Children's antisocial and prosocial lies to familiar and unfamiliar adults

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Abstract

Although parents will frequently instruct their children not to lie, children will often observe lie-telling within their immediate surroundings (i.e., the family environment). To date, no empirical research has examined children's spontaneous lie-telling within the context of different inter-personal relationships (i.e., familiar versus unfamiliar adults), despite lie-telling being first observed by children within the family and often discussed with children by parental figures (Wilson, Smith, & Ross, 2003). The aim of the current study is to examine children's spontaneous deceptive behaviour within the parent-child dyad. Children's antisocial and prosocial lies to a parent versus an unfamiliar adult were examined. To examine antisocial lie-telling, a modified version of Talwar and Lee's (2002) temptation resistance paradigm was used. To examine prosocial lie-telling, a disappointing gift paradigm (Talwar, Murphy, & Lee, 2007) was used. Results indicate that across different types of lies children are more likely to lie to an unfamiliar adult than to a parental figure.

Résumé

Même si les parents incitent leurs enfants à ne pas mentir, ces derniers sont souvent témoins de mensonges dans leur environnement familial. À ce jour, aucune étude ne s'est intéressée à l'utilisation spontanée du mensonge par l'enfant dans la relation avec son parent, bien que ce comportement soit observé d'abord dans le contexte familial et que les parents en discutent avec leurs enfants (Wilson, Smith, & Ross, 2003). L'objectif de cette étude est d'examiner les comportements trompeurs chez les enfants dans le contexte de la dyade parent-enfant. Les mensonges à caractères pro-sociaux et antisociaux ont été examinés lorsque les enfants mentaient à un parent ou à un adulte inconnu. Afin d'étudier les mensonges antisociaux, une version modifiée du *temptation resistance paradigm* de Talwar et Lee (2002) fut employée. Afin d'étudier les mensonges pro-sociaux, le *dispapointing gift paradigm* de Talwar, Murphy et Lee (2007) fut utilisé. Les résultats démontrent qu'à travers différents types de mensonges, les enfants ont tendance à mentir davantage à un adulte inconnu (un assistant de recherche) qu'à une figure parentale.

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Chapter 1: Introduction

Deception is a common occurrence and can be observed in everyday social interactions (DePaulo & Kashy, 1998). According to Ford, (1996) lie-telling can often times be paradoxical in nature. For example, a child can be told that deceit is an incorrect and a negative act, yet at the same time a child can be instructed to lie to a family member in order to uphold social cohesion or 'save face'. As adults, most of us understand the social dance conducted in interpersonal relationships: that between overt social condemnation of deception and covert understanding of this behaviour's use and necessity within social relationships.

Nowhere is this dance more evident than in adults' instructions to children regarding deception. Consistent with Bandura's (1977) theory of social learning, within the first few years of early development children are introduced to the rules of social engagement through their interactions with parents or primary caregivers. It is within these first years that children learn the rules of deception and begin to demonstrate their use in everyday interactions (DePaulo & Jordan, 1982; Lewis & Saarni, 1993; Wilson, Smith, & Ross, 2003). While children may receive verbal instructions that 'lying is bad', they will also, often times, observe the use of deceptive tactics by adults and be instructed to lie, in some contexts, by a parental figure. This paradox is noteworthy and fascinating to both social and developmental researchers as it demonstrates the various means by which children learn to interact within their societies, while integrating the two conflicting messages. Beyond this empirical interest in the study of deception, the development of lie-telling also has practical implications for professionals who work with children and are interested in promoting and ensuring the veracity of children's

statements in legal settings (e.g., Aldridge & Cameron, 1999; Bull, 1995; Goodman &

Bottoms, 1993; Lamb, 1994; Raskin & Yuille, 1989).

Different Types of Lies

Instances of deception include both small moments of dishonesty, such as

everyday white lie-telling, as well as more serious cases of deception (DePaulo, Ansfield,

Kirkendol & Boden, 2004).   Lewis and Saarni (1993) describe deception as falling

within three primary categories: 1) deception for the self (i.e., to protect oneself and/or

for self gain), 2) deception told for another's benefit and/or protection, and 3) deception

to one's self.   Deception for self-gain is the most frequently reported form of lie-telling

and is referred to as "antisocial lying". Antisocial lying is performed in order to protect

the self from discovery of a transgression or for other self-serving motivations, and only

benefits the lie-teller (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Prosocial

deception, in contrast, refers to lies that benefit the lie-recipient such as telling a lie to

protect another from disappointment or displeasure (DePaulo et al., 1996; Wilson et al.,

2003). Commonly, people tell this type of lie in order to spare another's feelings or to

maintain social cohesion (DePaulo et al., 1996).

Research shows that adults commonly use lie-telling during their everyday social

interactions (DePaulo et al., 1996). One noteworthy study of adults` deceptive behaviour

is DePaulo et al.'s (1996) diary study of adults' self-reported deceptive statements. The

diary study collected adults` deceptive statements over a seven day period. DePaulo et al.

(1996) found that the most frequent lies told by adults were self-centered lies.   Despite

the recurrent practice of self-centered lying, adults also reported telling prosocial lies on a

daily basis (DePaulo et al., 1996). Adults' reported telling both self-centered and other-

centered lies for several reasons (i.e., to save oneself from embarrassment, to protect

one's own feelings or to protect others feelings). In another diary study, DePaulo and

Kashy (1998) found that lies were most frequently told in everyday interactions with

individuals who are not in close personal relationships with the lie-teller. In contrast, lies

told within close relationships were predominantly other-oriented, and in particular

altruistic (DePaulo & Kashy, 1998). Peterson (1996) also examined deception in adult

relationships and found that for those in romantic relationships, individuals told prosocial

lies more than other forms of lies (i.e., antisocial). Thus, what can be determined from

research (DePaulo et al., 1996; DePaulo & Kashy, 1998; Peterson, 1996) is that lie-telling

is a common feature of adults' day-to-day social interactions and adults use deception as

a social strategy both for their own benefit as well as for maintaining interpersonal

relations. Hence, examining the emergence of children's lie-telling behaviour can reveal

how this social behaviour develops and the manner in which it is influenced by social

factors.

Lie-Telling Development

The earliest research on children's lie-telling, was the seminal work of Jean

Piaget. Based on his theory of cognitive development, Piaget (1965) found that children

at 6 years of age do not distinguish lie-telling from other misdeeds, such as mistaken

utterances or bad words. According to Piaget (1965), with time, children begin to

distinguish the differences between lies and mistaken utterances but it is only at the age

of 11 that children are able to use the same definition of lie-telling as adults. Overall,

Piaget (1965) proposed that children only begin to evaluate lies based on intention at 11

years old. Before this milestone, children base their evaluations of lie-telling on the

factuality of a statement. Compared to Piaget's (1965) work, present day researchers have found little support for Piaget's time frame for the development of lie-telling in children. More recently researchers have found that children as young as 4 years old understand and can accurately distinguish lies from truths (Bussey, 1999; Bussey & Grimbeck, 2000). Bussey's (1999) research found that children as young as 4 years old were able to accurately identify truthful statements as true, and false statements as false, but with some difficulty nonetheless.   In contrast, older children did not show this same difficulty. With respect to various types of lies, Bussey (1999) found that children also rated antisocial lies as worse than prosocial lies or trick lies. Within interpersonal conversations, children rated prosocial lies less negatively than antisocial lies. One reason for this judgment could be that children are not reprimanded by parents for telling prosocial lies because they are used in order to spare another's feelings. Although Bussey's (1999) research provides insight into the development of children's understanding of lie-telling, children's actual lie-telling abilities were not examined in her study.

Not until recently have investigators examined children's actual lie-telling behaviour.   The earliest studies reporting on children's lie-telling behaviour examined deceptive abilities as part of a larger investigation of children's emerging theory-of-mind capabilities (e.g., Chandler, Fritz, & Hala, 1989; Peskin, 1992). These studies analyzed children's ability to understand false belief and usually reported incidences of lying together with other forms of deception (i.e., deceptive pointing) so it was unclear when verbal deception first emerged.   When children lie, they are trying to manipulate others beliefs and create a false belief about an event.   Subsequent research has found that

children's emerging lie-telling abilities are related to the development of their theory-of-mind understanding (e.g., Polak & Harris, 1999; Talwar & Lee, 2008).

Researchers have devised methods of examining children's verbal deception through experimental paradigms. One of the first paradigms used was a temptation resistance paradigm, was originally pioneered by Sears, Rau, and Alpert (1965), and has been subsequently modified to examine children's antisocial lies (Lewis, Stanger, & Sullivan, 1989; Talwar & Lee, 2002a). During the temptation resistance paradigm, children are instructed not to peek at a toy while an experimenter is out of the room. Upon the experimenter's return, children are asked if they peeked at the toy. The paradigm creates a highly tempting situation for children and therefore, the majority of children peek at the toy when the experimenter has left the room. Moreover, when asked if they peeked at the toy, the children can choose to deny their peeking and conceal their misdeed. The paradigm provides researchers with the opportunity to observe children's spontaneous lies within a naturalistic setting.

A noteworthy study that used a modified temptation resistance paradigm to examine children's verbal deceptive abilities was Lewis et al. `s (1989) study of 3-year-old children's antisocial lie-telling. Using the temptation resistance paradigm, Lewis et al. (1989) found that of the children who peeked at the toy, 38% lied about having done so when asked by the experimenter. In contrast, 38% of the children confessed to peeking at the toy and 24% of the children showed no verbal response. Although the researchers in this study did examine children's verbal deceptive behaviour within an experimental paradigm, the children were not requested to elaborate on their response to the peeking question. Thus, a child's ability to maintain or uphold a lie throughout

follow-up questioning was not examined. This study demonstrates a preliminary

examination in children's verbal deceptive abilities.

In another study, Talwar and Lee (2002a) examined 3- to 7-year-old's lie-telling

behaviours using a modified temptation resistance paradigm. Similar to Lewis et al.

(1989), they examined whether children would tell a lie to conceal a transgression and

examined children's ability to maintain their lie through follow-up questioning.   In their

study, children between the ages of 3 and 7 years were asked to participate in a guessing

game by naming a toy based on the sound it made. The researcher then exited the room,

leaving the child alone to think about the identity of the toy while they were away.

Before leaving, children were asked not to peek at the toy while the experimenter was

gone. Upon the experimenter's return, children were asked if they had peeked at the toy.

Additionally, children were asked what they thought the toy was and why. Through the

two follow-up questions, children's ability to maintain a lie was measured. Both

children's expressive non-verbal and verbal behaviour was recorded. Children's

responses were videotaped and adult raters were asked to judge the veracity of children's

statement as well as their non-verbal behaviours. Overall, it was found that the majority

of the children lied (79%) about having peeked at the toy. When taking into account

children's non-verbal behaviour, adult raters were unable to accurately distinguish

children's lies from truth.

Talwar and Lee (2002a) also examined children's ability to control the content of

their statements during follow-up questions. This ability, also known as semantic leakage

control, represents a child's capability to plan and express subsequent statements that are

consistent with the initial lie. For example, if a child who had falsely denied peeking at

the toy was asked what the toy was, they would need to make sure their answer did not reveal their transgression or arouse suspicion. Therefore, they would answer follow-up questions about the identity of the toy as though they have not seen the toy. Talwar and Lee (2002a) found that younger children were less capable of controlling their semantic leakage and were more likely to reveal information that implicated them when answering follow-up questions. Talwar and Lee (2002a) uncovered that only 16% of 3-year-old children successfully controlled their semantic leakage during follow-up questioning. In comparison, by the age of 7 years, 60% of children successfully controlled semantic leakage. No significant gender differences were observed in terms of lie-telling behaviours. In another study with children between 6 and 11 years of age, Talwar, Gordon, and Lee (2007) reported further support for children's ability to control semantic leakage with increased age. Overall, children under 8 years of age have difficulty maintaining their lies beyond their initial false denials (Talwar et al., 2007; Talwar & Lee, 2002a; 2008).

The aforementioned research has found that children begin to tell antisocial lies during the preschool years and their ability to tell these lies improves with age. According to DePaulo and Jordan (1982) children tell their first lies to escape punishment for a misdeed. Along with this early display of antisocial lies, researchers have observed other forms of lies (e.g., prosocial lies) in children (DePaulo & Jordan, 1982). Furthermore, other lies, such as prosocial lies, not only demonstrate a child's increasing deceptive abilities but also reveal their understanding of social cohesion and reciprocity within interpersonal relationships. Unlike antisocial lies, prosocial lies are told to spare another's feelings. Thus, the use of this form of deception indicates a child's increasing

understanding of the rules of social engagement and the importance of maintaining social

cohesion within an interaction.

The ability of children to tell prosocial lies has also been investigated through

experimental paradigms.   Talwar and Lee (2002b) investigated children's use of

prosocial lies using a reverse rouge task (Gallup, 1970; Lewis, Sullivan, Stanger, &

Weiss, 1989). In this paradigm, a researcher asks the child if they have something on

their face before taking a picture. In the experimental condition, the researchers have a

red mark on their nose when asking this question. This creates a situation, where the

child may tell a prosocial lie to protect the researcher's feelings. Talwar and Lee (2002b)

found that the majority of children between the ages of 3 and 7 years old told prosocial

lies during the reverse rouge task.

Talwar et al. (2007) also examined children's prosocial lie-telling (between the 3

and 11 years-old) using a disappointing gift paradigm. In this paradigm a research

assistant gave children a gift, which they had previously rated as undesirable. Talwar et

al. (2007) found that 68% of children told prosocial lies to the gift giver (e.g., saying they

liked the undesirable gift upon questioning). The frequency of prosocial lies was lower

in younger children compared to older children in the study. Moreover, younger

children's ability to elaborate on lies during follow-up questioning was not as advanced

as older children. Talwar et al. (2007) also included a condition of parental coaching

within their study. In examining this condition, children were encouraged to tell a

prosocial lie concerning the undesirable gift by a parent.   Subsequent to parental

encouragement it was found that 86% of children told prosocial lies. Thus, although

children are capable of telling prosocial lies, their rates of deception increase when a

parent reminds them of the rules of politeness within a gift-giving situation (Talwar et al., 2007).

Summary of Lie-Telling Development

In general, these studies demonstrate that children develop rudimentary lie-telling abilities between the ages of 3 and 4 years (Lewis et al. 1989), and that as children age, their ability to tell more sophisticated lies improves rapidly (Talwar & Lee 2002a, 2002b; Talwar et al., 2007; Xu, Bao, Fu, Talwar, & Lee, 2010). Most of this research however, has used experimental procedures in which the lie-recipient is a relatively unfamiliar researcher. Lie-telling often takes place within the context of interpersonal relationships. Children often tell lies to those they have close interpersonal relations with (e.g., family members). While there has been research examining adults' lie-telling behaviours towards individuals with whom they have close interpersonal ties (e.g., Cole, 2001; Ennis, Virj, & Chance, 2008), little research has examined such lies by children.

Deception to Family Members

The consequences of deceptive behaviours on children's relationships, and in particular interpersonal trust, are important to the study of deception in children. Parents often use stories such as "Pinocchio" and the "The Boy who Cried Wolf" to demonstrate to children the importance of truthfulness in everyday social interactions (Arruda et al., 2006; Biskin & Hoskison, 1977). Despite the use of these moral stories, researchers have noted that parents often observe and do not reprimand their children for small lies told (i.e., white-lies) (Wilson et al., 2003). Thus, deception within the family, and in particular the method by which parents teach their children about deception, can have important consequences on the types of lies children tell as well as their moral

evaluations of these lies. Furthermore, the ability of a child to lie has important

consequences for both their interpersonal relations, as well as their social competence

(DePaulo & Jordan, 1982; Feldman, Philippot, & Custrini, 1991; Talwar et al., 2007).

Little research has addressed deception within the familial context, besides

deception being first learned and modeled within the family (Lewis & Saarni, 1993).   To

date, there have only been two studies which have examined children's lie-telling

towards their parents and other family members.   Newton, Reddy and Bull (2000) asked

parents to keep a diary record of their children's lie-telling behaviour.   Newton et al.

(2000) found that 79% of the children (between 3 and 4 years old) in their sample were

reported by parents to have engaged in some form of lie-telling behaviour.   Newton et al.

(2000) also found that all of the children in their sample demonstrated deception for

several different reasons (e.g., through the denial of an action, faking an excuse to avoid

performing a task and to gain something they wanted).

In an observational study, Wilson et al., (2003) examined the prevalence of

children's lies within the family environment. The researchers observed children's home

environment twice over the course of two years. Overall, across the two observations,

the researchers found that 96% of children lied at least once. The researchers found that

lies were most commonly directed towards power figures within the home (i.e., parents).

Furthermore, among these lies, the most frequent type of deception used by children was

antisocial lies (e.g., stealing a cookie from the cookie jar). Wilson et al. (2003) suggested

that children are more likely to tell these lies to their parents since these power holders

dispense punishments within the home. Thus, in order to avoid punishment, children

may use deception to 'cover-up' a misdeed and avoid the consequences associated with

this misdeed. Both Newton et al. (2000) and Wilson et al. (2003) provide information

about the types of lies children tell within the home, but do not allow for examination of

children's lie-telling abilities in experimentally-controlled settings.   While there have

been a number of experimental studies examining children's lie-telling (e.g., Lewis et al.,

1989; Talwar & Lee, 2002a, 2002b; Talwar et al., 2007), no experimental studies, to date,

have examined children's abilities to maintain their lies when lying to a parent.

    Two experimental studies have examined children's lie-telling behaviour *for* their

parent (Bottoms, Goodman, Schwartz-Kenney, & Thomas, 2002; Talwar, Lee, Bala, &

Lindsay, 2004). Bottoms et al. (2002) conducted a study on children's (between the ages

of 3 and 8 years) willingness to lie for a parent when asked by their parent to do so.

Children were told not to play with a toy by a research assistant. Children then engaged

in a play session with their mothers (while the research assistant was not present).

During the play session mothers would coax their children into playing with the

forbidden toy.   Mother's informed their children that if they played with the forbidden

toy and lied about it afterwards, they would win an enticing prize as well as save their

mother from getting into any trouble. Bottoms et al.'s (2002) study reported that, when

children were asked to lie for their parent, by their parent, older children were more likely

to lie than younger children.

    In another study, Talwar et al. (2004) examined children's (3-11-year-olds) lies

to conceal a parent's transgression (when a parent broke a toy puppet). Despite the

presence of children's parents during questioning by a research assistant, it was found

that the majority of children (80%) did not lie for their parent. However, when children

knew that they could not be blamed for their parent's transgression, significantly more children lied (61%).

Both Bottoms, et al. (2002) and Talwar et al. (2004) found that children lied more when they felt assured of no negative consequences to themselves. Furthermore their findings suggest that children's willingness to lie for or even to a parent may be influenced by an assessment of the cost/benefits to themselves and the possible negative consequences of telling the truth. However, as of yet, no study has directly examined children's lie-telling to their parents. When considering lying to a parent, the desire to maintain a positive relationship as well as the fear of punishment may influence children's decision to either lie or tell the truth. Furthermore, the decision to lie may be influenced by the type of situation (e.g., prosocial or antisocial) and the type of relationship that exists between the child and their parent.

Attachment Theory and Deception

Attachment theory is based on the concept that a child's relationship with others is founded on their early relationship with their primary attachment figure (often a parent). Ultimately, the child's internalization of their primary attachment relationship serves as a survival mechanism or a "safety regulating system" (Bowlby, 1977; 1988). Thus, the purpose of the attachment system is used to promote the physical and emotional safety of the child outside the context of close relationships, and can have profound effects on behaviour (Crittenden, 2000). Two classes of events can activate the attachment system: potential of danger to the self (both internal and external) or a threat to the availability of the primary attachment figure. According to attachment theorists, security is obtained when protection or safety is felt by the child. This sentiment of

security is fostered through the relationship with their primary attachment figure.   There

are different classifications of the attachment relationship between a child and their

primary caregiver. Initially, Bowlby (1977; 1988) theorized that these different

classifications could affect subsequent relationships and behaviour of a child.

Based on Bolwby's theory of attachment, Ainsworth (1979) designed a paradigm

(the strange situation) to classify different attachment styles observed in children. The

strange situation paradigm is used to measure children's behaviours during the

momentary absence of their primary attachment figure and their behaviours upon the

attachment figure's return. Attachment behaviours are defined through proximity

seeking behaviours, directed towards the attachment figure (e.g., primary caregiver).

Two dichotomous attachment styles (secure/insecure) are described by Ainsworth (1979).

Secure children are characterized as demonstrating willingness to explore their

surroundings. These children seek the assurance of safety in their primary attachment,

but are also comfortable being reassured by other adults (Ainsworth, 1979; Ainsworth,

Blehar, Waters, & Wall, 1978). In contrast, children who are insecurely attached are less

comfortable exploring their environment without the presence of their primary caregiver.

Insecure attachment can be further divided into anxious-insecure and avoidant-insecure

(Ainsworth, 1979; Ainsworth et al., 1978). Anxiously attached children are distressed

when left by their primary attachment figure. In contrast, avoidant children appear

unresponsive to their mother's return to the room (Ainsworth, 1979; Ainsworth et al.,

1978). In addition to these three attachment styles, a fourth style (disorganized

attachment) was later added by Main and Solomon (1986). Children who are

characterized by a disorganized attachment style may demonstrate rocking and freezing

when a parent leaves. Parents of these children are often unresponsive to children's

needs, withdrawn, as well as intrusive at times. Children with a history of abuse or

maltreatment often develop this attachment style (Baer & Martinez, 2006).

Children's early attachment style with their primary attachment figure has long

lasting consequences on their subsequent interpersonal relationships. For instance,

securely attached individuals report experiencing greater satisfaction in their social

support systems (Kerns & Stevens, 1996). Most important to the current study, research

has found that individuals will use deception differently within interpersonal relationships

depending on their attachment style (secure versus insecure) (Cole, 2001; Ennis et al.,

2008).

The link between attachment and deception has been studied within adult

relationships, in particular adult romantic relationships. Two studies have examined

adults lie-telling in relation to their attachment styles. Cole (2001) examined adults'

attachment styles and lie-telling behaviour to their romantic partners.   Adults kept diaries

of the lies they told to their romantic partner over a 6 week period. Cole (2001) found

that individuals with an avoidant attachment style used deception in order to obtain

autonomy within their romantic relationships. In contrast, anxious individuals used

deception in order to maintain cohesion within a romantic relationship. Ennis et al.

(2008) also examined the relationship between adults' lie-telling and their attachment

styles.   However, in addition to investigating adults' lie-telling with romantic partners,

Ennis et al. (2008) also analyzed their lying to close friends and strangers. The

researchers also examined the different types of lies told by adults (i.e., antisocial,

prosocial and altruistic). They found that the highest numbers of self-centered

(antisocial) lies were told to close friends, with the second highest being to strangers. In contrast, individuals reported a low rate of antisocial lies to romantic partners, although they did report higher levels of altruistic lies to these individuals. Like Cole (2001), Ennis et al. (2008) found an association between the anxious and avoidant attachment styles and deception.   In general, individuals who were insecurely-attached used antisocial lies more frequently within close friend relationships, when compared to individuals who were securely attached. In terms of close friends, individuals told predominantly other centered (prosocial) lies, irrespective of attachment style. Interestingly, as previously noted, altruistic lies were predominately told within romantic relationships. These findings suggest that the relationship between attachment style and deception is not uniform; individuals use different lies depending on the relationship between themselves and the individual they are lying to.

Cole (2001) and Ennis et al. (2008) argue that the attachment style of the individual plays a role in the use of deception in order to optimize a desired level of intimacy; depending on their attachment style some individuals may use deception to maximize intimacy and others to minimize. Anxiously attached individuals may fear losing those close to them and therefore, they will use deceptive tactics in order to 'save face' or not disappoint one's partner.   Conversely, individuals with an avoidant attachment may lack trust in their relationships and use deception to achieve their goal of autonomy (Cole, 2001; Ennis et al., 2008). Although research has shed light on the relationship between attachment style and deception in adults, it remains unclear how attachment style may affect children's lie-telling behaviour within the context of interpersonal relationships.

To date, no empirical research is available on the relationship between attachment style and deceptive behaviours in young children. However, there is one notable study of this relationship in adolescents. Warr (2007) examined adolescents between grades 7 and 12 in regards to their self-reported lie-telling behaviour. Warr (2007) correlated these self-reported rates of deception with responses children provided through the Add Health Survey, which incorporated a large number of self-reported delinquency behaviours and questions concerning attachment/time spent with mother. Warr (2007) found adolescent's delinquency was correlated with a higher propensity to lie. Furthermore, Warr found that children with an insecure attachment style were more likely to exhibit delinquent behaviours, as well as a more frequent use of deception. However, Warr's primary focus was on delinquent behaviour and did not directly examine different types of lies, lies told to parents versus others, or children's ability to lie. Thus, no research has experimentally addressed children's lie-telling behaviour towards a parent in relation to their attachment style.

Current Study

The aim of the current study is to address the gap in the literature concerning children's deceptive behaviour within the parent-child dyad. In this study, children's antisocial and prosocial lies to a parent versus a stranger will be examined. To examine antisocial lie-telling a modified version of Talwar and Lee's (2002a) temptation resistance paradigm will be used. Children will be told not to peek at a toy when left alone in a room and later asked if they peeked. Of those children who peek at the toy, they may tell the truth, and admit their transgression (i.e., peeking), or they may falsely deny having peeked (i.e., lie about peeking). To examine prosocial lie-telling, a modified

disappointing gift paradigm (Talwar et al., 2007) will be used. In this paradigm, children

receive an undesirable gift and are asked if they like it. Children can tell the truth to the

gift giver (e.g., that they do not like the gift) or they can lie and say that they like the gift.

For both the modified temptation resistance paradigm and the modified disappointing gift

paradigm there will be an experimental and control condition. In the experimental

conditions the child's parent will be trained and carried out the paradigm procedure with

the child. Thus, in the modified temptation resistance paradigm the parent will tell the

child not to peek and then later ask the child if they peeked.   In the modified

disappointing gift paradigm, the parent will give the child an undesirable gift and later

ask the child if they liked the gift. During control conditions an unfamiliar research

assistant will conduct the paradigm procedure with the child. Conditions will be yoked

so that a child will participate in one experimental condition and one control condition for

the two paradigms. Thus, the study is a 2 (Type of Lie: prosocial vs. antisocial) by 2 (Lie

Recipient: parent vs. stranger) within-subjects design.

Finally, in order to examine the effects of attachment style on children's lie-

telling behaviour, children's attachment styles will be measured using the self-report

Attachment Style Classification Questionnaire (Finzi, Ram, Har-Even, Shnit, &

Weizman, 2001).

Hypotheses

It is expected that there will be a difference between children's lie-telling to a

parent compared to an unfamiliar adult. In terms of antisocial lies, it is hypothesized that

children will lie more to parents compared to unfamiliar adults. Parents are often the

individuals who reprimand children for misdeeds; therefore, it is expected that children in

the current study will be more likely to lie to their parent about having peeked at the toy, in order to avoid punishment. In contrast, an unfamiliar adult is less likely to reprimand a child for a misdeed and, therefore it is expected children would be more likely to confess to having peeked at the toy within this condition.   It is also hypothesized that children will tell more prosocial lies to unfamiliar adults compared to parents. As noted by Newton et al. (2000) and Talwar et al. (2007), parents are unlikely to reprimand, and at times may even encourage, a child to tell prosocial lies. When children are encouraged to tell this form of deception it is often towards an adult or another child, not a parent. Thus, it is hypothesized that children will be more likely to tell prosocial lies to the unfamiliar adult. Research has shown that children's lie-telling abilities improve with age (Talwar & Lee 2002a, 2002b; Talwar et al., 2007). Furthermore, children's verbal semantic leakage control improves with age (Talwar & Lee 2002a, 2002b, Talwar et al., 2007; Xu et al., 2010). Consistent with previous research, it is hypothesized that children's control of verbal semantic leakage will improve with age, for both antisocial and prosocial lie-telling. Finally, consistent with previous research on adult attachment and deception (Cole, 2001; Ennis et al., 2008; Warr, 2007) it is hypothesized that insecurely attached children will deceive more than securely attached children.

Chapter 2: Method

Participants

Participants in both the experimental and control portions of the study included both the children and participating parents.   A total of 80 (n_{males} = 34) children participated, between the ages of 6 and 9 years (M_{age} = 7.22, SD = 1.24). Additionally, primary caregivers also participated in the study (N = 80). Children were recruited through the local metropolitan area of a major university (e.g., through newspaper advertisements). Participants of the study spoke either English (n = 55) or French (n = 25). The study was therefore conducted in either French or English depending on the participants' primary language. Children's ages were divided into two separate groups, 6- to 7-years ($M_{age\ in\ months}$ = 80.88, SD = 7.37, n = 45) and 8- to 9-years ($M_{age\ in\ month}$ = 106.74, SD = 7.96, n = 35) for the statistical analysis.

Materials

Toys familiar to children from either television or movies were used as the target toys during the temptation resistance paradigm (e.g., Mickey Mouse, Mini Mouse or Sponge Bob). Other toys, which make familiar sounds, were used during the practice periods of the experiment (e.g., a cat, a police car, and a baby). Practice toys were chosen at random to be presented to the child during the warm up phase of the experiment. During the test phase of the experiment either, Sponge Bob, Mini Mouse or Mickey Mouse was used as the target toy.   Audio for the test toy was provided through a hallmark greeting card, which played music when open. Hidden cameras were used to record the child's actions and responses to questions. The cameras were located in three

areas of the room to provide a face and two lateral perspectives of the child. A research

assistant located in a separate test room controlled cameras.

Parents completed two questionnaires before participating in paradigms with their

children. A demographic questionnaire was used to gather information pertaining to

ethnicity, employment, and other socio-demographic information. Children participated

in both the temptation resistance paradigm and disappointing gift paradigm.

To measure attachment style, children also completed the Attachment Style

Classification Questionnaire for Latency Age Children (Appendix B) (Finzi-Dottan et al.,

1996). This 15-statement questionnaire provides a score for children's attachment style

on each of the three attachment styles described by Ainsworth (1979) (secure, anxious,

and avoidant). Children were asked to read the questionnaire and respond to each

question based on a 5-point Likert scale, with scores ranging from 1 (very much) to 5

(not at all).

Procedure

Toy ranking. Children were first interviewed individually with a research

assistant. They were told they would play different games, with the possibility of

winning toys. A research assistant (E1) instructed the children to sit on a chair across

from them. They were first presented with five toys to rate. Two of the toys were

constants for each participant (a pair of socks and flashcards). A second research

assistant (E2) recorded the child's ratings of the different toys, through the video feed in a

separate room.

Attachment questionnaire. Children then completed the attachment

questionnaire with the help of a research assistant. The questionnaire contains 15

questions which correspond to different attachment styles. The questionnaire was

adapted by Finzi et al. (1996) from the Hebrew version (Mulkulincer et al., 1990) of

Hazen and Shaver's (1987) questionnaire, which classified adult attachment styles. The

adaptation of the questionnaire was then translated into French and translated back to

English in order to check the validity of the translation. No differences were found

between the original English translation and the French translation.   The questionnaire

classifies an individual's attachment style along a continuum of scores for three

attachment styles: 1) secure, 2) anxious/ambivalent, and 3) avoidant. Thus, each child

receives a score for each styles of attachment.

     Control gift. Once completing the questionnaire children were given a prize in a

box by the research assistant. They were asked to open the box to see their prize. The

prize presented to the children during this portion of the experiment was the control prize

and their second highest ranked gift. Upon opening the box children were asked three

questions*: "How do you like your prize", "What do you like about it'', "What do you

plan on doing with it".*

     Temptation resistance paradigm. The modified temptation resistance paradigm

was conducted by either an experimenter (unfamiliar adult) or a parent (familiar adult);

depending on the condition the child was participating in. During the experimental

paradigm, parents played the temptation resistance paradigm with their child and during

the control condition the experimenter completed the temptation resistance paradigm with

a child. Participants participated in an experimental portion of the temptation resistance

paradigm and a control portion of the disappointing gift paradigm (see below for

description of procedure) or vice versa. The order was counterbalanced across

participants. At the start of the temptation resistance paradigm children were told that

they would be playing a guessing game with the adult (either the experimenter or the

parent depending on condition). They were told to turn around in their chair so their back

would be facing the experimenter (or parent). The experimenter (or parent) then brought

out a practice toy that made an audio clue associated with its identity. Children were

instructed to guess the identity of the toy without turning around in their chair. If a child

was unable to guess the identity of the toy immediately, they were provided with verbal

clues until it was correctly guessed. A second practice toy was used with the same

procedure. The experimenter (or parent) then told the child they had to check on some

forms that were given to their parents and would therefore have to exit the room for a

period of time. The child was told that a toy would be left on the table while the

experimenter (or parent) was away. The child was told to listen to the sound of the toy

and to think of the potential identity of the toy while the experimenter (or parent) was

away. Before the assistant left the room, the child was also told once to not peek at the

toy while the experimenter (or parent) was away. Children were left in the room for a

period of 60 seconds. The experimenter (or parent) was blind as to whether the child had

peeked at the toy. Upon the experimenter's return (or parent), they said "don't turn

around". The experimenter (or parent) would then cover the toy with a cloth and asked,

"While I was gone did you peek at the toy". Children were then asked, *"What do you*

think the toy is" and *"Why do you think it's that"*.

     Disappointing gift paradigm. Children were told their mother or an

experimenter (depending on the condition) had picked out a special prize for them and

that they would now be entering the room to give it to the child. The experimenter (or

parent) of the child then entered the room and the experimenter exited. The experimenter

(or parent) then presented the child with the gift in the same box as previously used for

the control condition. The experimenter (or parent) repeated the same three questions

used previously in the control disappointing gift question period: *"How do you like your*

prize" "What do you like about it" and *"What do you plan on doing with it when you get*

home". The experimenter (who had previously ranked the prizes with the child) came

into the room and questioned the child as to whether they truly liked the prize and offered

the child the opportunity to trade in the prize for their highest rated prize. Upon

completion of the experiment the children and parents were debriefed.

Chapter 3: Results

No language differences were observed (English children vs. French children) therefore the results were collapsed for subsequent analysis. The results section will begin with an examination of the findings from the temptation resistance paradigm and will then follow with an analysis of the disappointing gift paradigm. Attachment styles will be discussed within the results sections for each condition. Gender differences will be reported through out the results section.

Modified Temptation Resistance Paradigm

Children's peeking behaviour. Across conditions, 32 children did not peek at the toy (40.00%). No significant differences in peeking behaviours were found between the control and experimental conditions, χ^2 (1, N = 80) = .412, *n.s* (see Table 1). In the temptation resistance paradigm control condition 56.80% of children peeked and 63.90% of children peeked in the experimental condition. In addition, no significant age differences were found in peeking behaviours, χ^2 (1, N = 45) = .008, *n.s* (see Table 2). No significant differences were found in terms of peeking behaviours and gender, χ^2 (1, N = 45) = .366, *n.s*. (see Table 2). Of those children who did peek at the toy, the majority turned back round to face the wall after having peeked. This action by the children indicates that they correctly understood that they were not supposed to look at the toy while either the experimenter or parent had left the room.

Children's peeking behaviours and attachment styles. Children's attachment styles were obtained through the Attachment Style Classification Questionnaire for Latency Age Children. The questionnaire provides continuous attachment scores for children on three attachment styles: secure, avoidant and anxious. A 2 x 2 x 2

Multivariate Analysis of Variance (MANOVA) was performed with 3 independent

variables: Gender (male vs. female), Age Groups (6-7 years vs. 8-9 years), Peeking

Behaviour (peekers vs. non peekers) on the three attachment styles (DV): 1) secure, 2)

avoidant and 3) anxious. Multivariate tests for gender were significant, Wilks' $\Lambda = .813$,

$F(3, 70) = .002$, $p < .05$. The univariate test for the interaction effect for gender on the

DV anxious attachment was also significant, $F(1, 79) = 16.504$, $p < .05$. No other

univariate tests were significant.

Children's lie-telling behaviours in response to the peeking question.

Children's responses to the question *"While I was gone did you peek at the toy?"* were

analyzed. Overall, 84.40% of children who peeked falsely denied peeking. Significantly

more children lied within the control condition than the experimental condition, χ^2 (1, N

$= 45) = .449$, $p <. 0.05$. In the experimental condition, of the children who peeked at the

toy, 16 (72.7%) lied to their parent about peeking. In contrast, in the control condition 22

(95.70%) children lied to the experimenter when asked if they peeked (see Figure 1). No

significant differences were observed between children 6 to 7 years (84.00%) and

children 8 to 9 years (85.00%) who peeked at the toy and then lied about their behaviour,

χ^2 (1, N $= 45) = .629$, *n.s.* (Table 1). No significant differences were observed between

the girls (87.10%) and boys (81.00%) who lied about having peeked at the toy, χ^2 (1, N $=$

45) $= .422$, *n.s.* (see Table 2).

Children's lie-telling behaviours in response to the peeking question and

attachment styles. A 2 x 2 x 2 MANOVA was performed with the 3 independent

variables: Gender (male vs. female), Age Groups (6-7 years vs. 8-9 years), and Deceptive

Behaviour (lie-tellers versus non liars) on the three attachment styles (DV): 1) secure, 2)

avoidant and 3) anxious. Multivariate tests for gender were significant, Wilks' $\Lambda = 7.16$, $F (3, 35) = .008$, $p < .05$. No other multivariate tests were significant. Univariate tests for gender on the DV anxious was significant, $F (1, 44) = 11.76$, $p < .05$. The univariate test for the interaction effect of age by gender on the DV anxious attachment was also significant, $F (1, 44) = 6.881$, $p < .05$. No other univariate tests were significant.

Children's verbal responses to follow-up questions. Children's responses to the two follow-up peeking questions were analyzed to assess their ability to monitor semantic leakage. Children demonstrated no semantic leakage control if they indicated the identity of the toy (e.g., Sponge Bob, Mini Mouse, and Mickey Mouse) when asked what they thought the identity of the toy was. Children demonstrated semantic leakage control if they were able to identify the target toy as something other than what it truly was (e.g., music box) or if the child was able to produce a plausible reason why they thought the target toy was its true identity (e.g., saying the target was Mini Mouse because the music it played was the same music they had heard in a commercial for Mini Mouse toys). Moreover, children received a code of either 0 (no semantic leakage control) or 1 (semantic leakage control) depending on their responses to the two follow-up questions. Children's responses were coded by an experienced and trained research assistant.

Of the children who peeked and lied, overall 67.60% demonstrated no semantic leakage control. In the control condition 69.60% children and 64.30% in the experimental condition did not demonstrate semantic leakage control. The differences between the control and experimental groups in terms of semantic leakage control was not significant, thus indicating no difference between children's ability to control for

semantic leakage regardless of the lie-recipient's relationship with the child, χ^2 (1, N = 36) = .111, *n.s.* No significant differences were observed between children aged 6 to 7 years and 8 to 9 years for semantic leakage control, χ^2 (1, N = 37) = .176, *n.s* (see Table 1). No significant differences were found between boys and girls for semantic leakage control, χ^2 (1, N = 36) = 1.779, *n.s* (see Table 2).

Children's semantic leakage control and attachment styles. A 2 x 2 x 3 MANOVA was performed for 3 independent variables: Gender (male vs. female), Age Groups (6-7 years vs. 8-9 years), and Semantic Leakage Control (no control vs. partial control vs. full control) on the three attachment styles (DV): 1) secure, 2) avoidant, 3) anxious. No multivariate tests were significant. Additionally, no univariate tests were significant.

Disappointing Gift Paradigm

Children's response to the initial question for the disappointing gift paradigm. Children's response to the disappointing gift paradigm question was analyzed. A total of 79 children responded to the disappointing gift question. One child was omitted from the initial 80 participants because they did not respond during the disappointing gift paradigm questioning. A total of 68.40% of children lied when asked by either the experimenter or their parent if they liked the toy they were given. Of these lie-tellers, significantly less children (59.10%) lied to their parent compared to 80.00% of children who lied to the experimenter, χ^2 (1, N = 78) = 3.94, $p < 0.05$ (Figure 1). No significant age differences were observed in terms of lie-telling behaviours, χ^2 (1, N = 79) = .560, *n.s* (see Table 3). No significant gender differences were observed between the

71.10% of girls and 64.70% of boys who lied to either the experimenter or their parents,

χ^2 (1, N = 79) = .358, *n.s* (see Table 4).

Children's lie-telling behaviours and attachment styles. A 2 x 2 x 2

MANOVA was performed with the 3 independent variables: Gender (male vs. female),

Age Groups (6-7 years versus 8-9 years), Deceptive Behaviour (lie-tellers versus non

liars) on the three attachment styles (DV): 1) secure, 2) avoidant and 3) anxious.

Multivariate tests for gender were significant, Wilks' Λ =.774, F (3, 69) = .000, $p < .05$.

No other multivariate tests were significant. Univariate tests for gender on the DV

anxious was significant, F (1, 78) = 19.490, $p < 0.05$. Overall, for anxious attachment,

scores were significantly higher for females (M_{score} = 16.17, SD = 3.57) than males (M_{score} = 13.14, SD = 3.29). No other univariate tests were significant.

Children's responses to follow-up questions for the disappointing gift

paradigm. Children's responses to the two follow-up questions in the disappointing gift

paradigm were analyzed for semantic leakage control. The majority of children were

given either socks or mathematic cards as their disappointing gifts. Children ranked five

different toys before beginning the experimental procedure with an experimenter. The

gift given during the disappointing gift paradigm was the toy they ranked as being the

least desirable.   Children demonstrated semantic leakage control if they were able to

name qualities of the toy they liked (e.g., the color, shape) as well as activities they would

engage in with the toy (e.g., wearing the socks at home). Similar to the temptation

resistance paradigm, children received either a 0 (no semantic leakage control) or

1(semantic leakage control) depending on their responses from the two follow-up

questions. Children's responses were coded by a trained research assistant.

Of the children who lied about liking their disappointing gift, 54.20% of children demonstrated full semantic leakage control, while 45.80% of children did not control for semantic leakage. No significant differences were found for children's ability to control for semantic leakage between the experimental (30.40%) and control conditions (35.70%), χ^2 (1, N = 47) = .284, *n.s.* No significant differences were found between the children's age groups for semantic leakage control, χ^2 (1, N = 47) = 2.35, *n.s.* (See Table 3), nor were any significant gender differences observed between the experimental and control conditions, χ^2 (1, N = 47) = .022, *n.s* (see Table 4).

Children's responses to follow-up questions for the disappointing gift paradigm and attachment. A 2 x 2 x 3 MANOVA was performed for 3 independent variables: Gender (male vs. female), Age Groups (6-7 years vs. 8-9 years), Semantic Leakage Control (no control vs. partial control vs. full control) on the three attachment styles (DV): 1) secure, 2) avoidant, and 3) anxious. Multivariate tests for semantic leakage were significant, Wilks' Λ = .615, F (6, 72) = 2.523, $p < .05$. Univariate tests for semantic leakage control on the DV secure attachment was also significant, F (2, 47) = 5.352, $p < .05$. Overall children with full semantic leakage control demonstrated higher scores for secure attachment (M_{score} = 21.19, SD = 2.15) compared to children with poor semantic leakage control (M_{score} = 19.25, SD = 2.62).   No other univariate tests were significant.

Chapter 4: Discussion

The present study examined children's antisocial and prosocial lie-telling towards either an unfamiliar (experimenter) or familiar (parent) adult. Results revealed significant differences between children's propensity to lie to a stranger compared to a familiar adult. No significant developmental trend was observed between conditions for both lie paradigms. Thus, there was no difference between younger children (ages 6 to 7 years) and older children (ages 8 to 9 years) in terms of their propensity to lie towards an unfamiliar or familiar adult, for either prosocial or antisocial lies. Moreover, similar to previous research no significant gender differences were found (Talwar & Lee, 2002a; 2002b). In terms of semantic leakage control, no significant differences were observed (for both gender and age) between the conditions for both lie paradigms. Attachment results did not support the researcher's hypotheses. The majority of these results were not statistically significant.

Differences in Antisocial Lie-Telling Behaviours

Antisocial lie-telling was observed through the use of a modified temptation resistance paradigm. Similar to previous studies (Lewis et al., 1989; Talwar & Lee, 2002a), in the current study the majority of children peeked at the toy regardless of whether it was a parent (or stranger) who instructed them not to peek. Furthermore, as found in previous studies the majority of children lied about their transgression. However, there were significant differences in the number of children who lied in the experimental versus the control condition. While almost all children lied to an experimenter in the control condition, children were less likely to lie to a parent in the experimental condition. This finding is contrary to the original hypothesis that children

would lie more to parents and less to strangers during the modified temptation resistance paradigm. It was hypothesized that a child would attempt to avoid punishment by lying to their parent about their peeking behaviours. However, the current findings suggest children may have been motivated to tell the truth to their parents due to consideration of the potential consequences of lying to their parent. It is possible that children assessed the cost/benefit ratio of admitting they peeked to their parent versus being caught in the lie. In Wilson et al.'s (2003) observational study, the researchers found that the majority of children's lies told within the home environment were antisocial, and that the majority of these lies, when discovered, were punished by parents. Furthermore, Wagland and Bussey (2005) found that children were more likely to tell the truth about a transgression when the potential for punishment of the transgression was low. Research has shown that when children expect to be punished for peeking at the toy, during the temptation resistance paradigm, they are more likely to lie (Williams, Talwar, & Lee, 2008). In the case of the current study, it is possible that children felt the likelihood of being punished for the peeking transgression was low with their parents and therefore, they were more inclined to be truthful. The findings of the current study indicate that, although children do tell antisocial lies, they may be less likely to employ an antisocial lie towards a parental figure, compared to other unfamiliar adults.

Overall, there are several explanations for children's antisocial lie-telling behaviours found within the current study. Perhaps children lied less to a parent than an unfamiliar adult because the result of lying to a parent is more serious and holds greater consequences to the child if discovered than telling the same lie to an unfamiliar adult. In addition, the consequences of lying to a parent paired with the actual nature of the

transgression may have made children view lie-telling as a less attractive strategy when they were interacting with their parent. The consequences of peeking when a parent has instructed a child not to may appear to be a minor transgression, one they are unlikely to be punished for, and therefore, children are more likely to be truthful with a parent concerning their misdeed. In contrast, an unfamiliar adult may react more negatively to this transgression and therefore, the children employed lie-telling to hide their misdeed. Finally, a parent's familiarity with their children's lie-telling behaviour may have influenced children's behaviours. Unlike unfamiliar adults, children's parents are more likely to catch their child in a lie, given the parent's experience with their own child's deceptive behaviours. Children could be aware of this and therefore, when estimating the likelihood of being caught telling a lie, they are more apt to deceive an unfamiliar adult than their own parent, which could again influence lie-telling behaviours. However, it should be noted that overall the majority of children chose to lie about their misdeed to either the unfamiliar adult or the parent. Thus, overall children did choose the strategy of concealing their transgression.

Differences in Prosocial Lie-Telling Behaviours

Children's prosocial lie-telling was examined through a modified disappointing gift paradigm. Similar to previous studies (Talwar & Lee, 2002b; Talwar et al., 2007) the majority of children told a prosocial lie. As hypothesized, significantly more children told prosocial lies (80%) to an unfamiliar adult compared to parents (59%). As previously noted, parents often encourage and model prosocial lie-telling to their children (Wilson et al., 2003). Researchers have found that parents often prefer children to lie prosocially instead of revealing the truth, if the truth is socially inappropriate (Eisenberg

& Murphy, 1995). Furthermore, parents often condone lying for politeness reasons, and

will often punish children's antisocial lies while ignoring or encouraging their prosocial

lies (Talwar et al., 2007; Wilson et al., 2003). When children are encouraged to tell a

prosocial lie, it is often not towards a parent but rather towards another adult or child with

whom the child may be less familiar. Thus, consistent with previous research, the

disappointing gift paradigm used in this study was more likely to induce a lie from a child

if the lie-recipient was an unfamiliar adult.

Semantic Leakage Control in Both Antisocial and Prosocial Lie-telling

No significant differences were observed between children's semantic leakage

control when lying to a parent versus a stranger. Furthermore, no significant

developmental trends were observed in children's semantic leakage control. At first this

appears to be inconsistent with previous research, which has found that children's

semantic leakage control increases with age (Talwar & Lee, 2002a, 2002b; Talwar et al.,

2007). However, these studies reported that children under 6 and 7 years of age have

significantly poorer semantic leakage abilities. In the current sample children were 6

years or older. Therefore, if a younger sample had been included in this study,

developmental differences in semantic leakage control might have been observed.

However, it should be noted that children in the current study showed comparable

semantic leakage abilities to children of the same age in previous studies (e.g., Talwar &

Lee, 2008). Children's abilities to maintain semantic leakage may further increase with

age. Future studies should examine children's abilities with a larger age range that

includes both preschool children as well as pre-adolescents.

In terms of prosocial lie-telling and semantic leakage control, significant

differences were found in relation to attachment. Children's semantic leakage control

was significantly related to their scores for secure attachment. Thus, children who scored

higher in semantic leakage control also scored higher for secure attachment. This

indicates that those children with a secure relationship with their primary caregiver were

more capable at concealing their prosocial lie-telling. Despite this finding, no differences

were found in terms of children's semantic leakage and the lie recipient (i.e., parent

versus an unfamiliar adult). It is possible that children with a secure attachment to their

primary caregiver are more accustomed to using prosocial deception within their

everyday interactions, therefore, making these children more skilled at controlling for

prosocial semantic leakage. More research as to the relation to prosocial lie-telling and

attachment styles would be required to support this argument. Currently, researchers

have observed that by the age of 5 years, children with a secure attachment style do

demonstrate emotional understanding in others (Ontai & Thompson, 2002). Thus,

children with a secure attachment understand others and therefore work harder during

their prosocial lies to conceal the truth to the lie recipient.

Summary of Antisocial and Prosocial Lie-Telling

Researchers have reported that parents often educate their children regarding the

inappropriate use of lie-telling (DePaulo & Jordan, 1982). Interestingly, in the case of

antisocial lies, although parents will often instruct their children not to lie, it appears that

this instruction may be limited to not lying towards the parental figure themselves.

Furthermore, in terms of prosocial lie-telling, Wilson et al. (2003) observed that although

parents will often reprimand a child for telling antisocial lies, lies of the prosocial nature

are often unaddressed or even encouraged by parents. Despite these mixed messages

concerning the acceptability of deception children appear to use deception (both prosocial

and antisocial) towards unfamiliar adults, regardless of parental instructions as to the

acceptability of the nature of the lie. Thus, when children are faced with the opportunity

to lie to an unfamiliar adult who has not instructed them about the negative consequences

of lie-telling, children may be more likely to lie. In the case of antisocial lies, the benefit

of lying to a parent might not outweigh the cost of being caught in such a lie. In contrast,

when children lie to an unfamiliar adult, the benefit of lying may be higher, given the

relatively unknown cost of being caught. In contrast, in the case of prosocial lies, the

need to spare a parents feelings in the case of a disappointing gift may not be as

necessary as sparing the feelings of a stranger. It may be easier for a child to reveal their

disappointment in a gift to a parent (who has presumably given a child several gifts over

their life time) than to disappoint an unknown stranger, whose reaction to the child's

disappointment is unknown. Overall, despite parents' best efforts to teach their children

not to lie, children continue to lie at high rates to unfamiliar adults for both prosocial and

antisocial reasons.

Limitations and Future Directions

Within the current research, it was found that children lied significantly more to

the experimenters than what has been previously found in the literature. No age

differences were observed in terms of lie-telling behaviours as well as semantic leakage

control. This finding was contrary to the hypothesized age differences proposed by the

researchers. Previous researchers have found age differences in children's ability to tell

and maintain their lies (Talwar & Lee, 2002a, 2002b). In these studies, the researchers

examined the age differences between children ranging from 3 to 7 years of age. In contrast, the current study examined differences in children between the ages of 6 to 9 years of age. It may be possible, that children's lie-telling improved and subsequent semantic leakage control improves until around middle school age. It is possible that the age range within the current study was not large enough to capture the potential age differences between children's lie-telling abilities. Thus, in future studies researchers should examine children's lie-telling abilities to both familiar and unfamiliar adults with a larger age range, in particular potential differences between younger pre-school aged children and middle school aged children.

In terms of attachment, the current study did not find significant differences between children's attachment styles and their lie-telling behaviours. There was a significant interaction between security of attachment and semantic leakage control for prosocial lie-telling. One limitation of the study was the attachment measure. Although the measure has been validated by Finzi et al. (1996), other measures of attachment have been used more reliably within the literature. Most notably, if a younger age group were to be examined, then the Q-sort attachment measure could be used to categorize children's attachment styles (Waters & Deane, 1985). The advantage of the Q-sort is that it is a reliable and well established attachment measure, which has been used by several researchers, over an extended period of time (Van Ijzendoorn, Vereijken, Bakermans-Kranenburg, & Riksen-Walraven, 2004). In contrast, the measure used within the current study has been primarily used by one research group and has yet to obtain the level of use of a measure such as the Q-sort.

Conclusion

Children are often instructed by parents regarding the different types of lies and the general acceptability of using certain lies in different social situations. By pre-school age, children often begin to learn that some forms of lie-telling are more accepted than others (Peterson, Peterson, & Seeto, 1983).   Given the research on parental attitudes towards lies (both prosocial and antisocial) as well as the findings of the current study, it can be argued that parental socialization, the nature of the relationship between the child and parent, and the potential lie recipient influence whether a child will indeed lie. Although this is the first study to directly measure the rates of these lies to different recipients, the findings raise important questions regarding the influence of parental communication factors on children's behaviours, particularly lie-telling. Furthermore, to date, researchers have primarily focused on the types of children's lies, as well as the age in which children first begin to lie. The findings of the current study indicate that the nature of the relationship between the child and lie-recipient is equally, if not more, important than the actual type of lie told. Regardless of the type of lie (either prosocial or antisocial), children appear to value close interpersonal relationships and therefore, such a relationship will affect whether they chose to lie or tell the truth.

References

Ainsworth, M. D. S., (1979). Infant-mother attachment. *American Psychologist, 34*, 932–
937. doi: 10.1037/0003-066X.34.10.932

Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment.*
Hillsdale, NJ: Erlbaum.

Aldridge, J., & Cameron, S. (1999). Interviewing child witnesses: Questioning strategies
and the effectiveness of training. *Applied Developmental Science, 3*, 136–147.
doi: 10.1207/s1532480xads0302_7

Arruda, C, Brunet, M., Popliger, M., Ross, I., McCarthy, A., & Talwar, V. (2007,
March). *"I Cannot Tell a Lie": Enhancing Truth-Telling in Children Through the
Use of Traditional Stories.* Poster session presented at the biennial meeting of the
Society for Research in Child Development Biennial Conference, Boston, MA.

Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: A
meta-analysis. *Journal of Reproductive and Infant Psychology, 24,* 187–197. doi:
10.1080/02646830600821231

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change.
Psychological Review, *84*, 191–215. doi: 10.1037/0033-295X.84.2.191

Biskin, D., & Hoskisson, K. (1977). An experimental test of the effects of structured
discussions of moral dilemmas found in children's literature on moral reasoning.
The Elementary School Journal, 77, 407-416. doi: 10.1086/461074

Bowlby, J. (1977). The making and breaking of affectional bonds. *British Journal of
Psychiatry, 130,* 201-210.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory.* London,

    England: Routlege.

Bottoms, B. L., Goodman, G. S., Schwartz-Kenney, B. M., & Thomas, S. N. (2002).

    Understanding children's use of secrecy in the context of eyewitness reports. *Law*

    & Human Behavior, *26,* 285–313. doi:10.1023/A:1015324304975

Bull, R. (1995). Innovative techniques for the questioning of child witnesses especially

    those who are young and those with learning disability. In M., Zaragoz, J. R.,

    Graham, G. C. N., Hall, R., Hirschman, & Y.S. Ben-Porath, (Eds.), *Memory and*

    testimony in the child witness (pp. 179–194).Thousand Oaks, CA: Sage.

Bussey, K. (1999). Children's categorization and evaluation of different types of lies and

    truths. *Child Development, 70*, 1338–1347. doi: 10.1111/1467-8624.00098

Bussey, K., & Grimbeck, E. J. (2000). Children's conceptions by lying and truth-Telling:

    Implications for child witnesses. *Legal and Criminological Psychology, 5,* 187–

    199. doi: 10.1348/135532500168083

Chandler, M., Fritz, A. S., & Hala, S. (1989). Small-scale deceit-deception as a marker of

    2-year-old, 3-year-old, and 4-year-olds early theories of mind. *Child*

    Development, 60, 1263-1277. doi:10.1111/1467-8624.ep9676781

Cole, T. (2001). Lying to the one you love: The use of deception in romantic

    relationships. *Journal of Social and Personal Relationships, 18,* 107-129. doi:

    10.1177/0265407501181005

Crittenden, P. M. (2000). A dynamic maturational exploration of the meaning of security

    and adaptation: Empirical, cultural and theoretical considerations. In P.M

    Crittenden & A. H. Claussen (Eds.), *The organization of attachment*

relationships: Maturation, cultural and context (pp. 358-383). New York, NY:

Cambridge University Press.

DePaulo, B. M., Ansfield, M. E., Kirkendol, S. E., & Boden, J. M. (2004). Serious lies.

Basic and Applied Social Psychology, *26*, 147-167. doi:

10.1207/s15324834basp2602&3_4

DePaulo, B. M., & Jordan, A. (1982). Age changes in deceiving and detecting deceit. In

R. S. Feldman (Ed.), *Development of nonverbal behavior in children* (pp.151-

180). New York, NY: Springer-Verlag.

DePaulo, B. M., & Kashy, D. A. (1998). Everyday lies in close and casual relationships.

Journal of Personality and Social Psychology, *74*, 63–79. doi:10.1037/0022-

3514.74.1.63

DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996).

Lying in everyday life. *Journal of Personality and Social Psychology*, *70*, 979-

995. doi: 10.1037/0022-3514.70.5.979

Eisenberg, N., & Murphy, B. (1995). Parenting and children's moral development. In M.

H. Bornstein (Ed.), *Handbook of parenting, vol. 4: Applied and practical

parenting* (pp. 227–257). Mahwah, NJ: Lawrence Erlbaum.

Ennis, E., Vrij, A., & Chance, C. (2008). Individual Differences and Lying in Everyday

Life. *Journal of Social and Personal Relationships, 25*, 105–118.

doi:10.1177/0265407507086808

Feldman, R. S., Philippot, P., & Custrini, R. J. (1991). Social competence and nonverbal

behavior. In R. S. Feldman, & B. Rime (Eds.), *Fundamentals of nonverbal

behavior* (pp. 329-350). New York, NY: Cambridge University Press.

Finzi, R., Har-Even, D., Weizman, A., Tyano, S., & Shnit, D. (1996). The adaptation of

the attachment style questionnaire for latency-aged children. [Hebrew].

Psychology, *5*, 167-177.

Finzi, R., Ram, A., Har-Even, D., Shnit, D., & Weizman, A. (2001). Attachment styles in

physically abused and neglected children. *Journal of Youth and Adolescence, 30*,

769–786. doi: 10.1023/A:1012237813771

Ford, C. V. (1996). *Lies! Lies!! Lies!!! The Psychology of Deceit.* Washington, DC:

American Psychiatric Press.

Gallup, G., JR. (1970). Chimpanzees' self recognition. *Science, 167,* 86-87. doi:

10.1126/science.167.3914.86

Goodman, G. S., & Bottoms, B. L. (Eds.), (1993). *Child victims, child witnesses:*

Understanding and improving testimony. New York, NY: Guilford.

Hazen, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process.

Journal of Personality and Social Psychology, *52*, 511–524. doi: 10.1037/0022-

3514.52.3.511

Kern, A. K., & Stevens, C. A. (1996). Parent-child attachment in late adolescence: Links

to social relations and personality. *Journal of Youth and Adolescence, 25*, 232-

342. doi: 0047-2891/96/0600-0323509.50/0

Lamb, M. E. (1994). The investigation of child sexual abuse: An interdisciplinary

consensus statement. *Child Abuse & Neglect, 18,* 1021–1028. doi: 10.1016/0145-

2134(94)90127-9

Lewis, M., & Saarni, C., (Eds.). (1993). *Lying and Deception in Everyday Life.* New

York, NY: Guilford Press.

Lewis, M., Stanger, C., & Sullivan, M. W. (1989). Deception in 3-year-olds.

>   *Developmental Psychology, 25*, 439-443. doi:10.1037/0012-1649.25.3.439

Lewis, M., Sullivan, M. W., Stanger, C., & Weiss, M. (1989). Self-development and self-

>   conscious emotions. *Child Development*, *60*, 146–156. doi: 10.1111/1467-

>   8624.ep7250935

Main, M., & Solomon, J. (1986). Discovery of an insecure-disorganized/disoriented

>   attachment pattern: Procedures, findings and implications for the classification of

>   behavior. In T. B. Brazelton & M.W. Yogman (Eds.), *Affective Development in*

>   *Infancy* (pp. 95-124). Norwood, NJ: Ablex.

Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of

>   personal death: A case study of affect regulation. *Journal of Personality and*

>   *Social Psychology, 58*, 273–280. doi: 10.1037/0022-3514.58.2.273

Newton P., Reddy V., & Bull R. (2000). Children's everyday deception and performance

>   on false-belief tasks. *British Journal of Developmental Psychology*, 18, 297–317.

>   doi: 10.1348/026151000165706

Ontai, L. L., & Thompson, R. A. (2002). Patterns of attachment and maternal discourse

>   effects on children's emotion understanding from 3 to 5 years of age. *Social*

>   *Development*, *11*, 433–450. doi: 10.1111/1467-9507.00209

Peskin, J. (1992). Ruse and representation: On children's ability to conceal information.

>   *Developmental Psychology*, 28, 84–89. doi:10.1037/0012-1649.28.1.84

Peterson, C. (1996). Deception in intimate relationships. *International Journal of*

>   *Psychology, 31*, 279-288. doi:10.1080/002075996401034

Peterson, C. C., Peterson, J. L., & Seeto, D. (1983). Developmental changes in ideas

      about lying. *Child Development, 54,* 1529–1535.

Piaget, J. (1965). *The moral judgment of the child.* New York, NY: Free Press.

Polak, A., & Harris, P. L. (1999). Deception by young children following noncompliance.

      Developmental Psychology, 35, 561–568. doi:10.1037/0012-1649.35.2.561

Raskin, D. C., & Yuille, J. C. (1989). Problems in evaluating interviews of children in

      sexual abuse cases. In S. J. Ceci, D. F. Ross, & M. P. Toglia (Eds.), *Perspectives*

      on children's testimony (pp. 184--207). New York, NY: Springer-Verlag.

Sears, R., Rau, L., & Alpert, R. (1965). *Identification and Children Rearing.* New York,

      NY: John Wiley.

Talwar, V., Gordon, H., & Lee, K. (2007). Lying in the elementary school: Verbal

      deception and its relation to second-order belief understanding. *Developmental*

      Psychology, *43,* 804–810. doi:10.1037/0012-1649.43.3.804

Talwar, V., & Lee, K. (2002a). Development of lying to conceal a transgression:

      Children's control of expressive behavior during verbal deception. *International*

      Journal of Behavioral Development, 26, 436-444.

      doi:10.1080/01650250143000373

Talwar, V., & Lee, K. (2002b). The emergence of white-lie telling in children between 3

      and 7 years, *Merrill-Palmer Quarterly, 48,* 160–181. doi:

      10.1353/mpq.2002.0009

Talwar, V., & Lee, K. (2008). Social and cognitive correlates of children's lying. *Child*

      Development, 79, 866–881. doi:10.1111/j.1467-8624.2008.02264.x

Talwar, V., Lee, K., Lindsay, R. C. L., & Bala, N. (2004). Children's lie-telling to conceal a parent's transgression: Legal implications. *Law and Human Behavior, 28*, 411–435. doi: 10.1023/B:LAHU.0000039333.51399.f6

Talwar, V., Murphy, S., & Lee, K. (2007). White lie-telling in children for politeness purposes. *International Journal of Behavioral Development*, *31*, 1–11. doi: 10.1177/0165025406073530

Van Ijzendoorn, M. H. , Vereijken, C. M. J. L., Bakermans-Kranenburg, M. J., & Riksen-Walraven, J. M. A. (2004). Assessing attachment security with the Attachment Q sort: Meta-analytic evidence for the validity of the observer AQS. *Child Development, 75,* 1188-1213.

Wagland, P., & Bussey, K. (2005). Factors that facilitate and undermine children's beliefs about truth telling. *Law & Human Behavior*, *29*, 639–655. doi: 10.1007/s10979-005-7371-y

Warr, M. (2007). The tangled web: delinquency, deception, and parental attachment. *Journal of Youth and Adolescence, 36*, 607–622. doi: 10.1007/s10964-006-9148-0

Waters, E., & Deane, K. E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bremerton & L. Waters (Eds.), *Growing points of attachment: Theory and research* (pp. 41-65). *Monographs of the Society for Research in Child Development,* 50 (1-2, Serial No. 209).

Williams, S., Talwar, V., & Lee, K. (June, 2008). *Deception amongst children and socio-cognitive development.* Paper presented at the Jean Piaget Society conference, Quebec City, Quebec.

Wilson, A. E., Smith, M.D., & Ross, H. S. (2003). The nature and effects of young

      children's lies. *Social Development, 12*, 21–45. doi:10.1111/1467-9507.00220

Xu, F., Bao, X., Fu, G., Talwar, V., & Lee, K. (2010). Lying and truth-telling in children:

      From concept to action. *Child Development, 81*, 581-596. doi:10.1111/j.1467-

      8624.2009.01417.x

Table 1

Percentage (Number) of Children who Peeked, Lied and Controlled for Semantic Leakage in Temptation Resistance Paradigm by Condition and Age (Years)

	Conditions			
	Experimental (Familiar)		*Control (Unfamiliar)*	
	6-7	*8-9*	*6-7*	*8-9*
Peekers	27%	21%	29%	23%
	(13)	(10)	(14)	(11)
Lie-Tellers	24%	18%	32%	26%
	(9)	(7)	(12)	(10)
Semantic Leakage	25%	16.5%	16.5%	42%
Control	(3)	(2)	(2)	(5)

Table 2

Percentage (Number) of Children who Peeked, Lied and Controlled for Semantic in the Temptation Resistance Paradigm by Condition and Gender

| | Conditions | | | |
| | Experimental (Familiar) | | Control (Unfamiliar) | |
	Female	Male	Female	Male
Peekers	29%	19%	25%	27%
	(14)	(9)	(12)	(13)
Lie-Tellers	26%	16%	29%	29%
	(10)	(6)	(11)	(11)
Semantic Leakage	33%	8%	42%	17%
Control	(4)	(1)	(5)	(2)

Table 3

Percentage (Number) of Children who Lied and Controlled for Semantic Leakage in the Disappointing Gift Paradigm by Condition and Age (Years)

| | Conditions | | | |
| | Experimental (Familiar) | | Control (Unfamiliar) | |
	6-7	8-9	6-7	8-9
Lie-Tellers	30%	18%	26%	26%
	(16)	(10)	(14)	(14)
Semantic Leakage	19%	23%	27%	31%
Control	(5)	(6)	(7)	(8)

Table 4

Percentage (Number) of Children who Lied and Controlled for Semantic Leakage in the Disappointing Gift Paradigm by Condition and Gender

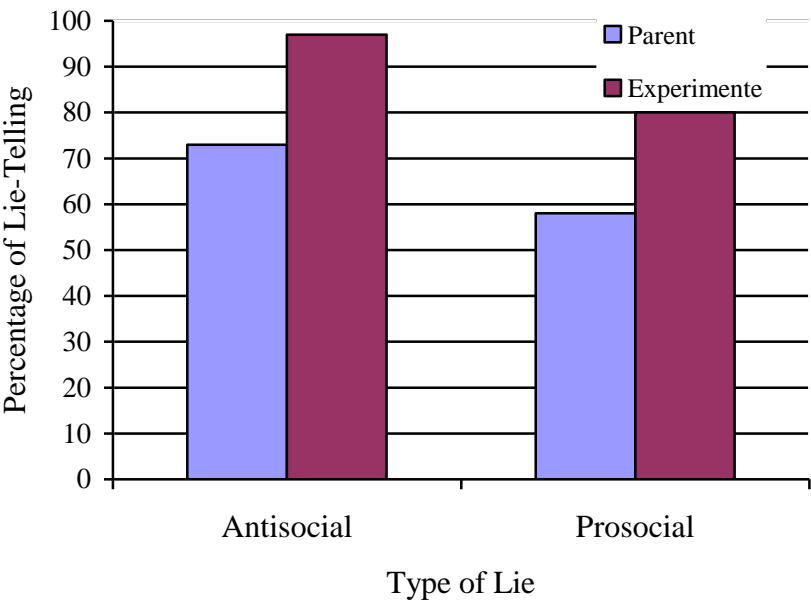| | *Conditions* | | | |
	Experimental (Familiar)		*Control (Unfamiliar)*	
	Female	*Male*	*Female*	*Male*
Lie-Tellers	26%	22%	33%	19%
	(14)	(12)	(18)	(10)
Semantic Leakage	23%	19%	39%	19%
Control	(6)	(5)	(10)	(5)

Figure 1. Rate of lie-telling to familiar and unfamiliar adults for both antisocial and prosocial lies.

Appendix A

McGill University

ETHICS REVIEW
RENEWAL REQUEST/FINAL REPORT

Continuing review of human subject research requires, at a minimum, the submission of an annual status report to the REB. This form must be completed to request renewal of ethics approval. If a renewal is not received before the expiry date, the project is considered no longer approved and no further research activity may be conducted. When a project has been completed, this form can also be used as a Final Report, which is required to properly close a file. To avoid expired approvals and, in the case of funded projects, the freezing of funds, this form should be returned 3-4 weeks before the current approval expires.

REB File #: REB # 658-0506
Project Title: **The development of children's lie-telling**
Principal Investigator: Victoria Talwar
Department/Phone/Email: Educational & Counselling Psychology, 398-3438, victoria.talwar@mcgill.ca
Faculty Supervisor (for student PI):

1. Were there any significant changes made to this research project that have any ethical implications? ___Yes ✓ No
   If yes, describe these changes and append any relevant documents that have been revised.

2. Are there any ethical concerns that arose during the course of this research? ___ Yes ✓ No. If yes, please describe.

3. Have any subjects experienced any adverse events in connection with this research project? ___ Yes ✓ No
   If yes, please describe.

4. ✓ This is a request for renewal of ethics approval.

5. ____ This project is no longer active and ethics approval is no longer required.

6. List all current funding sources for this project and the corresponding project titles **if not exactly the same as the project** title above. Indicate the Principal Investigator of the award if not yourself.

Principal Investigator Signature: _Victoria Talwar_ Date: _March 15 2010_

Faculty Supervisor Signature: _____ Date: _____
(for student PI)

For Administrative Use   REB: ___ REB-I ✓ REB-II ___ REB-III

____ The closing report of this terminated project has been reviewed and accepted

✓ The continuing review for this project has been reviewed and approved

✓ Expedited Review   ___ Full Review

Signature of REB Chair or designate: _____ Date: _April 1, 2010_

Approval Period: _April 1, 2010_ to _March 31 2011_

****NOTE NEW MAILING ADDRESS****
Submit to Lynda McNeil, Research Ethics Officer, 1555 Peel Street, 11th floor, fax: 398-4644 tel:398-6831

(version 12/07)

Appendix B

Attachment Style Classification Questionnaire for Latency Age Children (English
translation of Hebrew version).

Here are 15 sentences. How true is each of the sentences for you? Everyone has his or
her own answer. Try to answer only what you feel. This is not a test, and there are no
right or wrong answers. Read each sentence carefully. Then choose one of the five
answers in the box below. Every answer has a number. Circle the number of the answer
that best describes you.

1	2	3	4	5
All wrong	Wrong	A bit wrong/a bit right	Right	Very right

1.   I make friends with other children easily   1 2 3 4 5
2.   I don't feel comfortable trying to make friends   1 2 3 4 5
3.   It is easy for me to depend on others, if they're
        good friends of mine   1 2 3 4 5
4.   Sometimes others get too friendly and too close to me   1 2 3 4 5
5.   Sometimes I'm afraid that other kids won't want
        to be with me   1 2 3 4 5
6.   I'd like to be really close to some children and
        always be with them   1 2 3 4 5
7.   It's all right with me if good friends trust and
        depend on me   1 2 3 4 5
8.   It's hard for me to trust others completely   1 2 3 4 5
9.   I sometimes feel that others don't want to be
        good friends with me as much as I do with them   1 2 3 4 5
10.   I usually believe that others who are close to me
        will not leave me   1 2 3 4 5
11.   I'm sometimes afraid that no one really loves me   1 2 3 4 5
12.   I find it uncomfortable and get annoyed when
        someone tries to get too close to me   1 2 3 4 5
13.   It's hard for me to really trust others, even if
        they're good friends of mine   1 2 3 4 5
14.   Children sometimes avoid me when I want to
        get close and be a good friend of theirs   1 2 3 4 5
15.   Usually, when anyone tries to get too close to me
         it does not bother me   1 2 3 4 5