100.0

As shown in Table 4.21, both aggressive participants did not identify any contribution of their own to the conflict situations that they described, even though both participants actually instigated the physical aggression in the stories. The non-aggressive

grade 4 subject shared a story that did not require her to assign blame, while the non-aggressive grade 7 subject reported that she felt partly to blame, by reason of not acting, in a situation in which she did not even play a part.

An interrater reliability check was conducted on the conflict story assignment of blame scoring. The two raters agreed on 0.87 of the levels assigned.

Generation of Prosocial Alternatives

In question #7 participants were asked: "Try to think of another way the problem could have been handled." If participants found a way to avoid the situation, or to amend the conflict afterwards, the answer was rated "appropriate." If participants came up with another aggressive alternative, or gave an appropriate response, but indicated that it would not work, the answer was rated as "inappropriate". No significant differences were found between grades ($X^2(1)= 0.18$, $p=0.76$) or genders ($X^2(1)= 0.013$, $p=1.00$), and no significant differences were present between the aggressive and non-aggressive groups ($X^2(1)= 1.15$, $p=0.34$). Most aggressive participants were able to generate appropriate alternatives to their conflict situations.

An interrater reliability check was conducted on the conflict story generation of prosocial alternatives scoring. The two raters agreed on 0.87 of the levels assigned.

Summary

As predicted, structural scores showed significant developmental differences between grade 4 and grade 7 participants on all three tasks. Story content analyses showed significant differences between aggressive and non-aggressive participants on Family Story Purpose; and Conflict Story: assigning blame, and congruency of feelings to conflict. No significant differences were found on the story content analyses of the PRO analyses for Problem Story and Conflict Story. There were no significant differences in the generation of alternative solutions. Females scored significant higher than males on

the developmental level on Problem Story. The implications of these findings will be addressed in the Discussion chapter.

Chapter V

DISCUSSION

In the present exploratory study, three narrative tasks were analyzed comparing aggressives with non-aggressives, grade 4's with grade 7's, and males with females. The research questions explored regarding grade, group, and gender differences were based on reviewed literature of aggression, and narrative development in children.

In this chapter, findings are discussed by beginning with the results of the CPBCC, followed by discussion of the comparisons investigated in the study: grade, group, and gender. Limitations of the study, practical implications, and implications for future research are also discussed.

Caprara and Pastorelli Behaviour Checklist for Children: Teacher's Version

The results of the analysis of the CPBCC indicated that there are significant differences in the mean scores between both grades and genders. Overall, males were scored significantly higher than females, and grade sevens were scored significantly higher than grade fours on the expression of aggressive behaviour. In grade four there was no significant differences between males and females, while in grade seven males were again significantly higher on the aggressive scale. Conversely, females scored significantly higher on the expression of prosocial behaviour than males at both grades. This finding is consistent with gender stereotypes that depict females as being more nurturing and helpful than males (Eisenberg et al., 1996).

Crick and Grotpeter (1995) reported that females are less likely to use overt aggression than males. Given that the majority of the questions on the aggression scale of the CPBCC relate mostly to overt types of aggression, this would explain why the mean scores on the aggressive scale were higher for males than females. It is not clear why this pattern was not seen in the current grade four sample. There is some evidence that girls may engage in just as many overtly aggressive acts as males, but do not let adults see them

(Peplar & Craig, 1995). It is possible that by grade seven, females are better able to hide their behaviour from the adults around them. Another explanation may come from the strong gender stereotypes entrenched in our culture. Research indicates that knowledge of gender stereotypes increases with age (for a review, see Eisenberg, Martin & Fabes, 1996). By grade seven, females may have more fully integrated gender stereotypes into their identities, and their understanding of the social world.

A similar explanation as to why the grade four girls did not differ from grade four boys on their mean scores of aggressive behaviour can be found in Brown and Gilligan (1991). Brown and Gilligan (1991) described through a case example how females "lose their voice" as they get older. Females lose the ability to express their beliefs and identities in an assertive and assured manner. Their "voices have been trivialized, dismissed, or devalued" by the culture of convention (Brown & Gilligan, 1991, p. 56).

The current findings of grade sevens expressing higher levels of aggressive behaviour than in grade four is inconsistent with past research. Research has indicated that aggression is typically highest early in life and decreases during the adolescent years (Cairns, Cairns, Neckerman, Gariepy, & Ferguson, 1989; Loeber, 1982). Given that several of the items were dropped from the checklist, it is possible that the adjusted scale of the CPBCC was measuring a specific grouping of aggressive behaviour that is more prevalent in older children. Further research with this instrument is needed to more fully understand these results.

Grade Differences

Developmental Analyses

It was predicted in the current study that the developmental level of the grade four group would be significantly lower than the grade seven group on all three tasks. The findings supported this prediction on all three tasks. This is consistent with past research that has shown that narrative structure changes in ways that mirror the stages and

sub-stages of Case's theory (1992) (McKeough, 1992; McKeough et al., 1994; McKeough et al., 1996).

In the structural analysis of the Problem Story task and the interpretation of the Family Story task, the grade seven group performed, on average, one level above the grade four group on the developmental scoring scales. This difference illustrates the movement to interpretive from intentional thought by the age twelve years. The grade seven group went beyond describing the events and stating the mental states of their characters, to describing the inner psychological world of their characters, and interpreting the situations they describe.

The T-unit analyses of participants' Conflict Story task and their answers to question #2 ("Think back to the situation, what did you think and feel?") were similar. A significant increase in the number of interpretive T-units used was seen in the grade seven group, as compared to the grade four group. A pattern is seen to develop where children in early adolescence begin to interpret their social world and relay that knowledge in the construction of their stories. This pattern is consistent with the findings of McKeough et al. (1996) which documented the emergence of interpretive thought in early adolescence across narrative tasks.

The developmental increase across tasks can be seen as evidence of an increase in processing capacity which allows larger chunks of information to be processed, thus allowing more complex thinking and more complex stories (Case, 1992; McKeough, 1992; McKeough et al., 1994; McKeough et al, 1996). Experience and the reflection on that experience, which is culturally determined, allows children to generate stories that become increasingly psychological. The stories move from a folk tale structure, where a hero overcomes multiple obstacles to reach his or her goal, to a structure akin to the modern short story, where characters' inner worlds are explored (McKeough, et al., 1996).

PRO and Purpose Analysis

The PRO analysis was completed on both the Problem Story and Conflict Story tasks. No significant differences were found for either task, indicating that the grade seven students were just as likely to write stories reflecting an adaptive story world as the grade four students. Similarly, the grade seven students were just as likely to write family stories for personal/family knowledge, entertainment, or teaching purposes as the grade four students.

Interpretation of Conflict

The investigation of the interpretation of conflict was explored to better understand the ways that aggressive children understand and interpret negative social situations compared to non-aggressive children. Children are able to feel badly, and understand how to assign blame in conflict situations by grade four and this knowledge would not be expected to change by grade seven. Consistent with this, no significant differences were found between grades in the assignment of blame, generation of alternative resolutions, and the congruency of feelings to the conflict situation.

Group Differences

Developmental Analysis

The nature of the continuum of aggression is not well understood. It is known, however, that the best predictor of violence is past aggression (Loeber & Hay, 1997). Thus, understanding of the differences and similarities between aggressive children in the classroom and children who have been diagnosed with related disorders, such as conduct disorder becomes important. Past research has shown that there are cognitive developmental differences between severely aggressive and non-aggressive children. Crick & Dodge (1994) described what they called the "developmental lag theory," which stated that maladjusted children are cognitively delayed compared to their peers. This pattern was also found by McKeough et al. (1994) who found that boys with conduct

disorder, oppositional defiant disorder, or both performed one structural level lower than non-aggressive boys on the Problem Story task. In a follow-up study, Howard (1994) found that the same sample of behaviorally aggressive boys remained one structural level below their peers after a two year time period. Given these findings, the current study investigated whether or not an aggressive group still integrated in the school system would also show signs of being developmentally below their peers on the narrative tasks, suggesting a progression in cognitive delay. No significant differences were found in this sample, however, indicating that perhaps more severe behavioural problems need to be present to have this developmental lag. Past research has indicated that children who have severe behaviour problems do tend to have similar backgrounds of maltreatment, including abuse and neglect, as well as inconsistent parenting styles (Smith & Thornberry, 1995). Consistent with such unstable homes are families that do not spend a lot of time discussing and reflecting on the psychological motivation of people, nor of the psychological impact one's actions can have on another. It is likely that the majority of the aggressive children in the current sample did not come from such impoverished environments, and thus are not functioning cognitively below the non-aggressive group. A clear picture of the continuum of aggression remains elusive. Further research that explores more fully the precursors of the developmental lag would help to develop more efficient, including preventative, types of interventions.

PRO and Purpose Analyses

PRO

McKeough et al. (1994) and Howard (1994) both found significant differences in the PRO analysis of the Problem Story task in a clinical sample of boys. Their results indicated that aggressive boys were significantly more likely to write stories with maladaptive or indeterminate/uneven outcomes than non-aggressive boys. The current

study found no significant differences in the PRO analysis of either the Problem Story or the Conflict Story tasks.

Yussen and Ozcan (1996) investigated children's knowledge and understanding of narratives. They found that fourth and sixth graders preferred positive outcomes for the good characters and negative outcomes for bad characters which these authors suggest reflects the gradual development of the *just world belief* (that good things happen to good people). It is possible that the clinical population investigated by McKeough et al. (1994) and Howard (1994) may have described a more realistic story world by writing stories resulting in a positive outcome for the character with whom they identified. In contrast, the current sample described a prosocial story world, where good behaviour is rewarded, while bad behaviour is punished.

Another possible explanation for the current findings arises from McAdams (1993). He discussed how the role of the fairy tale influences children in their world view. The ending "and they lived happily ever after", encourages the child to believe that everything will be all right even when the odds are against them. The child internalizes this belief, thereby giving themselves the courage to face the scary things in life, such as separation and independence (Bettelheim, 1974). Perhaps the positive outcomes of the non-clinical sample of the current study is reflecting this inner belief that everything will work out in the end. It may take more serious difficulties in these young lives to be able to disrupt the happy endings of their stories.

Purpose

Family story purpose was intended to investigate differences in how participants understood the stories their family members shared with them (i.e., why they were told the story). Significant differences were found between the aggressive and non-aggressive groups. Interestingly, 56.7% of the aggressive group indicated that their family story was for teaching purposes, while the non-aggressive group responded fairly evenly among the

three categories. It is possible that the aggressive children are more likely to be lectured, or taught a lesson by adults, influencing their schema of adults having a teaching role, or perhaps their experiences with adults have made them more adept at recognizing the lesson, or moral imbedded in a story. Future research is needed to better understand the differences in how aggressive children interpret family stories.

Interpretation of Conflict

Assignment of Blame

How the aggressive participants interpreted who was at fault in conflict situations, compared to non-aggressive participants was also of interest. Past research has indicated that aggressive children hold a hostile attribution bias causing them to interpret neutral situations as hostile, and then viewing their aggressive action as necessary (Crick & Dodge, 1994). Current findings support past research, as the aggressive group was significantly more likely than the non-aggressive group to interpret fault inappropriately. The aggressive group assigned blame inappropriately to their conflict situations 62.9% of the time. These results suggest that the aggressive group does hold a hostile view of social interaction, thereby justifying the aggressive acts. It is interesting that these findings did not extend to the PRO analysis. Even though aggressive children are more likely to see aggressive action as justified, or refuse to acknowledge the protagonists role in the conflict, the aggressive participants in the current study still described a story world where maladaptive behaviour is punished.

Generation of Prosocial Alternatives

Whether or not aggressive children would be more likely than non-aggressive children to have difficulty generating prosocial alternatives to conflict situations was also investigated. Past research has found that aggressive children have more difficulty generating prosocial alternatives, and are able to generate fewer alternatives in general

than their non-aggressive peers (Crick & Dodge, 1994). Contrary to past findings, there were no significant differences in the generation of prosocial alternatives in the present sample.

Crick and Dodge (1994) postulated that cognitive processing is "highly automated" (p. 79). In other words, when the child is in the situation, encoding cues and assessing responses, little conscious processing is contributing to the response decision and enactment. It is possible that given the time to think back on the situation, they are just as likely as non-aggressive children to be able to generate prosocial alternatives. It is when they are in the moment that they default to an aggressive response.

The generation of prosocial responses on this task reflects the participants' performance in the PRO analyses. The aggressive group described a prosocial story world in both their Problem Story and Conflict Story tasks. Adaptive outcomes generally resulted from utilizing prosocial responses to the problem, resulting in a positive ending. Conversely, antisocial responses typically resulted in a negative ending. As this non-clinical sample created stories with adaptive outcomes, it follows that they are also capable of producing other prosocial alternatives.

Two participants in this sample suggested prosocial alternatives, but then indicated that they would not work. Both of these participants were in the aggressive group. This is consistent with Ollendick (1996) who found that aggressive children did believe that they could respond in a prosocial manner to a described conflict, but did not believe that such responses would work.

Congruency of Feelings to Conflict

In order to gain a better understanding of how aggressive participants viewed conflict situations, question #2 of the Conflict Story task asked participants to think back to the situation and remember what they were thinking and feeling at the time. Whether or not the feelings participants reported were congruent with the conflict they described

was investigated. The aggressive group was significantly more likely to have feelings that were incongruent with the situation described. Incongruency of feelings was labeled as maladaptive. Perhaps these maladaptive feelings reflect their *just world belief* (Yussen & Ozcan, 1996). For example, recall the sample conflict story in Table 4.9, the aggressive grade 7 boy felt "happy because I taught him a lesson for calling me names". In other words, people who do bad things (call names) get punished. Or these findings may reflect a belief that aggression is a successful way of establishing status or interacting with peers (Shields & Cicchetti, 1998). Aggressive actions are also associated with attenuated empathy and poor emotional understanding (Casey, 1993), which may reflect differences in aggressive children's representation of emotions in conflict situations.

Gender Differences

Developmental Analyses

Past research has shown that males tend to score significantly lower structurally on their narrative tasks than females (Genereux, 1998). Consistent with these findings, the current study showed a gender difference in participants' structural scores on Problem Story task. However, this finding did not extend across tasks, as there were no gender differences in the developmental level of either the Conflict Story or Family Story task. Thus, it appears that the plot structure of the stories that males write are marginally less (0.4 of a level) developmentally complex than the plot structure of the stories females write. Perhaps this finding reflects the findings by Linn and Hyde (1984) which indicated that females outperform males on tasks where the verbal content is concerned with aesthetics, while males outperform females where the verbal content is focused on science and practical affairs. It is therefore possible that the scoring criteria for problem story penalizes the male participants by not recognizing the types of stories boys typically write (e.g., adventure and action stories). The scoring criteria for this task may need to be modified in order to appreciate fully the development of conceptual complexity for males.

The gender by grade interaction effect was significant for the percentage of action/descriptive T-units used in the Conflict Story task. Females used more action/descriptive T-units at the grade seven level than at the grade four level, while males used more action/descriptive T-units at the grade four level than at the grade seven level. Females give more descriptive detail of the setting in the conflict stories they write at the grade seven level (e.g., "This story happened last month in my class", "During gym we were playing a game called Bennet Ball"), whereas boys tended to begin their stories with intentional T-units (e.g., "Last month me and my best friend were fighting").

PRO and Purpose Analyses

Gender differences in the adaptiveness of the story world participants created was investigated. No significant results were found between gender on the PRO analyses of the Problem Story and Conflict Story tasks.

Family Story purpose was also examined for gender differences. Females were significantly more likely to interpret their stories as being for teaching purposes (51.2%), while males were more likely to interpret their stories as being for personal knowledge (48.9%). It is difficult to determine what the reason for this difference may be. Tannen (1990) investigated differences in discourse between same sex diads. Different patterns were found in the way the boys and girls conversed with their best friends (Tannen, 1990). It is possible that such differences in communication style extend to the way boys and girls interpret their communications. It is also possible that family members choose to share different stories with male children than they do with female children.

Another possible explanation stems from the way the two genders are socialized. Females are expected to be generally more nurturing towards others than males (Brown & Gilligan, 1991). As females internalize the gender roles of the dominant culture they may be more likely to interpret a lesson in the stories their family shares with them that are

consistent with societal expectations. It is also possible that family members are more likely to share stories that impart the wisdom of behaving in gender typical ways.

In chapter IV it was explained that some of the stories could be interpreted as having more than one purpose, because of this purpose was scored according to how participants answered question #3. Future research could explore this difference further by looking at the stories themselves to see if the difference lies in the family stories males and females choose to write, the stories they are told, or in their interpretation of them.

Interpretation of Conflict

Gender differences were explored in the interpretation of conflict. There is some evidence that females generate more prosocial themes in narrative tasks (Zahn-Waxler et al., 1996), as well as evidence that females are generally less overtly aggressive than males (Grotpeter & Crick, 1996). However, no significant differences were found in the assigning of blame, generation of prosocial alternatives, or congruency of feelings to conflict in the interpretation of conflict situations.

Summary

This study was a part of a larger cross-cultural study comparing aggressive and non-aggressive children at the grade four and grade seven levels. The developmental progression of narrative structure was corroborated, with interpretive thought emerging at the grade seven level. Gender differences in plot structure were found in the Problem Story task, suggesting that plot structure tends to be slightly less complex in males than in females. Otherwise no other developmental differences were found between males and females.

Aggressive children did not differ from their non-aggressive peers structurally. Perhaps, a more serious history of maltreatment is necessary to cause delays in cognitive development. A history of maltreatement is not necessary for a child to develop serious

aggressive behaviours later in life, however. The interpretation of the family story purpose and conflict situations reflected group differences. Differences in the interpretation of the family story may indicate that aggressive children are more sensitive to the lessons implied by adults. The differences in the interpretation of conflict situations suggests that aggressive children view aggressive acts more favorably than non-aggressive children, are less likely to assign blame for the conflict appropriately, and may hold a hostile attributional bias. Thus, this non-clinical sample held some of the maladaptive interpretations of the world that clinically aggressive children do, but not others. Evidence of a developmental lag theory was lacking. If the findings do suggest a continuum of aggressive behaviour, the progression is not a clear one.

Practical Implications

The use of narrative in the helping professions holds exciting possibilities in both assessment and therapy. Research in narrative is providing a good basis for the use of a narrative approach in assessment (e.g., Buchsbaum et al., 1992; McKeough et al., 1994; Salatas Waters, Rodrigues, & Ridgeway, 1998). The current study contributes to the knowledge in this field in that evidence was found for the identification of a maladaptive view of personal interaction relayed through the stories aggressive children tell. Simple story telling tasks can provide a therapist with information on attachment (Oppenheim & Salatas Waters, 1995) and the representation of the self and others within the context of the therapy environment. Such tasks could then be repeated at pertinent points in the therapy to provide a rich source of information as to whether or not the child's view has changed as it is represented through his or her story.

Whether or not narrative tasks such as the ones used in the current study are ever integrated into the therapy process, the information gleaned from such studies offers the

practitioner important glimpses into the child's world. By looking at the story worlds described by children and understanding how aggressive children understand their social world and interpret conflict situations enables practitioners to design interventions with a clearer picture of how to relate to the child at his or her level of understanding, and what types of interventions would be most helpful at which stage of development. The secret to understanding and helping these children is locked in the child's interpretation of the social world. The investigation of narrative thought may provide the key that will provide children a way to communicate to the rest of the world what they need in order to heal themselves. "Narrative might well be considered a solution to a problem of general human concern, namely, the problem of how to translate *knowing* into *telling*" (White, 1981, p.1).

Limitations

The limitations to the current study are mostly related to sample size. A larger sample would have enabled me to use a 3 way ANOVA to analyze the results. As well, it would have enabled a comparison between group and grade (i.e., aggressive grade 4's to aggressive grade 7's). It is possible that, given the results found, a larger sample would have yielded significant results in certain areas. For example, the PRO analysis of the Conflict Story task may have shown greater differences if the cell size had been larger. The generation of prosocial alternatives to the conflict situation may have shown greater differences between aggressive and non-aggressive groups as well. Future research using a larger sample is warranted.

The CPBCC: Teachers' Version also presented a limitation. This study was the first time the CPBCC was used in the teachers' form in English. Teachers appeared to have some difficulty answering the questions, responding unknown to many of them. This resulted in the omission of several questions, as well as eliminating many potential

participants. One explanation for the problems teachers experienced may have been in the translation of the instrument. It is of interest to note that most of the items that were deleted asked the teacher to report on the participants inner states (e.g., "The student *likes* to fight."). Perhaps more work is needed on the phrasing of the English version (e.g., "The student appears to enjoy fighting."). Future research using this checklist should include a more well validated instrument along with it to get a better sense of the validity of the CPBCC. Instruments that make a distinction between overt, relational, and covert types of aggression may also be revealing.

As well as sample size and the sample selection using the CPBCC, another limitation of the sample is that there was no control for intellectual ability, or for the personal history of the participants. Knowledge of whether any participants had a background of maltreatment would have enabled further differentiation of the groups.

Limitations with respect to the narrative tasks are two-fold. The study was unable to control for the prior experience of the participants doing these types of tasks. Although effort was made to choose tasks that would be meaningful to all participants, the saliency of the tasks for the current sample could not be controlled for.

Implications for Future Research

The current findings open up many interesting possibilities to be explored in future research. One such area is gender differences. The finding that males report that their family stories are for personal/family knowledge, while females report that their family stories are for teaching cannot be explained by the current study. Future research could investigate differences in story content to determine whether the stories males are told are fundamentally different than the stories told to females, or if males interpret the stories differently than females due to the gender-related cultural context.

Another area for future research is the nature of the developmental difference between genders on Problem Story. Males scored significantly below females on the

developmental level of Problem Story. A content analysis of the differences in the stories females choose to write as compared to males may help to establish if the current scoring protocol penalizes males.

More information on how aggressive children see themselves and their social world compared to non-aggressive children is still needed. Future research with larger sample sizes and better defined typologies of aggression should investigate further the interpretation of conflict, as well as the interpretation of other diverse settings. Such research may reveal information about how aggressive children's thinking differs from non-aggressive children, and at what point does that thinking turn violent. In this way a better understanding of the continuum of aggression may emerge.

The findings do hold important practical implications, however. Understanding how aggressive children view social situations opens up avenues towards helping them to shift their negative biases in a more positive direction. Narrative process can illustrate children's life stories, enabling the re-authoring of lives, and reaffirming the belief in "happily ever after".

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APPENDIX A

Teacher Consent Form

I understand that students must have the permission of a parent or guardian in order to participate in the study conducted by Dr. McKeough entitled "Narrative Knowing: A Comparison of Behaviourally Aggressive and Non-aggressive Children". I understand that the results of this study will eventually be used in a comparison to an Italian sample.

I understand that I will rate each participant twice using the checklist provided by Dr. McKeough. I understand that these ratings will occur two weeks apart before the onset of the research activities. I understand that participants will work on 4 activities, three of which involve writing stories about "real life" events, and one of which is interpreting situations. I understand that participants will be seen in groups and that all activities will be written. I understand that all research activities will be conducted either by Dr. Anne McKeough or by a research assistant who is working under her supervision.

I understand that all activities will be carried out over the course of one month during the regular school periods at a time that is convenient to both students and me. I understand that the four activities will require a total of approximately 4 class periods of 55 minutes to complete. I understand that if I wish, I can use participants' written work as an alternative to some other similar class project which I have assigned. I understand that participation in the research will not produce risks greater than those experienced ordinarily in daily life.

I understand that participants may withdraw from the study at any time without penalty, if they so wish. I also understand that Dr. McKeough may end participants' involvement if it is thought to be in the best interests of the participants or the study as a whole.

I understand that every effort will be made to ensure that confidentiality is maintained. I understand that all data will be securely stored in Dr. McKeough's office at The University of Calgary and that data will be destroyed 3 years after completion of the analysis. I understand that the work students produce will be reported anonymously in academic presentations and reports. I understand that some of the students' work will be used by a graduate student for her Master's research. I understand that when written samples of student's work are presented, all identifying material will be removed.

I understand that I can contact Dr. McKeough at 220-5723 for further information about the study. I also understand that, if I have questions concerning the ethics review of this project or the way my students or I have been treated, I may contact Dr. Michael Pyryt (Chair, Faculty of Education Joint Ethics Review Committee) at 220-5626, or the office of the Vice President, Research at 220-3381.

I have been offered a copy of the research proposal and its details have been explained to my satisfaction.

I understand the involvement being requested of me in this study is completely voluntary and I agree to participate.

Date _____ Signature of Teacher _____

APPENDIX B

Parent Letter of Information

Dear Parent(s) or Guardian(s):

Over the last several years I have been studying the ways in which students' story comprehension and composition change throughout the grades. Now, I am attempting to determine if behaviour characteristics, such as aggressive behaviour, changes the way in which students view and perform these tasks. It is my intention to use this current study as a comparison to a similar group of students in Italy. I am requesting that your daughter/son take part in this work. If you agree to allow your child to participate, you will be asked to complete a short Parent Information Sheet. When doing research of this type, we need to know parents' occupation and level of education to ensure that our comparison groups have similar backgrounds.

Students who are selected will be rated by their teachers on a Behaviour Checklist to distinguish aggressive from non-aggressive students. Because our goal is to work with two narrowly defined groups within these two categories, not all students who are rated by their teachers will be required to complete the research tasks. The selected students will participate in 4 activities. All four of the activities are hand written (or typed, if the participant prefers). Three of the tasks are oriented towards writing a story about about "real life situations" that are familiar to young people. The final task involves interpreting every day situations. Participation in the activities will not produce risks greater than those experienced in daily life.

All activities will be carried out over the course of one month during the regular school periods at a time that is convenient to both students and teachers. All of the activities will be completed in a group setting with students working individually. Activities will require approximately 4 class periods of 55 minutes to complete. If teachers wish, they can use participants written work as an alternative to a similar class project which they assign, thus minimizing the student's time away from school work. All research activities will be conducted either by me or by a research assistant who is working under my supervision. One of these assistants will use part of the students' work for her Master's thesis.

Students may withdraw from the study at any time without penalty, if they so wish. The researcher may also end a student's involvement if it is thought to be in the best interests of the participants or the study as a whole.

Every effort will be made to ensure that confidentiality is maintained. Participants' names will be removed from all work and replaced with number identification. The master list will be stored under lock and key in my office at The University of Calgary. All records will be similarly stored. Data access will be available only to me and my research

assistants. All data will be destroyed 3 years after completion of the analysis. Additionally, the work students produce will be reported anonymously in academic presentations and reports. When written samples of students work are presented in research reports, all identifying material will be removed.

If you wish further information about this research project, please contact me at 220-5723. If you have questions concerning the ethics review of this project or the way you or your child have been treated, you may contact Dr. Michael Pyryt (Chair, Faculty of Education Joint Ethics Review Committee) at 220-5626, or the office of the Vice President, Research at 220-3381.

If you are willing to have your child participate in the study, please sign the attached Parental Consent form and return it to your child's classroom teacher. Please retain this letter for your records. Thank you for considering my request.

Sincerely,

Anne McKeough, Ph.D.

APPENDIX C

Parental Consent Form

I agree to permit my child _____ to take part in the study entitled "Narrative Knowing: A Comparison of Behaviorally Aggressive and Non-Aggressive Children" conducted by Dr. McKeough of The University of Calgary.

I understand that participation in this study requires my child's teacher to rate my child for both pro-social and problem behaviour. I understand that participation will require me to answer questions related to my job and education. I understand that this information will be used only to ensure that the two groups of participants (with and without problem behaviours) are similar in this regard. I understand that I will be asked questions concerning my ethnic background and first language, and that these questions are optional. I understand that the results of this study will be used as a comparison to an Italian sample.

I understand that my child will work on 4 activities, three of which involve writing stories about "real life" events, and one of which is interpreting situations. I understand that all of the tasks are written, that require my child to work independently.

I understand that all activities will be carried out over the course of one month during the regular school periods at a time that is convenient to both students and teachers, and that the 4 activities will require a total of approximately 4 class periods of 55 minutes to complete. I understand that all research activities will be conducted either by Dr. Anne McKeough or by a research assistant who is working under her supervision.

I understand that if teachers wish, they can use participants' written work as an alternative to some other similar class project which they assign. I understand that participation in the research will not produce risks greater than those experienced in daily life.

I understand that my daughter or son may withdraw from the study at any time without penalty, if he/she so wishes. I also understand that Dr. McKeough may end my son's or daughter's involvement if it is thought to be in the best interests of the participants or the study as a whole. I understand that not every volunteer will be chosen to participate and that this depends on meeting the criteria for pro-social and aggressive behaviour.

I understand that every effort will be made to ensure that confidentiality is maintained. I understand that all data will be securely stored in Dr. McKeough's office at The University of Calgary and that data will be destroyed after completion of the analysis. I understand that the work students produce will be reported anonymously in academic presentations and reports. I understand that some of the students' work will be used by a

graduate student for her Master's research. When written samples of student's work are presented, all identifying material will be removed.

I understand that I can contact Dr. McKeough at 220-5723 for further information about the study. I also understand that, if I have questions concerning the ethics review of this project or the way my child or I have been treated, I may contact Dr. Michael Pyryt (Chair, Faculty of Education Joint Ethics Review Committee) at 220-5626, or the office of the Vice President, Research at 220-3381.

Date _____ Signature of Parent (Guardian)_____

APPENDIX D

Parent/Guardian Information Sheet

1. The parent(s) and/or guardian(s) present in this home are _____.
(example: mother and father, single mother, single father, father and stepmother, etc.)

2. The occupation of the mother/guardian of this child is _____.

The occupation of the father/guardian of this child is _____.

3. The education level currently held by the mother/guardian is:
Please check ONE
____ a) university/college program completed
____ b) technical/trade school program completed
____ c) grade 12 completed
____ d) grade 9 completed
____ e) other (please specify) _____

4. The education level currently held by the father/guardian is:
Please check ONE
____ a) university/college program completed
____ b) technical/trade school program completed
____ c) grade 12 completed
____ d) grade 9 completed
____ e) other (please specify) _____

The following questions are optional.

It is recognized that each different ethnic background may make special contributions to the way people develop their story telling skills. Therefore, in research studies like this one, it is helpful to have the following information:

5. The predominant ethnic background of the mother/guardian is _____.
(e.g., Chinese, First Nations, African, Scottish, etc.)

6. The predominant ethnic background of the father/guardian is _____.
(e.g., Chinese, First Nations, African, Scottish, etc.)

7. The predominant language spoken in the home is _____.

APPENDIX E

Caprara and Pastorelli Behaviour Checklist (1989)

Prosocial Behaviour Scale

PB1. S/he tries to make sad people happier.
PB2. S/he spends time with his/her friends.
PB3. When s/he has to do things that s/he doesn't like s/he gets mad.*
PB4. S/he tries to help others.
PB5. S/he is gentle.
PB6. S/he cries about things that don't matter.*
PB7. S/he shares things s/he likes with his/her friends.
PB8. S/he feels annoyed.*
PB9. S/he helps others with their homework.
PB10. S/he lets others use his/her toys.
PB11. S/he has bad dreams.*
PB12. S/he likes to play with others.
PB13. S/he trusts others.
PB14. S/he bites his/her fingernails.*
PB15. S/he hugs his/her friends.

Aggression Scale

A1. S/he gets into fights.
A2. S/he watches a lot of television.*
A3. S/he kicks and hits or punches.
A4. S/he gets even when s/he is mad.
A5. S/he hurts others.
A6. S/he likes to be with others.*
A7. S/he threatens others.
A8. S/he bites others to harm them.
A9. S/he is afraid of the dark.*
A10. S/he argues with older children.
A11. S/he is envious.
A12. S/he tells lies.
A13. S/he says bad things about other kids.
A14. S/he feels sure of him/herself.*
A15. S/he insults other kids or calls them names.
A16. S/he pushes and trips others.
A17. S/he tells jokes.*
A18. S/he teases other kids.
A19. S/he uses bad words (S/he swears).
A20. S/he likes to fist-fight.

Note: * control items that do not contribute to the total score.

APPENDIX F

ANOVA Tables for all 2-way ANOVA Analyses

ANOVA Results for Gender by Grade Analysis

Family Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	56.1	89	0.63		
Gender	2.25	1	2.25	3.57	0.62
Grade	20.23	1	20.23	32.09	0
Gender by Grade	0.38	1	0.38	0.6	0.44

Problem Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	26.11	92	0.28		
Gender	3.06	1	3.06	10.8	0.001
Grade	44.41	1	44.41	156.49	0
Gender by Grade	0.01	1	0.01	0.03	0.874

Conflict Story - Number of Descriptive T-unitsive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	428.69	93	4.61		
Gender	1.47	1	1.47	0.32	0.574
Grade	13.79	1	13.79	2.99	0.087
Gender by Grade	25.64	1	25.64	5.56	0.02

Conflict Story - Number of Intentional T-.units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	415.13	93	4.46		
Gender	25.83	1	25.83	5.79	0.18
Grade	0.02	1	0.02	0	0.95
Gender by Grade	0.34	1	0.34	0.08	0.784

Conflict Story - Number of Interpretive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	35.04	93	0.38		
Gender	0.06	1	0.06	0.15	0.702
Grade	4.63	1	4.63	12.28	0.001
Gender by Grade	0.12	1	0.12	0.31	0.579

Conflict Story - % of Descriptive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	48940.1	93	526.24		
Gender	455.69	1	455.69	0.87	0.354
Grade	284.74	1	284.74	0.54	0.464
Gender by Grade	2557.81	1	2557.81	4.86	0.03

Conflict Story - % of Intentional T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	51311.05	93	551.73		
Gender	1198.06	1	1198.06	2.17	0.144
Grade	3940.18	1	3940.18	7.14	0.009
Gender by Grade	841.9	1	841.9	1.65	0.22

Conflict Story -% of Interpretive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	19820.44	93	213.12		
Gender	175.99	1	175.99	0.83	0.336
Grade	2106.51	1	2106.51	9.88	0.002
Gender by Grade	464.8	1	464.8	2.18	0.143

Conflict Story - Question #2					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	17.93	90	0.2		
Gender	0.52	1	0.52	2.59	1.111
Grade	3.07	1	3.07	15.4	0
Gender by Grade	0.07	1	0.07	0.34	0.563

ANOVA Results for Gender by Group Analysis

Family Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	74.25	89	0.83		
Gender	1.05	1	1.05	1.26	0.264
Group	0.44	1	0.44	0.53	0.469
Gender by Group	2.06	1	2.06	2.46	0.12

Problem Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	69.48	92	0.76		
Gender	1.88	1	1.88	2.49	0.118
Group	0	1	0	0	0.972
Gender by Group	1.09	1	1.09	1.45	0.232

Conflict Story - Number of Descriptive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	459.05	93	4.94		
Gender	4.82	1	4.82	0.98	0.326
Group	3.4	1	3.4	0.69	0.409
Gender by Group	4.17	1	4.17	0.85	0.36

Conflict Story - Number of Intentional T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	403.49	93	4.34		
Gender	14.86	1	14.86	3.43	0.067
Group	0.24	1	0.24	0.05	0.816
Gender by Group	11.91	1	11.91	2.75	0.101

Conflict Story - Number of Interpretive T-Units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	39.32	93	0.42		
Gender	0.01	1	0.01	0.01	0.905
Group	0.07	1	0.07	0.16	0.692
Gender by Group	0.47	1	0.47	1.1	0.296

Conflict Story - % of Descriptive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	51477.44	93	553.52		
Gender	861.17	1	861.17	1.56	0.215
Group	72	1	72	0.13	0.719
Gender by Group	172.47	1	172.47	0.31	0.578

Conflict Story - % of Intentional T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	55554.28	93	597.36		
Gender	1762.45	1	1762.45	2.95	0.089
Group	0	1	0	0	1
Gender by Group	434.58	1	434.58	0.73	0.396

Conflict Story - % of Interpretive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	22327.64	93	240.08		
Gender	159.66	1	159.66	0.67	0.417
Group	71.8	1	71.8	0.3	0.586
Gender by Group	59.5	1	59.5	0.25	0.62

Conflict Story - Question #2					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	20.39	90	0.23		
Gender	0.47	1	0.47	2.06	0.154
Group	0.7	1	0.7	3.1	0.082
Gender by Group	0	1	0	0.02	0.892

ANOVA Results for Group by Grade Analysis

Family Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	57.92	89	0.65		
Group	0.92	1	0.92	1.41	0.238
Grade	19.56	1	19.56	30.06	0
Group by Grade	0.11	1	0.11	0.17	0.685

Problem Story - Developmental Score					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	28.95	92	0.31		
Group	0.07	1	0.07	0.21	0.65
Grade	38.69	1	38.69	122.96	0
Group by Grade	0.2	1	0.2	0.63	0.431

Conflict Story - Number of Descriptive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	454.21	93	4.85		
Group	4.3	1	4.3	0.89	0.349
Grade	10.29	1	10.29	2.12	1.49
Group by Grade	1.2	1	1.2	0.25	0.62

Conflict Story - Number of Intentional T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	424.64	93	4.57		
Group	1.25	1	1.25	0.27	0.602
Grade	1.76	1	1.76	0.38	0.537
Group by Grade	16.05	1	16.05	3.51	0.064

Conflict Story - Number of Interpretive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	34.7	93	0.37		
Group	0	1	0	0	0.974
Grade	5.16	1	5.16	13.83	0
Group by Grade	0.53	1	0.53	1.42	0.237

Conflict Story - % of Descriptive T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	52043.02	93	559.6		
Group	155.56	1	155.56	0.28	0.599
Grade	311.24	1	311.24	0.56	0.458
Group by Grade	67.85	1	67.85	0.12	0.728

Conflict Story - % of Interpreting T-units					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	20355.76	93	218.88		
Group	13.97	1	13.97	0.06	0.801
Grade	2076.13	1	2076.13	9.49	0.003
Group by Grade	27.26	1	27.26	0.12	0.725

Conflict Story - Question # 2					
Source of Variation	SS	DF	MS	F	Sig of F
Within Cells	17.9	90	0.2		
Group	0.66	1	0.66	3.3	0.072
Grade	2.54	1	2.54	12.75	0.001
Group by Grade	0.03	1	0.03	0.16	0.693