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The Relationship between Machiavellianism, Social Goals and Social Aggression

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The Relationship between Machiavellianism, Social Goals and Social Aggression

by

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# The Relationship between Machiavellianism, Social Goals and Social Aggression

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Social aggression – the use of covert forms of aggression such as betrayal, gossip, and rumor-spreading – has only recently been the focus of research and is not yet well understood. This study hypothesizes that the tactics of socially aggressive children are consistent with the social manipulations of Machiavelli. Niccolo Machiaveli wrote extensively on the coercive techniques he used to gain power, achieve his goals, and defend his country (e.g. Machiavelli, 1513/1968). Christie and Geis (1970), inspired by Machiaveli, began researching a form of social manipulation that they term Machiavellianism. While the similarities in characteristics of Machiavellian and socially aggressive children seem to indicate that they may share behavioral strategies and social goals, there is no research to date that compares these children. Additionally, since little research has examined the goals of social aggression in relational conflict situations this study used a quantitative measure of social goals in order to better understand the purpose of a child's behavior.

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## CHAPTER 1

### Introduction

The popular media has recently given attention to a covert form of aggression that has previously been relatively unstudied in research. Recent movies and books depict children and adolescents using gossip, rumor-spreading and other covert forms of aggression to manipulate their peers. These stories parallel a new line of research that departs from a previous emphasis on physical aggression and instead examines more subtle forms of aggression termed social, indirect or relational aggression. These covert aggressive acts ranging from rumor spreading to triangulation of relationships – here termed social aggression but used almost interchangeably with relational and indirect aggression – can be described as behaviors that hurt or exclude with the intention of causing social harm (Underwood, 2003).

The effects of social aggression on victim and bully alike are cause for concern. Victims of social aggression suffer from increased loneliness (Crick & Grotpeter, 1995; Prinstein, Boergers & Vernberg, 2001), decreased self worth (Owens, Slee & Shute, 2000; Prinstein et al., 2001) and increased incidence of depression (Crick & Grotpeter, 1995; Prinstein et al., 2001). Studies suggest that social aggression causes both social anxiety (Crick & Grotpeter, 1996) and social isolation (Underwood, 2003) on the part of the victim. The effects on the bully have also been shown to be negative. Relationally aggressive children have been shown to have significantly higher levels of depression than their non-relationally aggressive peers and to be more lonely and more disliked than their peers (Crick & Grotpeter, 1995).

These negative effects on the social aggressor beg the question, “Why would these children continually choose social aggression as a strategy?” To answer this question, models of social information processing have been used to explain how children interpret social interactions and choose a behavioral strategy. Crick and Dodge’s (1996) Social Information Processing model suggests that children who choose an aggressive behavioral strategy suffer from a processing deficit that prevents them from choosing a more adaptive strategy. In a competing theory, Theory of Mind (ToM), Sutton, Smith and Swettenham (1999a) explain that children who choose aggression as a strategy do so because that strategy choice has previously been successful at achieving a similar goal. Repacholi, Slaughter and Pritchard’s (2003) findings that children who were skilled manipulators were not deficient in their processing abilities but had similar ToM skills to their same-aged peers supports Sutton and colleagues’ explanation. The debate is ongoing, but there is evidence to support the idea that it is the goal of the child that determines why a child might select a socially aggressive behavioral strategy.

Although little research has examined the social goals of aggression, researchers have noted that focusing on the goals of socially aggressive behavior is important and will help to better inform interventions (e.g., Arsenio & Lemerise, 2001; Underwood, 2003). Additionally, while a large body of research exists regarding the goals of physically aggressive strategies, there is indication that these goals may not be the same when a child chooses a socially aggressive strategy. Researchers have traditionally studied conflict situations focused on obtaining a resource, such as access to a favorite toy – a focus specifically chosen to understand physical aggression. Whereas the study of physical aggression may be better suited for conflict over resources, to study social

aggression it may be more fitting to study conflicts about relationships (Crick & Grotpeter, 1995; Delveaux & Daniels, 2000).

Goals in relational conflicts can be thought of as “social goals,” defined as the goals of a child in a social interaction (Brown, Odom, & Holcombe, 1996). This study will increase our understanding of social aggression by connecting specific social goals (Relational Exclusivity, Friendship Continuation, Social Instrumentation, Revenge, and Relational inclusivity) to socially aggressive behavior. Although interventions have been crafted to eliminate socially aggressive behaviors, it will be difficult to effectively eliminate social aggression without understanding what social goals the behavior fulfills. Preliminary research has focused on the social goals of social aggression (e.g., Crain, Finch, & Foster, 2005; Delveaux & Daniels, 2000) yet there is a need to further explore these social goals quantitatively in the context of interpersonal conflict situations.

This study hypothesizes that the tactics of socially aggressive children are consistent with the social manipulations of Machiavelli. Niccolo Machiaveli wrote extensively on the coercive techniques he used to gain power, achieve his goals, and defend his country (e.g. Machiavelli, 1513/1968). Two researchers, Christie and Geis (1970), were inspired by Machiaveli and began researching a form of social manipulation that they term Machiavellianism. Later this construct was more fully defined as “a strategy of social conduct that involves manipulating others for personal gain” (Wilson, Near, & Miller, 1996, p. 285). While the similarities in characteristics of Machiavellian and socially aggressive children seem to indicate that they may share behavioral strategies and social goals, there is no research to date that compares these children. This

study will look at whether or not these children have similar social goals, and if a child who is Machiavellian is also socially aggressive.

Hawley (2003) suggests Machiavellians may be able to balance prosocial and coercive strategies, enabling them to attain their goals while maintaining their standing in the social group. Indeed a new line of research provides evidence that the use of social aggression does not necessarily lead to negative outcomes for the aggressor. Children who are able to balance their use of social aggression with other strategies may avoid both negative emotional and behavioral outcomes (Xie, Cairns, & Cairns, 2002). While past sociometric research focused only on liked children, new research differentiates children who are liked from children who are popular (Prinstein & Cillessen, 2003). In doing so, this research demonstrates that children may use social aggression and therefore not be liked, but still ascend the peer group hierarchy in popularity (Prinstein & Cillessen, 2003) thereby disputing the concept that socially aggressive children are rejected by their peers (Crick & Grotpeter, 1995).

How children view interpersonal relationships may impact how they ascend these hierarchies and achieve popularity, as well as how they satisfy their own social goals. Those who are coercive may be able to meet their goals if they are able to balance their use of social aggression with other strategies. Sutton and Keogh (2000) suggest that the strategies of the Machiavellian child are similar to covert aggressive behaviors, such as gossip spreading and social exclusion, otherwise referred to as social aggression. The connection between the Machiavellian child, though implied (Sutton & Keogh, 2000), has not been explicitly made.

The purpose of this study is to analyze the social goals of the Machiavellian and socially aggressive child. This study will expand upon previous literature by determining the social goals for both boys and girls, specifically within an interpersonal conflict situation. This study will also determine if Machiavellianism predicts social aggression. By undertaking these goals, this study hopes to unite two ways of characterizing coercive strategies, Machiavellianism and social aggression, as well as to better understand the goals of both strategies.

## CHAPTER 2

### Literature Review

This literature review will first explain how social aggression evolved from the study of aggression and then examine the current research on the developmental, cultural, and gender factors of social aggression. Following this, the construct of Machiavellianism will be discussed in terms of origin, personality characteristics, and correlates. Machiavellianism will also be discussed in terms of social goals, and similarities with social aggression. Lastly, the research questions of the current study, as well as the hypotheses, will be discussed.

#### *A New Conceptualization of Aggression*

Broadly, aggression can be considered simply as the intent to do harm (Buss, 1961). Many instantly think of physical acts of harm when the word “aggression” is mentioned. Harm may or may not, however, be physical suffering. If the intent of aggression is to inflict pain, aggression is not only isolated to physical acts (Buss, 1961; Feshbach, 1969). In the middle of the twentieth century it was thought that women did not engage in aggression as frequently as men (Underwood, 2003); however, by the turn of the century a new perspective emerged. As researchers broadened their definition of aggression to include non-physical aggression, it was believed that women, in particular, used more subtle and vicious behavioral strategies compared to the direct physical aggression of men (Bandura, 1973; Hartup, 1974). It was suggested that the difference in the occurrence of aggression resulted from females engaging in a more covert type of aggression (Grotmeter & Crick, 1996) that was not a focus of previous research. In recognition that aggression takes many forms, subtypes of covert aggression have been

created to reconcile research findings describing different types of behaviors, and to encapsulate harmful behaviors that were restricted by the definition of physical aggression (Underwood, 2003).

Once aggression was broadened to include acts beyond physical aggression, researchers began focusing on this new field of covert aggressive acts. As early as 1961, A.H. Buss defined these behaviors by coining the term “indirect aggression” (Buss, 1961). In the early 1980’s, a group of Finnish researchers began using the term “indirect aggression” to describe covert aggressive acts similar to those Buss described. As these researchers in Finland broke new ground in understanding a new conceptualization of aggression, Crick began work in the United States using a similar construct but calling it “relational aggression.”

Recently, researchers have begun to call for a common term and definition to be used to unify research in the field (Archer & Coyne, 2005). Underwood reconciled these slightly different definitions and terms by suggesting the term “social aggression” be used. Social aggression in her conceptualization encapsulates behaviors described by indirect and relational aggression, as well as behaviors that are covert and intending to harm that neither had described. The following section will discuss each of these three categories of covert aggression: indirect, relational, and social aggression. As researchers have come to recognize that the distinctions between these definitions is minor at best (Archer & Coyne, 2005; Kaukiainen et al., 1999; Underwood, 2003) they will be considered as one construct throughout the remaining discussion.

*Indirect aggression.* A covert form of aggression was first identified by A.H. Buss in 1961 who defined indirect aggression as either “verbal (spreading nasty gossip) or

physical (a man sets fire to his neighbor's home)" (Buss, 1961, p.8). Central to indirect aggression is that it is difficult to identify the aggressor. Despite the early recognition and preliminary study of indirect aggression (Buss, 1961; Feshbach, 1969), it was not for several decades that Finnish researchers Bjorkqvist, Lagerspetz and Kaukiainen began studying indirect aggression in depth (Underwood, 2003). Altering the previous definition slightly, these researchers defined indirect aggression as "noxious behavior in which the target person is attacked not physically or directly through verbal intimidation but in a circuitous way, through social manipulation" (Kaukiainen et al., 1999, p83). Indirect aggression has come to include telling lies behind someone's back, entering a friendship in revenge, persuading others to ignore someone, feigning ignorance, and so forth (Lagerspetz, Bjorkqvist, & Peltonen, 1988). While originally the definition mandated that the aggressor was unknown, recent changes to the definition have obscured the original meaning. For example, a study done by Bjorkqvist et al. in 1992 included an item that describes the indirect aggressor as someone who might say "I'm not your friend" which implies the aggressor would indeed be known. As it currently stands, the definition seems only to require the behavior to be intentionally harming through social manipulation.

*Relational aggression.* Meanwhile, in the United States, Crick and Grotpeter (1995) defined a type of covert aggression to attend specifically to relationship manipulation, called relational aggression. Relational aggression was defined as "harming others through purposeful manipulation and damage of their peer relationships" (Crick & Grotpeter, 1995, p. 711). The behaviors that Crick and Grotpeter studied included excluding behaviors, threatening, ignoring, withdrawing friendship, and

spreading rumors (Crick & Grotpeter, 1995). Although the definition is broader than indirect aggression, relational aggression fails to include nonverbal behavior, such as shrugs, glances, and eye rolling (Underwood, 2003).

One might note that relational aggression and indirect aggression seem to overlap, and to some researchers these are not considered distinct constructs (Kaukiainen et al., 1999; Underwood, 2003). Archer and Coyne (2005) suggest that indirect aggression and relational aggression measure the same behaviors while their definitional focus is different: indirect aggression originally focused on the aggressor as being unknown, while relational aggression focuses on the relationship being the means for the aggression. This distinction, however, is called into question with the inclusion of the previously mentioned item in the definition of indirect aggression, which seems to indicate there is no difference in the definitions other than emphasis.

*Social aggression.* Because previous definitions of covert aggression created definitional conundrums, the term social aggression was coined by Cairns, Cairns, Neckerman, Gest and Garipey (1988). This term was broader than previous definitions and described aggressive behavior that focused on “manipulation of group acceptance through alienation, ostracism, or character defamation” (p323). Galen and Underwood (1997) later extended this definition by stating “social aggression is directed toward damaging another’s self-esteem, social status, or both, and may take such direct forms as verbal rejection, negative facial expressions or body movements, or more indirect forms such as slanderous rumors or social exclusion (p. 589).” Galen and Underwood’s definition of social aggression encapsulates previous definitions by including all behaviors that are intended to harm others by hurting their social relationships or status.

In addition to building upon previous definitions, social aggression includes in its definition nonverbal behaviors that have the capacity to hurt – behaviors which were previously excluded by other definitions (Underwood, 2003). Since there is currently no standard definition for covert aggression, social aggression will be used for the purposes of this study as it is a global definition that takes a broader approach to the covert behaviors of interest than either relational or indirect aggression.

### *Peer Context of Social Aggression*

Social aggression is different from physical behavior not only in how it appears behaviorally, but also in the context in which it appears. Whereas physical aggression often occurs within a dyad, social aggression uses a complex social network in order to do harm (Underwood, 2003). Within a child's social environment individuals are organized hierarchically into groups, and the groups organized hierarchically into a larger network. This complex network enables manipulation and aggression as children vie for resources and control of the group (Latane & Darley, 1970). As children often rely on the group structure to interact with others, and sometimes use it to manipulate relationships, it is important to consider the peer group's function since it is within this structure that social aggression occurs (Rodkin, 2004; Underwood, 2003).

The process by which the groups within a child's social network are organized, as well as how individuals within the group are organized, has been theorized by different fields of study. A child's status within the peer group has been described both by evolutionary psychologists in terms of dominance hierarchies, as well as by developmental psychologists in terms of sociometric popularity (Dodge, 1986). Both theories focus on the desire of children to ascend the hierarchy within their peer group.

How the children choose to manage their status has important implications for strategy choice as well as the social goals of a child. The following section will discuss these two theories, as well as the implications for the use of social aggression within that framework.

*Social dominance.* Social Dominance is a concept stemming from psychology literature as well as ethological theory. From the perspective of psychology, social dominance is defined as a personality characteristic that describes individuals who desire to influence and control other people (Ellyson & Dovidio, 1985). Ethological theory, on the other hand, describes socially dominant *behavior* which is used to compete for resources (Hawley, 1999). Based upon behavior, social dominance describes the power structure within a group of individuals based upon behavioral interactions. The social dominance hierarchy evolves from the individual differences within the peer group. Just as children in a group compete for resources, inevitably they vary in their ability to successfully attain those resources (Hawley, 1999). Using behavioral observation of alternating agonistic or coercive behaviors within dyads, a rank order hierarchy of dominant children is created to define this power structure (Jones, 1984).

From an evolutionary perspective, aggression is a set of evolved responses that have been successful at solving recurrent problems, such as attaining resources, defending oneself, and so forth (Archer, 1988). Although aggressive behaviors are often used within the peer group to meet an individual's goals, to meet one's goals while maintaining standing in the group one must adopt a strategic use of aggression so as not to alienate members of the group (Archer, 2001). One must carefully balance one's own needs with the needs of others, so as not to be alienated from the group (Hawley, 1999).

It is the socially dominant children who best fulfill their nutritional, social and security needs by choosing successful strategies that achieve ones own goals while maintaining the interest of others (Hawley, 1999). These children command other's attention, admiration, and respect, as well as have more access to resources (Hawley, 1999; Jones, 1984; Weisfeld, Bloch, & Ivers, 1984). In the case of children, resources can be anything ranging from social partners (Fagen, 1981), to toys (White, 1959). Since those who are dominant have their needs best met, it was presumed that a major goal of people would be to rise in dominance hierarchies and indeed, young adolescents in particular consider protecting and gaining social dominance a main goal (Paikoff & Savin-Williams, 1983; Weisfeld et al., 1984).

Until recently, research had not reconciled the notion that social dominance hierarchies are based on coercive interactions with the developmental research showing that children become less physically aggressive as they age. Whereas aggressive preschool-aged children are included by playmates despite their aggression (Underwood, 2003), physically aggressive elementary-aged children are often rejected (Dodge, 1991; Olweus, 1993). As aggressive strategies become less successful at meeting the child's needs while maintaining the child's social standing, the child must choose strategies that are more adaptive at juggling these competing goals. Hawley (1999) attends to this conundrum by taking a developmental viewpoint when approaching dominance hierarchies. She suggests the possibility that children may gain social dominance in non-physical ways as they age. Research has shown that as physical aggression decreases, social aggression and prosocial strategies increase as children age (Lagerspetz et al., 1988; Osterman et al., 1998). One might speculate that as a child ages he or she learns to

use socially acceptable strategies, such as social aggression and prosocial strategies, to attain sought after resources thus better balancing the needs of self and the needs of others. The socially dominant child, therefore, may be the child who is able to choose behavioral strategies that allow them to attain their sought-after resource, while avoiding peer rejection. Social dominance is not the only field that describes such a child. Popularity research tackles the peer context from a different perspective.

*Popularity.* Popularity is a construct that also varies based upon the field that the researcher hails from. Popularity was initially conceptualized in sociometric research as a unidimensional construct based upon the number of nominations a child received as a friend or playmate from his peers. Eventually this definition of popularity evolved into a two-dimensional construct based upon liked and not-liked nominations that produced a score describing the child as liked (social preference) as well as visible (social impact) (for a review, see Newcomb, Bukowski, & Pattee, 1993). This popularity measure, called sociometric popularity, was used to categorize children as popular, rejected, neglected and controversial (Coie & Dodge, 1983).

While Coie and Dodge's (1983) categories described popularity in terms of whether or not a child was liked, sociological research was defining popularity quite differently. Whereas sociometrically popular children were considered liked and prosocial (Newcomb et al., 1993), sociologically popular children were not necessarily liked by their peer group, even though they were considered by their peers to be popular (Adler & Adler, 1998). In this tradition of research, popular children were not necessarily liked – although they sometimes were – but were in fact the children who were described

as “cool” by their peers (LaFontana & Cillessen, 2002; Lease, Kennedy, & Axelrod, 2002).

In order to reconcile these differences, Parkhurst and Hopmeyer (1998) developed a measure of peer perceived popularity that, when used in conjunction with Coie and Dodge’s (1983) measure of sociometric popularity, yielded categories of *popular liked* (sociometrically and peer-perceived popular), *popular not-liked* (peer-perceived popular but not sociometrically popular), *not-popular liked* (sociometrically popular but not peer-perceived popular), and *not-popular, not-liked* (not sociometrically popular, nor peer-perceived popular) children. Hawley (2003) explains the dichotomy of these categories in that there exists a child that manages the amount of aggression she engages in so that she is both liked, and perceived as popular.

Using both peer perceived popularity and sociometric popularity to describe the peer group enables the researcher to describe if a child’s peers both like the child and consider the child to be popular. Additionally, combining the two popularity constructs allows for overlap between the idea that a child can be liked and socially dominant. Peer perceived popularity has been shown to overlap with social dominance through middle school (Adler & Adler, 1998; Parkhurst & Hopmeyer, 1998) unlike sociometric popularity which is only linked with social dominance until elementary school (Parkhurst & Asher, 1992; Parkhurst & Hopmeyer, 1998; Pettit, Bakshi, Dodge, & Coie, 1990).

The popular children are those often associated with positive characteristics. For instance, perceived popular children have been shown to be bright, socially visible, attractive, wealthy and leaders (LaFontana & Cillessen, 2002; Lease, Kennedy, &

Robinson, 2002). Perceived popular children are also the holders of social power in the group (Lease et al., 2002).

To maintain both status and power, some researchers suggest popular children use socially aggressive strategies, and indeed they have been shown to use social aggression more than their less popular counterparts (Cillessen & Mayeux, 2004). Whereas physically aggressive children are reported to be rejected by their peers (Dodge, 1991; Olweus, 1993), socially aggressive children are able to maintain their popularity, supporting the claim of Archer (2001) that social aggression may be more adaptive than physical aggression.

The fields of social dominance and popularity both describe children attempting to achieve a goal – be it food, security, power, or relationships – within the peer context. Research has suggested that different strategies are used based upon the context of the goal and the context of the child. Because the context of the socially aggressive child are peer relationships, *social goals* are more relevant than instrumental goals. The follow section will discuss the possible goals of socially aggressive children.

#### *Social Goals of the Socially Aggressive Child*

Although the goals of physical aggression have been studied in depth (e.g. Chung & Asher, 1996), little research has focused on why one might engage in social aggression. While the research on physical aggression may provide a framework from which to begin to analyze social aggression, a different lens is needed to understand social aggression. Overt physical and verbal aggression have often been conceptualized as a means to an end in a conflict over a tangible object (Crick & Grotpeter, 1995; Delveaux & Daniels, 2000; Lagerspetz et al., 1988). The goals of physical aggression

have been termed “instrumental goals” to indicate the end is a tangible object (Delveaux & Daniels, 2000). Initial research has shown that social aggression, unlike physical aggression, focuses on altering or maintaining social standing and relationships. Within the framework of social relationships, preliminary research has indicated social aggression might be used to manipulate relationships (e.g., in order to be included in a group, socially exclude, or climb the social hierarchy) and to express hostility (Archer, 2001; Crick, Bigbee, & Howes, 1995; Delveaux & Daniels, 2000; Owens, Slee & Shute, 2000). Owens, Shute and Slee (2000) conducted a qualitative study that pointed to two main uses of social aggression as reported by girls and their teachers: 1) to alleviate boredom, and 2) to seek attention and be included by their peer group. The authors describe the struggle of girls to not only gain entry to their peer group of choice, but to maintain standing within that group by using social aggression to exclude other girls (Owens, Shute & Slee, 2000). Based on these qualitative results, it appears the goals of physical aggression tend to be instrumental while the goals of social aggression appear to involve relationship manipulation and be social in nature (Delveaux & Daniels, 2000). Social goals, as opposed to instrumental goals, may better capture the intent of social aggression.

As defined by Brown et al. (1996), social goals are the “intended outcomes or purposes of children’s social interactions (i.e., outcomes if the interaction had been successful)” (p. 28). This definition neatly frames social goals within a relational interaction. Using this framework to describe social aggression, the behavior and social goals of social aggression would need to be analyzed within the context that it occurs, namely, within a relational conflict. Crick and Werner (1998) echo the need to attend to

relational conflicts when looking at aggression. To date, only a study conducted by Crain et al. (2005) has quantitatively analyzed the social goals of social aggression using hypothetical vignettes with a focus on relational conflicts as a prompt. The authors found that 4<sup>th</sup>- through 6<sup>th</sup>-grade girls who endorsed socially aggressive behavioral strategies reported they were doing so in order to seek revenge or to exclude the provocateur (Crain et al., 2005).

As the links among social aggression, the peer group, and social goals becomes clearer, one might note that not all children choose socially aggressive strategies to meet their social goals. Some wonder why socially aggressive children use “mean” and “hurtful” behaviors to achieve their goals when other children may choose more socially acceptable means. It is useful to next discuss the cognitive processes that may influence a child’s choice of social aggression.

#### *How Children Choose Behavioral Strategies*

The cognitive process of children’s behavioral strategy selection has been a topic of debate among researchers. Social Information Processing theory describes the choice of a behavioral strategy as a series of cognitive steps that a child goes through when confronted with social information. In contrast, Theory of Mind focuses on the ability of the child to anticipate and understand the need states of another in order to interact socially. These two theories will be described below, specifically attending to the implications of choosing socially aggressive behavioral strategies.

*Social Information Processing.* Social information processing (SIP) theory, developed by Dodge (1986), commonly has been used to explain how children determine behavioral responses in social situations. Dodge’s SIP model consists of five steps to

explain how one processes social information and decides on an appropriate behavior. According to Dodge's model, when processing social information, a person first encodes the information from the social situation while focusing on relevant cues (social perception). Next, the cues are mentally represented in the child's long-term memory and the child interprets the intent of the peer (interpretation of social cues). The child then determines possible behavioral responses and evaluates the probable success of the response (possible response evaluations). The last step is for the child to select the appropriate behavioral response and then act out that response (enacting the response).

Dodge's theory was later adapted by Crick and Dodge (1994) in order to take into account the process of goal selection when a child chooses a behavior in a social setting. Crick and Dodge's SIP model is based on the belief that broad social goals govern the social reasoning of a child (Arsenio & Lemerise, 2001). Crick and Dodge's (1994) SIP theory has the same steps as Dodge's model, but adds a goal selection step: social perception, interpretation of social cues, *goal selection*, response strategy generation, possible response evaluations, and enacting the response. According to the SIP model by Crick and Dodge (1994), a child determines her social goals before she responds to a situation. Theoretically, before one decides to act in a socially aggressive behavior, one must have previously determined a social goal for that encounter. The behavioral strategy is then chosen as the most appropriate to achieve that social goal. At each step of the model, the child's "Data Base," or social scheme, store of memories, social knowledge and acquired rules, interacts with each step reciprocally.

Crick and Dodge (1994) argue that selection of an aggressive behavioral strategy stems from poor social information processing. Crick and Dodge posit that children who

behave in an aggressive manner do so because they do not process social situations correctly for any number of reasons: the child may have memory deficits that prevent them from recalling previous negative behavioral outcomes, may misidentify social cues, or may not adequately process alternative behavioral responses (Cairns & Cairns, 1991). Put simply, according to Crick and Dodge's SIP model, children who choose aggressive behavioral strategies most likely suffer from a deficit which prevents them from choosing a more socially adaptive strategy. In contrast, Theory of Mind approaches the cognitive evaluation of behavioral strategies without focusing on whether or not a strategy choice is socially acceptable, but instead focuses on whether or not the strategy is successful at achieving the person's goal.

*Theory of Mind.* The Theory of Mind (ToM) model, originally coined by Premack and Woodruff (1978), describes an individual's ability to understand another person's emotions, desire, beliefs, and to predict their behavior based upon these states. In the developmental literature, ToM describes a developmental milestone when children are able to interpret the beliefs and desires of others, often occurring around three to six years old (Harris, 1989 as cited in Eslea, 2002). Determining if a child has theory of mind skills often entails asking the child to complete a false belief task (Eslea, 2002). For example, the child may be shown a crayon box and asked what is in it. When the child is shown the contents, there is a surprising item inside instead of crayons, such as marbles. The child is then asked to anticipate what another child will think is in the box when the other child sees it for the first time. This task is intended to determine if a child is able to anticipate the beliefs of another person and therefore estimate ToM skills. However, the acquisition

of Theory of Mind is a process; not all children develop these skills at the same rate or at all (Meins, 2004).

It is in this context of the child's interpretation of other's actions and emotions that ToM provides a unique counterpoint to the aforementioned SIP model. Whereas Crick and Dodge's SIP model (1994) implies that aggressive behaviors result from deficits in social information processing, ToM suggests that children who have acquired ToM skills and use aggressive behavioral strategies actually are able to identify very well the intention, motivation, and impact of their behaviors on others (Sutton et al., 1999a).

ToM explains the use of aggressive behaviors in terms of previously successful behavioral responses. Children choose behaviors that have been previously successful at achieving a similar goal (Sutton et al., 1999a). It is this goal selection step, Sutton et al. (1999a) argues, rather than the child's SIP abilities, that may separate aggressive and non-aggressive children. Socially aggressive children may follow the first two steps of SIP in a similar manner as a non-aggressive child, but may choose different goals in step three of SIP (Sutton et al., 1999a). For example, in terms of social aggression, Sutton et al. (1999a) explain that a child must thoroughly understand the emotions and motivation of others in order to successfully exclude a peer: that child must understand who will join in on excluding behavior, as well as how to properly justify the behavior to other group members so they will accept it and not reject the provocateur.

The idea that aggressive children are not deficient in their processing abilities is not without support. Repacholi et al. (2003) found that children who were skilled manipulators had similar ToM skills to their same-aged peers. If these researchers are correct and engagement in social aggression is an active choice, and not merely a

processing misstep, interventions may need to be aimed at preventing the behavior from being effective rather than trying to stop the child from choosing aggressive behaviors initially (Sutton, Smith, & Swettenham, 1999b).

### *Group Differences in Social Aggression*

Not all children are socially aggressive, and not all children who are socially aggressive always use socially aggressive strategies. The following section discusses differences in socially aggressive children in terms of development, gender, culture and popularity.

*Developmental differences.* Occurrences of social dominance first appear when children are toddlers (Hawley, 1999). From ages two to five years old, children begin to use coercive methods to gain attention, and in relationships they tend towards the use of aggressive strategies to achieve dominance in a group (Hawley, 1999; Pellegrini & Smith, 1998; Strayer & Trudel, 1984). Coercive strategies begin to shift as the child enters elementary school. During the elementary years, children begin to use prosocial strategies in addition to coercive strategies in order to achieve dominance, and they begin to choose one approach over another based upon which has worked best in the past (Hawley, 1999). The children who persist in using mostly physically aggressive strategies in the elementary years, as well as in adolescence, are more disliked and rejected (Cairns et al., 1988; Coie & Dodge, 1983).

In contrast to physical aggression, which is linked to dislike and rejection by the peer group, social aggression is viewed by children as more acceptable, also making it a more likely strategy to be chosen (Crick et al., 1995). Unlike physical aggression, social aggression has been shown to increase with age (Lagerspetz et al., 1988). Girls show

some use of socially aggressive strategies at eight years, and more prominent skills at eleven years (Bjorkqvist, Lagerspetz & Kaukiainen, 1992). Bjorkqvist, Oesterman and Lagerspetz (1994) suggest that this increase is due to more advanced cognitive abilities that enable more covert forms of aggression as the child develops. This seems likely since an increase in perspective taking skills may make it easier for children to manipulate others without the others knowing (Krebs, Denton & Higgins, 1988). Additionally, children may continue to use socially aggressive strategies because of previous success. The ability of a child to pick a behavioral response that succeeds in meeting their stated goal increases with age, not only because of a larger memory store of previous behavioral responses, but also due to increased cognitive processing abilities (Crick & Dodge, 1994; Feldman & Dodge, 1987; Strayer & Strayer, 1978).

*Gender differences.* While it is widely noted that girls engage in less physical aggression than boys at all ages (Hyde, 1984; Lagerspetz et al., 1988; Underwood, 2003), research is inconclusive as to whether or not girls use more covert aggressive behaviors than boys (e.g. Grotperter & Crick, 1996; Lagerspetz et al., 1988; Salmivalli, Kaukiainen, & Lagerspetz, 2000). For instance, girls have been shown to use indirect aggression in equal amounts to boys when they are younger than 11 years old (Osterman, Bjoerkqvist & Lagerspetz, 1994; Tapper & Bouton, 2004), and in greater amounts when they are older than 11 years old (Bjorkqvist et al., 1992; Osterman et al., 1998). Girls have been shown to use relational aggression more frequently than boys (Crick & Grotperter, 1995; Sebanc, 2003) and less frequently as well (Loudin, Loukas, & Robinson, 2003; Tomada & Schneider, 1997). In terms of social aggression, girls have been shown to use social aggression more frequently than boys (Xie et al., 2002), equally frequently (Galen &

Underwood, 1997; Prinstein et al., 2001; Loukas, Paulos, & Robinson, 2005), and less frequently as well (Schaber, 2006).

Gender differences in social aggression may reflect differences in the operationalization of the construct. While the researchers of indirect aggression have shown it to have distinct developmental trends which affect gender differences, researchers of social and relational aggression have often failed to take age into account when reporting gender effects. There is also the possibility that gender effects vary across culture. Relational, indirect and social aggression are frequently used on different cultural groups and culture may very well be a confound in generalizing gender results. Although indirect aggression is the term often used in Finland, it has also been used in the United States as well as other European countries, although with less frequency. Relational and social aggression are terms often used in research conducted in the United States; they have not been used extensively outside of the United States. Furthermore, indirect, relational and social aggression are typically measured using different techniques which may also make generalization of results difficult. And lastly, although there is the suggestion that indirect, relational, and social aggression are roughly equivalent constructs, there has not been research that has compared their measurement in research. There is the possibility that slight differences in the definitions may affect the gender trends in the research. Xie and colleagues (2005) suggest that gender differences may actually be tied to the measurement strategy.

While it is difficult to conclusively say that girls use these covert forms of aggression more than boys, there is some suggestion that in older children a significant gender difference does exist. It is possible that the previously mentioned confounds

prevent the gender difference from being consistently observable in research. Despite the lack of conclusive evidence, theory provides evidence that girls are more likely to engage in social aggression more frequently than boys. Girls tend to value close relationships more than dominance, as opposed to boys (Underwood, 2003). Additionally, their dominance hierarchies are less defined and less stable (Charlesworth & Dzur, 1987; Bjorkqvist et al., 1992), which implies they must work harder to maintain their social status (Underwood, 2003). Since girls value relationships, they may manipulate these relationships to maintain their social status (Lagerspetz et al., 1988; Underwood, 2003). Relational aggression in particular has been shown to have a bidirectional causal link with perceived popularity for girls (Rose, Swenson & Waller, 2004; Cillessen & Mayeux, 2004).

Girls may be more purposeful in their use of social aggression and may have specific goals in mind when they choose social aggression as their behavioral strategy. In particular, girls are more likely than boys to ruminate on social aggression, as well as more likely to seek revenge when socially aggressed against (Paquette & Underwood, 1999). Additionally, girls generally have more advanced theory of mind skills compared to their same aged male peers (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997) and develop verbal abilities faster than boys (Bjorkqvist et al., 1992). Girls' advanced theory of mind skills and verbal abilities may also allow them to better predict how to meet these social goals and carry out their behavioral strategy in a more subtle, verbal manner.

*Cultural differences.* Although research on covert forms of aggression has been done across the globe, in countries ranging from the United States to Finland (e.g. Crick

et al., 1995; Oesterman et al., 1994), little is currently known about the differences in occurrence of social aggression between different ethnic groups in the United States as well as between different cultural groups in the world. Researchers in different parts of the world, however, define covert aggression differently which makes comparisons between and across countries difficult. For example, Kaj Bjorkqvist, a renowned Finnish researcher, prefers the definition of indirect aggression whereas Nicki Crick, who researches in the United States, uses the definition of relational aggression almost exclusively. As a result, comparisons between the programs of research in the United States and Finland are difficult to make.

Additionally, little published research has focused on cultural differences in the incidence of social aggression within the United States. Although many social aggression research studies included children of different ethnic backgrounds, the sample sizes of some studies have been too small to examine ethnic differences in the analyses (e.g. Crick et al., 1995; Crick & Grotpeter, 1995). One study found there is no significant difference between Latinos and European-American children in the rates of social aggression (Loukas, Paulos & Robinson, 2005), whereas another study indicated Hispanic children engaged in higher rates of relational aggression than European-American children (Crain et al., 2005). Another study found African-American children to be more relationally aggressive than Caucasian children, but did not control for SES (David & Kistner, 2000).

While few conclusive statements can be made as to cultural differences in the use and occurrence of social aggression, it is clear that the study of covert aggression has attracted the attention of researchers world-wide. To date, studies have been conducted in

Australia (Owens & MacMullin, 1995), Britain (Whitney & Smith, 1993), Italy (Tomada & Schneider, 1997), and Indonesia (French, Jansen, & Pidada, 2002), as well as Finland, Israel, and Poland (Oesterman et al., 1998). There is a need for researchers to use consistent definitions and to replicate studies across countries, as well as within the United States across ethnic groups, to gain further knowledge about how the effects and forms of social aggression differ across cultural groups.

*Differences in the Occurrence of Social Aggression Across Popularity Statuses.* Socially aggressive children have been described as both at risk for rejection by their peers (Crick & Grotpeter, 1995) and as popular (Newcomb et al., 1993), socially accepted (Salmivalli et al., 2000), and attractive to their peers (Bukowski, Sippola, & Newcomb, 2000). Research has begun to suggest these conflicting findings are possible because aggressive children can be highly liked by some peers but also highly disliked by other peers (Grotpeter & Crick, 1996; Newcomb et al., 1993). By taking into account a child's popularity status, one can better understand how a socially aggressive child fits into his or her peer group. As discussed previously, popularity, once thought of in terms of whether or not a child is "liked," has recently expanded to include children described as "cool" by their peers (LaFontana & Cillessen, 2002; Lease et al., 2002). Bridging sociometric and perceived popularity has created new popularity categories that better differentiate between groups of children: *popular liked*, *popular not-liked*, *not-popular liked* and *not-popular not-liked*.

Research using these categories has indeed helped to explain the previously mixed results as to whom engages in social aggression. Perceived popularity strongly predicts the use of social aggression. Girls who are *popular not-liked* use more social

aggression than girls who are *popular liked* while girls who are *not-popular liked* use little to no social aggression (Cillessen & Mayeux, 2004; Lease et al., 2002). Additionally, *popular not-liked* girls were considered smart, visible, attractive, bullying, and prosocial (but less so than their *not-popular liked* counterparts), while girls perceived as *popular liked* were seen by their peers as prosocial, bright, socially visible, but were not excluding, bullying or disruptive (Lease et al., 2002). Perceived popularity in girls has also been shown to have a bidirectional causal link with social aggression, implying girls use social aggression to achieve perceived popularity and continue to use it to maintain their position in the hierarchy (Rose, 2004; Cillessen & Mayeux, 2004).

#### *Outcomes of Social Aggression*

Despite the previously mentioned positive peer attributes, those who engage in covert aggression have been shown to suffer from significant maladjustment. Socially aggressive children report significantly higher levels of depression than non-socially aggressive children (Grotperter & Crick, 1996), and they are more lonely than their same-aged peers (Crick & Grotperter, 1995). Studies have also found that children view peers who are socially aggressive as “mean” (Crick et al., 1995) and tend to reject these children (Crick & Grotperter, 1995; Tomada & Schneider, 1997). While these negative outcomes seem to contradict previously mentioned findings that aggressive children who are perceived popular are socially accepted and socially intelligent, it is important to note that the outcome studies presented here did not control for popularity. It is not yet clear whether “popular” socially aggressive children and “not popular” socially aggressive children endure different negative outcomes. At this point in time, it is only possible to

state generally that socially aggressive children suffer from their engagement in social aggression.

Not surprisingly, victims of social aggression suffer from internalizing disorders. Adolescent victims of disdainful facial expressions in particular suffer from depression and anxiety (Galen & Luthar, 2000 as cited in Underwood, Galen & Paquette, 2001; Simmons, 2002). More generally, victims of social aggression have lower self esteem, higher anxiety, and an increased incidence of depression (Crick & Grotpeter, 1995; Owens et al., 2000; Prinstein et al., 2001) as well as tend to feel fear and paranoia in their interactions with others (Owens et al., 2000).

### *Machiavellianism*

Having discussed covert forms of aggression in terms of its origin, theoretical links, and group differences, this review will turn to a discussion of the origin, characteristics, strategies and goals of the Machiavellian. Machiavellianism will also be considered with respect to social aggression, and similarities will be explored.

#### *Origin and Development*

“Machiavellian” has evolved into a colloquial term used to refer to people who use whatever means necessary to profit. The term conjures up images of someone who is unscrupulous, lying, deceitful, and morally lacking. Unfortunately, this colloquial definition goes somewhat astray from what Machiavelli himself believed. In his books “The Prince” and “The Discourses,” Machiavelli advised rulers how to acquire and maintain power by manipulating the social context in which they function. What is often overlooked in considering Machiavelli is the description of a man truly loyal to his city. It

may be this loyalty, however, which strengthens his resolve to use whatever strategies necessary to defend his territory. In “The Price,” Machiavelli wrote:

“For a prince... it is not necessary to have all the [virtuous] qualities, but it is very necessary to appear to have them... [It] is useful, for example, to appear merciful, trustworthy, humane, blameless, religious – and to be so – yet to be in such measure prepared in mind that if you need to be not so, you can and do changed to the contrary.”

Machiavelli believed that to attain one’s goals, one must not only act in a merciful, trustworthy and humane manner but also *be* merciful, trustworthy and humane when the situation merits. He describes the necessity of attending to both one’s behavior and one’s character as necessary components to achieve the desired ends.

Christie and Geis (1970) were the first researchers to use Machiavelli’s writings to describe a group of people who skillfully manipulate their environment to achieve their own goals. Some may assume that the manipulative nature of the Machiavellian person may mean they only choose aggressive or coercive behavioral strategies to achieve their goals. Just as Machiavelli alluded in his writings, however, to balance one’s own needs while staying socially relevant, the Machiavellian must use cooperative strategies in addition to coercive strategies to attend to the needs of the group (Wilson et al., 1996). The Machiavellian appears to be a skilled manipulator who is able to balance these sometimes competing needs of self and other, and in doing so uses both deceit as well as more positive pro-social skills to meet his or her goals.

In the 1960s, Christie and Geis operationalized Machiavellianism as a personality characteristic with their development of self-report questionnaires they termed the Mach scales. In drawing from Machiavelli’s writings, Christie and Geis (1970) focused on four

themes they considered central to the construct: (1) the Machiavellian must have a relative lack of interpersonal warmth, meaning he or she has strong perspective taking skills but does not become emotionally involved or share in the emotional experience of another vicariously (McIlwain, 2003); (2) the Machiavellian demonstrates a lack of concern with conventional morality, such as lying, deceit, and so forth; (3) the Machiavellian does not suffer from gross psychopathology; and (4) the Machiavellian has low ideological commitment, choosing to focus on short term goals as opposed to longer term, idealistic goals. Focusing on these four factors, Christie and Geis drew 71 items from Machiavelli's writings to use as the starting point in creating their questionnaires. Their work culminated in two versions of their self-report questionnaire, the Mach IV and the Mach V (Christie & Gies, 1970). These questionnaires were used frequently by researchers in the field of adult literature, but were not appropriate for use with children.

In the late 1960s, two different scales were developed in parallel for use with children. In 1969, Susan Nachamie developed a scale for children that was based on the Mach IV which she called the "Kiddie Mach" scale. She simplified the vocabulary, sentence structure and grammar of the Mach IV and edited it to make the scale more comprehensible and appropriate for use with children. In 1967, Dorothea Braginsky adapted the Mach IV into a forced choice self-report measure for children. In reviewing both scales, Christie and Geis (1970) noted that Braginsky's scale appears closer to the original version of the Mach IV than Nachamie's measure. These two scales have been used by researchers (e.g. Andreou, 2004; Sutton & Keogh, 2001 ) in order to extend the idea of Machiavellianism as a personality characteristic to children. While researchers have begun to develop an understanding that children do indeed demonstrate

Machiavellian characteristics early in life, there is still little information on who Machiavellian children are and what their goals are in their social interactions.

After the development of these measures, researchers began investigating the correlates and characteristics of the Machiavellian. Although most of the research has focused on adults, some limited research explored the world of the Machiavellian child. The following will discuss researched group differences and correlates of the Machiavellian, paying specific attention to children. The definition of Machiavellianism as a “strategy of social conduct that involves manipulating others for personal gain” will be used (Wilson et al., 1996, p.285).

#### *Group Differences and Correlates*

*Gender and Cultural Differences.* Just as in the social aggression literature, gender differences in regards to Machiavellianism are inconclusive. Using the Kiddie Mach scale, boys were rated as more Machiavellian than their female counterparts in a Greek sample (Andreou, 2004) but not significantly different in a New York sample (Nachamie, 1969 as cited in Christie and Geis, 1970). In reference to the factors found by Sutton and Keogh (2000) on the Kiddie Mach scale, more boys than girls endorsed significantly more items related to “dishonesty” and “distrust” than their female peers, whereas girls endorsed significantly more items related to “manipulation.” In support of this latter finding, Braginsky (1967) found that young girls were more effective at earning the trust of a peer and then manipulating them for their own personal gain.

Both the adult and child literature on Machiavellianism suggest an explanation for the mixed gender results. In a Japanese sample, when researchers compared Kiddie Mach scores to the incidence of cheating, they found that girls cheat as much as boys, but have

a lower Kiddie Mach score (Dien & Fujisuma, 1979). The authors attributed this difference to girls wanting to appear in a socially desirable light, thereby underestimating their self-report Kiddie Mach score (Dien & Fujisuma, 1979). Sutton & Keogh (2001) have provided evidence that factors of the Kiddie Mach do negatively correlate with the lie scale from the Junior Eysenck Personality Questionnaire. McHoskey, Worzel & Szyarto (1988) suggest, as do Allsopp, Eysenck & Eysenck (1991), that it is nearly impossible to control for such social desirable responding in a Machiavellianism scale by nature of the construct. Although Braginsky's measure has been said to eliminate social desirability problems by using a forced-choice format (Christie & Geis, 1970), few researchers have used her measure to date. Research that has used Braginsky's measure suggests that there is no gender difference in Machiavellianism as a unidimensional construct (Barnett & Thompson, 1985; Braginsky, 1967). These studies, however, have not looked at the factors of Machiavellianism. Additionally, when Braginsky looked at the correlations between Machiavellianism and aggression she did uncover gender differences. Boys scoring high on Machiavellianism and girls scoring low correlated with direct forms of aggression whereas high Machiavellian girls favored covert aggression (Braginsky, 1967). It is possible that looking at Machiavellianism as a unidimensional construct obscures differences that looking at it as a multidimensional construct may uncover.

Although there have been studies done on Machiavellianism in Greece (e.g. Andreou, 2004), Spain (e.g. Corral & Calvete, 2000) and Japan (e.g. Dien & Fujisama, 1979), the cultural differences are unclear. The concept of Machiavellianism may not easily translate across cultural settings. Researchers focusing on American and Chinese

university students have suggested that although the idea of manipulation probably transcends culture, it may take varying forms depending upon the cultural context and may not necessarily be captured by the Mach scales (Kuo & Marsella, 1977). More research is needed in both child and adult populations to help clarify the appropriate use of the study of Machiavellianism in other cultures.

### *Correlates of Machiavellianism*

Machiavellians have been described with many attributes one might consider positive. In the adult literature, they have been shown to be perceived to be intelligent and attractive (Cherulnik, Way, Ames, & Hutto, 1981), and socialable (Gurtman, 1992). There is no correlation, however, between income or intelligence with Machiavellianism (Ames & Kidd, 1979; Hunt & Chonto, 1984).

These perceptions are in stark contrast to correlations with mental health and behavior. Machiavellianism and psychopathy in adults has been theorized to overlap (McHoskey, Worzel, & Szyarto, 1998). A factor analysis, however, revealed that Machiavellianism correlated only with the psychopathology factors of “lack of empathy for others”, and “antisocial behavior” (Harpur, Hakstain, & Hare, 1988). Machiavellianism has also been shown to correlate with narcissism in adults (McHoskey, 1995).

### *Social Aggression as a Machiavellian's Strategy*

Although the connection has yet to be explicitly explored, social aggression seems to be a logical manipulative strategy for the Machiavellian to use. Social aggression is perceived by children as more socially acceptable than more overt aggressive behaviors and does not necessarily lead to social rejection by the peer group (Underwood, 2003). In

fact, socially aggressive children have been shown to remain central to the social hierarchy (Lease et al., 2002).

Hawley (2003) reports remarkable similarities between this description of the socially aggressive child, and her findings regarding the Machiavellian child. In her research, Hawley terms the “Machiavellian” child as one using both prosocial and coercive strategies in the spirit of Machiavelli. She found Machiavellian children to be reported by their teachers as average in terms of aggression, and as popular by their peers. Interestingly, in contrast to the teacher reports on Machiavellian children, peers report Machiavellians to use coercive forms of aggression more than their other peers (Hawley, 2003). This suggests that Machiavellians are able to manipulate “under the radar” of adults much in the same way that socially aggressive children do. Falbo (1970) also noted that Machiavellians use some coercive strategies as opposed to overt aggression: high Mach adults use strategies such as conscious manipulation of facial expressions, manipulation of others’ emotions, and making others think what you want them to do is their own idea.

Similarities between social aggression and Machiavellianism are also found in regards to the other aspects research. Socially aggressive children have been shown to have less empathy than their peers (Kaukiainen et al., 1999) just as Machiavellians have (Abramson, 1973; Watson, Biderman, & Sawrie, 1994). While Machiavellians seem to share many common characteristics to socially aggressive children, the question remains as to whether or not these children are indeed the same children. The literature has yet to explore this connection directly, although researchers have suggested that this connection may exist (Sutton & Keogh, 2000).

### *Machiavellianism and Goal Selection*

The social goals of a Machiavellian may be revealed through a discussion about empathy. While Christie and Geis (1970) claimed a Machiavellian should have little empathy by definition, they failed to distinguish “hot” empathy from “cold” empathy. McIlwain (2003) describes “hot” empathy as not only perceiving the affective state of another, but acting on it. Others terms this “empathic concern” (Barnett & Thompson, 1985). “Cold” empathy on the other hand, refers to the skill of understanding another’s emotional state but does not imply any action taken based upon this knowledge. Researchers have also referred to this form of empathy as “affective perspective taking” (Barnett & Thompson, 1985) or “cognitive empathy” (Krebs & Russel, 1981) because the individual does not share vicariously the affective state of the other, but instead perceives it intellectually. There is no guarantee, however, that the individual who has strong affective perspective taking skills or cognitive empathy will act in an altruistic or benevolent manner.

Machiavellian children and adults, as one might suspect, have strong affective perspective taking skills, but are low in empathic concern (Pellarini, 2001 as cited in McIlwain, 2003; Barnett & Thompson, 1985). This discrepancy is not presented to suggest that Machiavellians do not wish to maintain relationships with others, or are oblivious to the relational needs of themselves or their peers. In fact, quite the opposite appears true. Machiavellian girls have been shown to value good, ongoing relationships with other children and choose strategies to preserve these relationships while attaining their own personal goals (Braginsky, 1967). The balance of both achieving their stated goal (in the case of Bragnisky’s study, the girl earned money in exchange for

manipulating a peer) and maintaining relationships demonstrates there exists an interpersonal need within the Machiavellian.

This need for relationships is explained further in the evolutionary psychology literature. Evolutionary psychology and evolutionary biology focus on the use of the social group for attaining resources. Humans live in a social community, and therefore must maintain relations within that social group, while attaining much needed resources. The struggle between these two goals has led to both within group and between group competition (Charlesworth, 1996; Wilson et al., 1996). Maintaining within group relationships may require one to use pro-social tactics, whereas engaging in between group competition may require the use of aggression or manipulation (Wilson et al., 1996). Attaining resources may also mean both competing with individuals within the group to attain these resources while cooperating with these same individuals to maintain social balance and one's place in the social hierarchy (Charlesworth, 1996). Recent researchers suggest that Machiavellians may be especially skilled at this balance between cooperative and coercive strategies to most effectively achieve their goals (Hawley, 2003; Wilson et al., 1996).

If a Machiavellian is considered to be someone who can skillfully switch between prosocial and coercive strategies to achieve his or her goal as Hawley (2001) suggests, one would suspect that the choice of strategy is governed by the relational goal in question. If the goal is maintaining relationships, one might hypothesize that prosocial strategies would be appropriate. If the goal is Social Instrumentation or Revenge, one might hypothesize that coercive strategies might be more appropriate. One may suspect, therefore, that the Machiavellian who is also socially aggressive may have social goals

more focused on maintaining or increasing one's own power or status at the cost of others. Likewise, the Machiavellian who uses less social aggression may have goals focused more on maintaining relationships. Researchers have suggested that Machiavellians may focus on achieving interpersonal power as a main goal, and harming others may be collateral damage rather than a main intent (Repacholi et al., 2003). Unfortunately, no studies have yet tested this hypothesis. Thus, at this point in time, the social goals of the Machiavellian are purely conjecture as most studies involving the Machiavellian child provide the child with the goal to determine the behavior the child uses to manipulate (e.g. Braginsky, 1967). The literature currently lacks studies directly addressing the social goals of Machiavellian children in interpersonal relationships.

#### *Methodological Issues*

The following section will discuss ways in which researchers have measured social aggression, social goals, and Machiavellianism in samples of children. Along with this discussion will be an analysis of the strengths and weaknesses of the types of measurement.

#### *The Measurement of Social Aggression*

Social aggression has been measured in a number of different ways throughout its history. Indirect aggression is typically measured using peer rating techniques, social aggression has been measured through peer nominations, peer rating, and interviews, while relational aggression is generally measured using peer nomination techniques. Other techniques, however, such as self-report questionnaires, teacher ratings and parent ratings, have also been used (Underwood, 2003). Hypothetical vignettes have been used to investigate how children view social aggression (e.g. Delveaux & Daniels, 2000;

Galen & Underwood, 1997) but not to determine if a child is socially aggressive per se. Semistructured interviews regarding conflicts have been conducted to gain qualitative data which are later coded for different forms of aggression (e.g. Cairns et al., 1989).

None of these techniques are without flaws. Self-report questionnaires have been targeted as invalid measures due to both the child being reluctant to report their socially aggressive behaviors, as well as the child not recognizing more subtle socially aggressive behaviors that they engage in (Bjorkqvist et al., 1992). Interviews are a time-consuming process that often yield a small sample size. Parent and teacher reports avoid the bias inherent in self-reports, however, social aggression often occurs without the knowledge of adults, and therefore the success of adults at rating social aggression is limited.

Peer assessments have been argued to be most effective in assessing social aggression (Crick & Grotpeter, 1995; Lagerspetz et al., 1988). Within the realm of peer assessment there are two forms: peer ratings (children rate each other in a Likert style format for behaviors) and peer nominations (a child chooses which peers behave in a particular manner). Peer ratings have been suggested to be a more sensitive form of measurement than peer nominations because of the sensitivity of the Likert scale, as well as the sheer number of informants (Underwood, 2003). Peer nominations on the other hand, are more effective for examples of extreme behavior because determination of a child as socially aggressive depends on the volume of nominations received.

For this study, a peer rating instrument will be used to describe children as socially aggressive. Schaber and Hoard's Revised Social Experience Questionnaire - Peer Report (RSEQ) will be used to describe social aggression (7 items), overt aggression (3 items), and prosocial behavior (4 items) (Hoard, 2007). Peer ratings have shown high

stability and sensitivity in measuring indirectly aggressive behavior (Bjorkqvist et al., 1992) and strong reliability (Bjorkqvist & Niemela, 1992; Terry & Coie, 1991). Peer ratings may also be more sensitive than peer nominations since each child receives multiple ratings by their peers as opposed to nominations by few peers (Underwood, 2003). Additionally, despite the long process of completing the questionnaire, children have repeatedly shown they are capable of doing so (e.g. Bjorkqvist, 1992; Kaukiainen et. al., 1999; Lagerspetz et. al., 1988).

### *The Measurement of Social Goals*

Research on the goals of aggression has been done using both open-ended questions (e.g. Erdley & Asher, 1996; Owens et al., 2000) as well as questionnaires requiring the child to rate their goals (e.g. Rose & Asher, 1999). Results indicate social aggression is used to manipulate relationships (e.g., in order to be included in a group, climbing the social hierarchy, jealousy, revenge) and to express hostility (Delveaux & Daniels, 2000; Owens, Slee & Shute, 2000). A limitation to many of these questionnaires and interview questions, however, is the prompt that is used to gather information. Many prompts focus on instrumental conflict situations. While appropriate for understanding the goals of physical aggression, this strategy may not be appropriate for understanding the goals of social aggression. Chung and Asher (2001), for example, were among the first to look at the goals of social aggression, identifying the following goals: self-interest, personal control, revenge, avoiding trouble, maintaining equality, maintaining relationships. They found that social aggression positively correlated with self-interest, personal control, and revenge. Since they were contrasting the goals with physical aggression, the conflict in the prompt was instrumental and occurred within a dyad. Crain

et al. (2005), refined Chung and Asher's measure for socially aggressive behavior in their Social Experience Questionnaire (SEQ). These researchers developed hypothetical vignette prompts regarding relational conflict situations based upon pilot data. Children are then asked to rate six goals on a six-point Likert scale. These goals are: *relationship exclusivity* (attaining an exclusive relationship with the provocateur), *Social Instrumentation* (reversing a relational slight, for example, attaining an invitation to a birthday party that had not been initially given), *social exclusion*, *Friendship Continuation*, and *relationship inclusivity*. The study by Crain (2002), only analyzed social instrumental and relationship exclusivity goals in regards to relational aggression. They found that girls who selected relationally aggressive strategies in hypothetical vignettes frequently chose goals of relationship exclusivity.

Hypothetical vignettes have both strengths and weaknesses. Vignettes provide scenarios that simulate real-life situations and have high content validity to the informant. When hypothetical vignettes are used in the context of reporting on one's social goals, however, there is the problem of social desirability. It is possible that the child may choose the goal which is obviously a more socially desirable answer. The inclusion of all goals with a Likert scale for each may minimize this tendency, but may not eliminate it altogether. Furthermore, some raise the question of whether or not a child can report on a cognition, such as their social goal within a hypothetical scenario. As there is no other way to measure a cognition such as this, however, hypothetical vignettes are currently the best means available.

While research in this manner yields information regarding the social goal of a child in a problem situation, other researchers have attempted to understand a child's

disposition based goals (Ojanen, Gronroos & Salmivalli, 2005). Ojanen et al. (2005) have designed their measure based upon the interpersonal circumplex model. In doing so the questionnaire yielded the following categories of dispositions, or goals, in an interpersonal encounter: Agentic (appearing self-confident and being admired), Agentic and Communal (expressing oneself openly, and being heard), Communal (feeling closeness to others, seeking friendships), Submissive and Communal (seeking approval through compliance), Submissive (pleasing others to avoid angering them), Submissive and Separate (avoiding embarrassment), Separate (being detached), Agentic and Separate (being in control with no interest in others' opinions). While this approach provides a static set of goals with a theoretical underpinning – two important aspects that the field has lacked to date – it also excludes some goals which have provided valuable information. For instance, one cannot measure reactions to perceived slights or aggression, such as revenge goals. Since previous research has indicated that revenge goals do correlate with social aggression, excluding such a goal in the current study would limit the ability to compare the goals of socially aggressive and Machiavellian children (Chung & Asher, 2001).

The SEQ by Crain et al. (2005) has been chosen to measure social goals for the purposes of this study because it seems most appropriate for the study of both social aggression and Machiavellianism. The behaviors of the socially aggressive and Machiavellian child exist within the peer context and regarding around the social goals of these behaviors should reflect the complex peer structure and relational conflicts that transpire in that structure. Additionally, both proactive and reactive goals are included in

the SEQ which enable a more thorough examination of social aggression as it relates to Machiavellianism.

### *The Measurement of Machiavellianism*

The original Mach scales were developed by Christie and Geis (1970) for use with adults. Braginsky and Nachamie in parallel developed measures for use with children. Nachamie originally developed her measure in the late '60s for use with sixth grade students in New York City. Her measure, the Kiddie Mach, consists of twenty items which the child reads on a five point Likert scale. Since its development, the Kiddie Mach has been used with its original wording in numerous studies, both in the United States and abroad (e.g. Andreou, 2004). Coefficient alphas from .40 to .79 have been reported (Andreou, 2004; Kraut & Price, 1976; Nachamie, 1969 as cited in Christie and Geis, 1970) .

Braginsky also developed her measure from the Mach IV. She removed four items from the Mach IV, and altered the wording and sentence structure of some of the remaining 16 items. According to Christie, her version more closely mirrored the original wording of Mach IV, calling into question its appropriateness for use with children. She developed her measure on ten year old children in Connecticut in the late 1960's. Bragnisky's measure consists of sixteen items and a forced choice true-false format. She found a split-half reliability of .43 and a test-retest correlation of .87. Her initial study using the measure yielded correlations with the Mach IV from .37 to .55.

While Nachamie's Kiddie Mach has been used more extensively, there is some suggestion that Bragnisky's measure eliminates problems with gender bias due to social desirability. As both Machiavellian measures are self-report measures both are

susceptible to some degree of social desirability influencing the child's responses. This is an inherent limitation of the self-report measure. For the purposes of this study, the Kiddie Mach will be used due to its stronger research base.

As it was designed by Christie and Geis, Machiavellianism was intended to be a multidimensional construct. In the adult literature, the Mach scales are often discussed as composed of both "tactics" and "views" (see Fehr, Samson, & Paulhus, 1992, for a review). In regards to the Kiddie Mach, however, the factors of "Lack of faith in human nature", "Dishonesty", "Distrust", and "Manipulation" were found to be positively intercorrelated by Andreou (2004). Although Sutton and Keogh (2001) also identified the factors of "Dishonesty", "Distrust", and "Manipulation," they found these factors to be composed of slightly different items. Because Machiavellianism was originally intended to be a multidimensional construct, the subscales of the overall scale rather than the total score will be analyzed in the present study. The dimensionality of these subscales will be assessed by a factor analysis in order to support those previously identified.

#### *Conclusion and Rationale for Study*

Social aggression and Machiavellianism both function within the context of the child's peer group. Social aggression refers to behaviors that are covert and aggressive, specifically directed towards damaging another's status in the peer group, or self image. The behaviors used by a socially aggressive child in the form of gossip, facial gestures, and relationship manipulation typically go unseen by teachers and parents. Machiavellianism also describes people who use coercive strategies against others. Machiavellians are described as socially manipulative and use their strategies to affect personal gain (Christie & Geis, 1970; Wilson et al., 1996). Although there are similarities

between the Machiavellian child and the socially aggressive child, research has not yet determined if the Machiavellian and the socially aggressive child are in fact one and the same.

While the definitions of both constructs imply similar goals, neither field of research has compared the goals of the socially aggressive child with those of the Machiavellian child. In the study of social aggression, researchers have indicated that understanding the social goals of children will be fruitful in allowing a deeper understanding of their use of aggression (Delveaux & Daniels, 2000; Underwood, 2003). A measure has recently been developed to specifically study the social goals of girls within relational conflict situations; however, this measure has not yet been piloted for use with boys, and there is currently no literature looking at the social goals of boys in relational conflict situations (Crain et al., 2005). Those researching Machiavellianism have provided Machiavellian children with specific goals in order to better understand the strategies they choose to achieve those goals (e.g. Braginsky, 1967); however, they have failed to explore what social goals the Machiavellian child reports pursuing in interpersonal situations.

The primary aims of the current study are to: (a) assess whether there are gender differences across measurement of social goals, social aggression, and Machiavellianism, (b) investigate if the Machiavellian child is socially aggressive, and (c) investigate how the social goals of both the Machiavellian child and the socially aggressive child compare to one another.

#### *Research Question #1*

Do social aggression, Machiavellianism, and social goals vary by gender?

*Hypothesis #1a:* The mean score of Social Aggression, as measured by the Social Aggression subscale of the RSEQ, will be greater for girls than for boys.

*Rationale #1a:* Although research has been inconclusive as to the relationship between gender and social aggression, there is evidence to suggest that girls value close relationships more so than boys (Underwood, 2003). On one hand, this may indicate girls may not aggress as much against their friends since they value continuing their friendships. Equally probable, however, is the supposition that they may use social aggression because it is a covert way to defend these friendships. Since girls tend to value social desirability more than their male counterparts (Sutton & Keogh, 2001) they may tend to use a more covert form aggression than boys. Taken together, this evidence seems to indicate that it is likely that girls are significantly more socially aggressive than boys.

*Hypothesis #1b:* The mean scores of the Machiavellian subscales will be greater for girls than boys.

*Rationale #1b:* There is no conclusive evidence describing the gender effects in children's Machiavellianism, however, one can draw on other patterns in the correlates of Machiavellianism to hypothesize the trend. Machiavellianism has been correlated with low empathetic concern, and high affective perspective taking (Barnett & Thompson, 1985). Girls have been shown to have more affective perspective taking than boys (Roberts & Strayer, 1996) so one might assume this would correlate with higher Machiavellian scores, indicating girls are significantly more Machiavellian than boys.

*Hypothesis #1c:* The mean score of Friendship Continuation, and Relationship Exclusivity, as measured by the SGQ, will be greater for girls than for boys. The mean score of the Revenge, as measured by the SGQ, will be greater for boys than for girls.

*Rationale #1c:* Although little research has attended specifically to comparing the social goals of children in relational conflict situations, research has described the broader goals of children. Girls have been shown to value goals of relational maintenance whereas boys value goals of dominance and revenge (Crain, 2002; Owens et al., 2000; Murphy & Eisenberg, 2002; Rose & Asher, 1999).

*Research Question #2*

Does Machiavellianism predict social aggression? Does Machiavellianism differentially predict social aggression for boys and girls?

*Hypothesis #2a:* Machiavellianism, as measured by the subscales of the Kiddie Mach, will predict social aggression, as measured by the RSEQ, after controlling for gender.

*Hypothesis #2b:* The interaction between the each of the subscales of the Kiddie Mach and gender will not predict social aggression (measured by the RSEQ), suggesting the relationships do not vary by gender across levels of social aggression.

*Rationale #2:* Machiavellian and socially aggressive children share similarities in terms of social intelligence (Watson et al., 1994), and low empathy (Kaukiainen et al., 1999; Watson et al., 1994). Additionally, both Machiavellian and socially aggressive children use interpersonal manipulative strategies that often fly “under the radar” of adults. As a result, it is hypothesized that Machiavellianism will predict social aggression. It is further hypothesized that this relationship will not vary by gender.

*Research Question #3*

Which social goals predict the subscales of Machiavellianism? Do social goals differentially predict the subscales for boys and girls?

*Hypothesis #3a:* The social goals of Relationship Exclusivity, and Social Instrumentation (measured by the SGQ) will predict the subscales of Machiavellianism (measured by the Kiddie Mach).

*Hypothesis #3b:* The interaction between each social goal (measured by the SGQ) and gender will not predict each subscale of the Kiddie Mach, suggesting the prediction of social goal on Machiavellianism does not vary by gender.

*Rationale #3:* The SEQ includes the following possible goals: relationship exclusivity goals (i.e. seeking an exclusive relationship with the provocateur), relationship inclusivity goals (i.e., attempting to remain friends with both girls in the friendship triangle), Friendship Continuation goals (i.e., attempting to remain friends with the provocateur), Social Instrumentation (i.e., reversing the relational slight that occurred), and revenge goals (i.e., getting back at the provocateur for the relational slight). Researchers believe that Machiavellians may not have the goal of causing harm to others, but may instead seek interpersonal power and in doing so consequently harm others (Repacholi et al., 2003). While Machiavellian children may not intentionally harm others, they may balance social needs with getting ahead, as Hawley (2003) suggests.

#### *Research Question #4*

Which social goals predict social aggression? Do social goals differentially predict social aggression for boys and girls?

*Hypothesis #4a:* The social goals of relationship exclusivity, Social Instrumentation, and Revenge (measured by the SGQ) will predict social aggression (measured by the RSEQ).

*Hypothesis #4b:* The interaction between each social goal (measured by the SGQ) and gender will not predict social aggression (measured by the RSEQ), suggesting the relationships between social goals and social aggression do not vary by gender.

*Rationale #4:* Currently, the only research utilizing the SEQ has shown social goals to predict relationally aggressive behavioral strategies for girls, with relationship exclusivity and Revenge goals as significant predictors (Crain, 2002). Social instrumentation has been shown to positively correlate with relationally aggressive behavioral strategies, but was not found to be a significant predictor (Crain, 2002). Crain used the SEQ to describe relational aggression as opposed to social aggression. It is hypothesized that indirect aggression items, such as eye rolling, ostracism, and the silent treatment, may relate more to Social Instrumentation than relational aggression items. It is anticipated that the addition of indirect aggression items to the measure used in the current study may create a significant positive relationship between Social Instrumentation and socially aggressive strategies.

## CHAPTER 3

### Methods

#### *Overview*

Together with a concurrent study, this study examined the correlates of social aggression in fourth, fifth, and sixth grade children. Although the studies had different research questions and measures, the participants and procedures were identical. This study consisted of two phases. The first phase was the instrumentation phase. In the instrumentation phase, the Social Experiences Questionnaire was administered to third grade boys to ensure that the adapted hypothetical vignettes, which were originally developed for girls, were appropriate for use with boys. Additionally, the Kiddie Mach and the Children's Tactics and Beliefs Questionnaire were administered to determine which measure was better suited for fourth through sixth grade students in the population of interest. (For information regarding the instrumentation phase, please see Appendix A.) In the second phase, the main study, the Demographic Questionnaire, the Revised Social Experiences Questionnaire – Peer Report, the Social Goals Questionnaire, the Kiddie Mach, the Index of Empathy in Children and Adolescents, and the Short Acculturation Scale for Hispanic Youth (SASH-Y) were administered. Of these measures, the Index of Empathy in Children and Adolescents and the SASH-Y were part of the concurrent study and will not be discussed in the present study (For information regarding the concurrent study, please see Reeves, 2007).

#### *Approval by Human Subjects Committee*

This study was in compliance with all ethical standards of research as outlined by the American Psychological Association and the University of Texas at Austin. Approval

for the instrumentation phase and main study was given by the Departmental Review Committee in the Department of Educational Psychology and by the Institutional Review Board of the University of Texas at Austin on August 23, 2006. Approval will end August 22, 2007. Participation in this study was voluntary, and contingent based upon both parent consent and child assent.

### *Participants*

#### *Participant Schools*

The participating schools included two elementary schools in an economically depressed area adjacent to a moderately sized urban area. The district included 7,000 students and had the following ethnic breakdown: 64% Hispanic, 18.8% White, 15% African American, 1.2% Asian Pacific Islander, and 0.4% Native American. Approximately 88% of the students in the district were from economically disadvantaged families (Texas School Performance Review, 2002). On a statewide measure gauging reading success, 92% and 98% of sixth grade students, respectively, from these two schools met the reading panel's standards for success in 2006 (School Digger, 2006).

#### *Child Participants*

For the main phase of the study, participants were recruited from 4<sup>th</sup> through 6<sup>th</sup> grade regular education classrooms. *A priori* power calculations were done to determine the ideal, sample size. Based upon a predicted power to detect a difference of 15% with thirteen predictors, an alpha value of 0.05 and 80% power, a sample size of 131 should provide adequate power to detect significant differences. Of the 562 potential participants, 397 students returned parental consent forms (70.6%), and 305 forms granted parental consent for the student to participate (54.2% of potential participants;

76.8% of consents returned). Fourteen children declined to give child assent to participate. Additionally, five students were excluded from the study analysis because they were identified by their teacher as primarily Spanish speaking, one participant moved before data collection began, and one participant was excluded due to a cognitive impairment. Two participants were not able to participate in data collection due to repeated absences. Additionally, participants who completed less than 80% of the items in a given scale or subscale were excluded from the analysis (Downey & King, 1998; Fox-Wasylyshyn & El-Masri, 2005). This exclusion criteria resulted in the omission of four participants from the main study. These exclusions yielded a total sample size of 278.

As shown in Table 1, participants were evenly distributed across grades and fairly evenly distributed by gender. Consistent with the demographics of the school district, the participants for the current study were predominantly Hispanic and a majority received government assistance. (See Table 1 for detailed demographic information.)

**Table 1***Demographics of Population (N=278)*

Variable	Frequency	Percent
Gender		
Male	114	41.0%
Female	164	59.0%
Age		
9	75	27.0%
10	83	29.9%
11	85	30.6%
12	33	11.9%
13	2	0.7%
Grade		
4	94	33.8%
5	96	34.5%
6	88	31.7%
Ethnicity		
American Indian or Alaskan Native	4	1.4%
Asian or Pacific Islander	4	1.4%
Black, not Hispanic	24	8.6%
Hispanic	215	77.3%
White, not Hispanic	30	10.8%

*(table continues)*

Table 1 (*continued*)

Variable	Frequency	Percent
<b>Lunch Status</b>		
Free	166	59.7%
Reduced	43	15.5%
No Assistance	69	24.8%
<b>Household Composition</b>		
Two Biological Parents	181	65.1%
One Biological Parent	85	30.6%
Non-Biological Adult	50	18.0%
Siblings	256	92.1%
Adult Extended Family	78	28.1%
Child Extended Family	39	14.0%

## *Measures*

### *Demographic Questionnaire*

A Demographic Questionnaire (Appendix B) was administered to the participants to gather information about the participant's age, birthdate, grade, gender and members of the household.

### *The Revised Social Experiences Questionnaire (RSEQ): Peer Report*

The Revised Social Experiences Questionnaire – Peer Report (RSEQ) (Appendix C) is an instrument used for assessing overt aggression, social aggression, and pro-social behavior. The RSEQ – Peer Report is a 13 item instrument comprised of two overt aggression items, seven social aggression items, and four pro-social behavior items. The respondent uses a Likert scale ranging from 1 = “never” to 5 = “always” (Hoard, 2007).

This measure can be administered in group format. Participants rate each of their peers on 13-items. Scoring is done by summing across items within a subscale for each rater. The mean for each subscale is then taken across peer raters, yielding a single score for that subscale. Social aggression scores range from 7 to 35, overt aggression scores range from 2 to 10, and pro-social scores range from 4 to 20.

The RSEQ – Peer Report is the latest version of an instrument stemming from versions by Crick and Grotpeter (1995) and Paquette and Underwood (1999). The changes made altered Crick and Grotpeter's (1995) original measure from a peer nomination to a peer rating format, as well as added items from Paquette and Underwood's (1999) self-report measure which created a social aggression subscale (as opposed to the relational aggression subscale in Crick and Grotpeter's version). Cronbach's alpha values were reported to be  $\alpha = 0.98$  (overt aggression),  $\alpha = 0.92$  (social

aggression),  $\alpha = .90$  (pro-social behavior) for a sample of 71 9- and 10-year old participants who were predominantly Caucasian (Hoard, 2007).

Overt aggression scores were not measured in the current study. Although pro-social scores were gathered in order to offset a response bias, these scores were not analyzed or discussed in the current study. All participating children were additionally asked to answer a 4-point Likert Scale question of “How well do you know this person” when completing the peer rating form (1 = not at all, 2 = a little, 3 = very well, 4 = they are my best friend). If a child rated a peer as a “1” indicating they did not know the peer, their peer rating was not used in calculating a social aggression score for that child.

#### *The Adapted Social Experiences Questionnaire*

The Adapted Social Experiences Questionnaire (Crain, 2002) – hereafter referred to as the Social Goals Questionnaire (SGQ) to avoid ambiguity – was designed to measure the social goals of Relationship Exclusivity (RE), Social Instrumentation (SI), Revenge (R), Social Exclusion (SE), Friendship Continuation (FC), and Relationship Inclusivity (RI) (Appendix D). The Relationship Exclusivity goal refers to the subject seeking an exclusive relationship with the provocateur of the conflict. A Relationship Inclusivity goal indicates the subject desires to remain friends with both children in the friendship triangle. A Friendship Continuation goal describes the goal of remaining friends with the provocateur while a Social Instrumentation goal indicates the subject desiring to reverse the relational slight that occurred. A Revenge goal indicates the subject desires to “get back” at the provocateur of the conflict. This instrument is in a self-report format utilizing five hypothetical vignettes which portray relational conflicts.

To complete the questionnaire, the participant is asked to imagine that the situation in the vignette has just happened to them (e.g., the child has not been invited to a classmate's birthday party). Following each vignette, the child reads a range of possible responses to the relational slight. The child is asked "what would be your goal, or what would you want to happen in this situation?" The child then rates each social goal on a six point rating scale ranging from 1 = "definitely would not" to 6 = "definitely would."

The social goal score for each child is determined by summing the ratings for each social goal (Relationship Exclusivity, Relationship Inclusivity, Friendship Continuation, Social Instrumentation, and Revenge) across vignettes and calculating the average for each social goal. A minimum possible score of "1" would indicate a participant "definitely would not" choose that social goal, whereas a maximum possible score of "6" would indicate a participant "definitely would" choose that goal.

The current measure was adapted from Crain's Social Experiences Questionnaire (2002) to include vignettes depicting boys in relational conflict scenarios. Crain's original measure was created from a pilot study on 10 girls from the Southern California area, and was first used with a population of girls who were predominantly Caucasian and in the 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> grades. She reported Cronbach's alpha values from this population to be  $\alpha = .87$  (RI),  $\alpha = .78$  (RE),  $\alpha = .74$  (FC),  $\alpha = .61$  (SI), and  $\alpha = .87$  (R) (Crain, 2002). This current version includes a boy and girl version of the SGQ with scenarios identical to the original SEQ except that character names and pronouns differ between boy and girl versions so as to make the vignettes appropriate for the gender of interest. (See Appendix A for details on the adaptation).

### *Kiddie Mach*

The Kiddie Mach (Appendix E) is an instrument for assessing Machiavellianism in children. The Kiddie Mach is a 20-item self-report instrument. Children are asked to select the rating that indicates how true each statement is for them: really true (4), a little true (3), not really true (2), and not true (1). Non-Machiavellian items (2, 4, 6, 9, 10, 11, 14, 16, 17, and 19) are reverse coded. The possible range of scores is from 20 to 80 with higher scores indicating higher levels of Machiavellianism.

The Kiddie Mach was created on a population of primarily Caucasian children in New York (Nachamie, as cited in Christie & Geis, 1970). It has since been used in the United Kingdom, New Zealand, Greece, and Italy. For purposes of the current study, the wording of the Likert scale was altered for ease of completion by children in the 4<sup>th</sup> through 6<sup>th</sup> grades. Previous wording on the measure was as follows: agree very much (4), agree a little (3), disagree a little (2), and disagree very much (1). Additionally, a practice item was added that reads “Chocolate ice cream is the best flavor ice cream” to familiarize children with the use of the Likert scale.

Keogh and Sutton (2001) reported Cronbach’s alpha to be 0.63 for a British sample, while Andreou (2004) reported an alpha value of 0.79 for a Greek sample. Additionally, Andreou (2004) identified four subscales on the Kiddie Mach using a Greek sample of children (Cronbach’s alpha not reported): Lack of Faith in Human Nature, Dishonesty, Manipulation, and Distrust. Sutton and Keogh (2001) on the other hand, identified three factors using a British sample of children: Dishonesty ( $\alpha = 0.50$ ), Distrust ( $\alpha = 0.30$ ), and Manipulation ( $\alpha = 0.69$ )

## *Procedure*

### *Recruitment of Students*

The participating elementary schools were recruited for this study by contacting the principal of the individual school by email or phone. Once the principals agreed, each signed a letter of intent to participate. The researchers then visited the schools to provide further information about the study to the administration and answer any questions. Information packets explaining the study, and providing the contact information of the researchers, were provided to the administration for dissemination to the teachers (Appendix F).

The researchers next met with each participating classroom to discuss the importance of social science research, as well as to explain that the goal of the current study was to help researchers better understand how children behave towards one another. The students were encouraged to discuss the study with their parents. Information packets with parental consent forms attached were printed with English on one side and Spanish on the opposite side (Appendix G). These packets were sent home with the children by the teachers on a designated day. The parental consent forms were written so the parent must indicate their consent by selecting one of two choices: a) the child may participate, so the child may complete the questionnaires and may be rated by his or her peers, or b) the child may NOT participate, so the child may not complete the questionnaires and may not be rated by his or her peers. Parents were invited to contact the researchers regarding any questions they had. A Spanish speaker was available to accept phone calls from Spanish-speaking parents with concerns or questions.

To encourage them to return the parental consent forms, the children were told that they would receive a stacking pencil if they returned the parental consent form, regardless of whether or not they had received affirmative parental consent. Teachers were given large manila envelopes to use to collect the parental consent forms, as well as to hold the stacking pencils until they were distributed to the students. At the end of a week, researchers provided teachers with letters to be sent home to the parents of children who had not yet returned parental consents. Teachers also were asked to remind the children to periodically return the parental consent forms.

#### *Data Collection*

*Overview.* Data collection occurred over two, 45-minute sessions. All children who returned affirmative parental consent, and who gave their own assent, completed data collection sessions. Students who were absent during the scheduled data collection completed the measures on an alternate make-up day arranged at the teachers' convenience. In the first session of data collection, the child assent form, the demographics form, the SGQ, the Kiddie Mach, and the Child and Adolescent Empathy Scale were completed. On the second session of data collection, the RSEQ and the SASH-Y were completed. The Child and Adolescent Empathy Scale and the SASH-Y were part of a concurrent study and will not be discussed further.

To ensure children knew the classmates they were rating, data collection did not occur until six weeks after school began to ensure peer groups had formed. The measures were administered to all classrooms in a grade simultaneously each day and the order of administration of these measures was randomized by classroom. During each administration period, the children were relocated so that each classroom contained either

participating boys, participating girls, or non-participating students. Children in non-participating classrooms worked quietly on their homework. Data collection occurred with the teacher and two administrators present. Each child was assigned a code number and given a packet of measures with their code number on each page in order to maintain confidentiality of responses. The children were asked not to write their names anywhere on the pages. While one research assistant read the questions to each measure aloud, another research assistant walked around the classroom ensuring confidentiality, and answering privately any questions children may have.

*Training of administrators.* Prior to data collection, graduate students assisting the primary investigators were familiarized with all materials and procedures for the study. All research assistants who administered measures were Educational Psychology graduate students. Before the administration of questionnaires began, research assistants attended a brief training session during which they were provided written standardized administration procedures for each measure. Additionally, the researchers instructed the administrations as to how to discuss and encourage confidentiality. Researchers were also told to brainstorm with the participants ways the students could respond to their peers should they be asked to share how they rated a peer.

*First data collection.* Prior to distribution of the questionnaires, the children were handed a brief description of the project which was read aloud to them. The concept of confidentiality was discussed with them and they were asked to help the research assistants ensure a confidential atmosphere. The participants were told explicitly who would know their answers and who would not. They were also told how to answer other children should they be asked about their ratings. At the bottom of the child assent form,

they were asked to sign their assent to participate and to maintain confidentiality (Appendix H). Children who did not assent were sent to a non-participating classroom to work on homework. To help ensure privacy during data collection, the students were asked to place a folder or binder around their desks. A few moments were reserved prior to data collection to answer or discuss questions and concerns of the children. Although the order of administration of measures was randomized by classroom, the child assent form was always administered prior to completion of other measures. The following description is an example of one such ordering.

After completion of the child assent form, the demographics form was read aloud and the children were asked to read along and complete each question to the best of their ability. Next, the Kiddie Mach was completed by the children. A set of standardized instructions was read to the students and they were able to read along. Each group research assistant then began reading all the items aloud. The children first completed a sample item, familiarizing them with the Likert scale format. The children then followed along as the researcher read each item, marking how true the statement was for them on a scale from 1 (not true) to 5 (really true). When all items were read and the children marked their answers, they were told to turn the page to the SGQ.

The instructions for the SGQ were read aloud by a group research assistant. First, the vignette was read aloud to the children while the children followed along. After reading each vignette, the research assistant read the social goal out loud and reminded the child to choose the answer most true for them. After reading all the social goals for a vignette, the children were asked to put a check mark by the goal that they would most

want to happen. All the vignettes and goals were read aloud until the children had rated each goal for each vignette.

The Index of Child and Adolescent Empathy was completed next. Details of this administration are beyond the scope of the present discussion. At the end of the first data collection session, the questionnaires were collected and the children were asked not to discuss their answers with any students. The research assistants reminded the students where the research assistant would be present after class to address any questions, concerns, or feelings of discomfort.

*Second data collection.* On the second day of data collection, the RSEQ was completed. On this day, the children were not separated by gender; however, the children were separated into participating and non-participating classrooms. Because the RSEQ is a peer rating form, each child rated his or her peers for every item. Only children who had returned affirmative parental permission, however, rated and *were rated*. Because of this, the number of forms the child completed depended upon the parental consent rate for that classroom. For example, assuming a 50% parental consent rate giving permission in a classroom of 20 students, 10 students in a class completed the RSEQ, and each child had a packet of 9 rating forms with 11 questions each. Within each packet, the order of the children to be rated using the RSEQ was randomized so as to ensure at any one time the children were not rating the same peer.

A set of standardized instructions were read, reminding the children of confidentiality and emphasizing that the rating forms were randomly ordered so that it was unlikely that any two students will be rating the same student at the same time. Also, the children were reminded that their names would be deleted from each questionnaire

thereby ensuring confidentiality. The name of the child being rated was printed on the upper right hand corner of each questionnaire, so that the corner could be torn off following the data collection session, leaving only the identifying code number. Once all instructions were read, the research assistant read all 11 items for each ratee until all the questionnaires were completed. The RSEQ was then collected, and the children again were reminded to keep their responses confidential. The research assistant then identified the location where a researcher would be present should the children have any questions or concerns to discuss after completing the measure.

#### *Data Reduction*

*Missing data.* Person mean substitution was deemed an appropriate technique for the missing self-report items because fewer than 20% of the respondents had missing items (Downey & King, 1998; Fox-Wasylyshyn & El-Masri, 2005). This resulted in 17 person mean substitutions in the Kiddie Mach. Additionally, this resulted in the following substitution of person mean scores for the SGQ: 2 in Relational Inclusivity, 3 in Friendship Continuation, 1 in Relational Exclusivity, 1 in Social Inclusivity, 2 in Revenge. Regarding the RSEQ – Peer Report social aggression subscale, participants were excluded from mean rating calculations who selected “not at all” to describe how well he or she knew the peer being rated.

*Testing for outliers.* To determine if outliers existed in the social aggression ratings from the RSEQ, the means and standard deviations for each item were calculated for each person being rated. Ratings that were more than three standard deviations away from the item mean for each ratee were analyzed by conducting a one sample t-test and

using the calculated ratee item mean as the “population mean.” No significant outliers were found within the social aggression ratings.

Univariate outliers were identified for each dependent and independent variable based upon boxplots. Identified outliers were checked for data entry errors. Following any data re-entry, the remaining outliers were examined to determine if they could be explained theoretically. For example, one participant was identified as an extreme outlier for social aggression as rated by the RSEQ. The social aggression ratings were analyzed for this individual. Item ratings for this individual were all within three standard deviations of the overall item mean. Additionally, all raters responded that they knew this individual “really well“ implying their ratings should be accurate. This individual was included in the analysis because of the consistency in responses, as well as based upon the understanding that some children will engage in extreme forms of social aggression. Those outliers for each variable that could not be explained were excluded from the present study. Two participants were excluded due to their identification as univariate outliers on one or more variables, yielding a final sample size of 276 participants.

## CHAPTER 5

### Results

This chapter begins with a discussion of the factor analysis of the Kiddie Mach. The chapter continues with a discussion of the descriptive statistics followed by the study hypotheses and related data analyses.

#### *Preliminary Analysis*

##### *Factor Analysis of the Kiddie Mach*

The goal of this analysis was to investigate the underlying factor structure of the Kiddie Mach using principal axis factoring to confirm the factor structure of previous research (Andreou, 2004; Sutton & Keogh, 2001). Previous research has identified three (Sutton & Keogh, 2001) and four (Andreou, 2004) factors. An overall Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .68 suggested the correlation matrix was adequate for factoring. An oblique rotation (Promax) was performed because of the theoretical basis of the measure. Visual analysis of a scree plot suggested that three factors should be extracted. These factors accounted for 33% of the variance. Salient factors were defined as items with loadings greater than  $|0.40|$  which had the highest loading on that factor by  $|0.15|$  or more (Worthington & Whittaker, 2006). The three factors that emerged are shown in Table 2.

The first factor consisted of items related to attitudes about values. High scores on this factor indicate disagreement with the items, and therefore the presence of Machiavellian characteristics. This factor consisted of two items included in the “Dishonesty” factor of Andreou’s (2004) factor analysis, and two additional items. When taken together, these items are indicative of the values one uses to make decisions, and were termed “Lack of Values.” The

second factor consisted of items relating to beliefs about the goodness of human nature. These items were included in the “Lack of Faith in Human Nature” scale of both Sutton and Keogh (2001) and Andreou (2004). This factor therefore was termed “Lack of Faith in Human Nature.” The third factor consisted of items related to manipulating others to achieve ones’ own goals. These items were similar to the items composing Andreou’s (2004) “Manipulation” scale; therefore, the final factor was labeled “Manipulation.”

Cronbach’s alphas for the subscales were 0.59 for Lack of Values (LV), 0.61 for Lack of Faith in Human Nature (LFHN), and 0.56 for Manipulation (M). Analysis of the Pearson’s correlations, reflecting that items have stronger correlations within factors than across factors (Table 3), supports the theoretical suggestion that the Kiddie Mach is multidimensional. All subsequent analyses will therefore focus on analysis of the subscales of the Kiddie Mach as opposed to the total Machiavellianism score. The subscales of the Kiddie Mach include: Lack of Values (4, 6, 9, 15), Lack of Faith in Human Nature (2, 11, 14) and Manipulation (7, 8, 12, 18). The remaining nine items were not used in the analysis (1, 3, 5, 10, 13, 16, 17, 19, 20).

**Table 2.***Promax-rotated factor loadings of the Kiddie Mach (n=276)*

Item no.		Factor 1	Factor 2	Factor 3
6	You should always be honest, no matter what.	<b>0.62</b>	0.30	0.24
9	It is better to be ordinary and honest than famous and dishonest.	<b>0.50</b>	0.15	0.12
4	You should do something only when you are sure it is right.	<b>0.41</b>	0.14	0.09
15	It is smart to be nice to important people even if you don't really like them.	<b>-0.44</b>	-0.28	-0.11
19	It is never right to tell a lie.	0.38	0.21	0.06
10	It's better to tell someone why you want him to help you than to make up a good story to get him to do it.	0.27	0.02	-0.17
14	Most people are brave.	0.22	<b>0.67</b>	0.03
2	Most people are good and kind.	0.23	<b>0.61</b>	0.13
11	Successful people are mostly honest and good.	0.27	<b>0.43</b>	-0.02
16	It is possible to be good in every way.	0.38	0.43	0.03
3	The best way to get along with people is to tell them things that make them happy.	-0.24	-0.35	-0.03
17	Most people can not be easily fooled.	0.00	0.31	-0.14
7	Sometimes you have to hurt other people to get what you want.	0.44	0.15	<b>0.62</b>

*(table continues)*

Table 2. (continued)

Item no.		Factor 1	Factor 2	Factor 3
18	Sometimes you have to cheat a little to get what you want.	0.22	-0.04	<b>0.53</b>
8	Most people won't work hard unless you make them do it.	-0.01	-0.01	<b>0.44</b>
12	Anyone who completely trusts anyone else is asking for trouble.	0.11	0.10	<b>0.40</b>
5	It is smartest to believe that all people will be mean if they get the chance.	0.16	-0.18	0.29
13	A criminal is just like other people except that he is stupid enough to get hurt.	-0.06	-0.15	0.27
20	It hurts more to lose money than to lose a friend.	0.24	-0.08	0.24
1	Never tell anyone why you did something unless it will help you.	-0.08	-0.11	0.15

*Note.* All loadings over |0.40| and which had the highest loading on that factor by |0.15| or more are in bold.

Table 3.

*Pearson's correlations for Kiddie Mach items (n=276)*

Item	<u>Factor One</u>				<u>Factor Two</u>			<u>Factor Three</u>			
	6	9	4	15	2	11	14	12	7	8	18
6	1.00										
9	<b>0.37</b>	1.00									
4	<b>0.22*</b>	<b>0.16*</b>	1.00								
15	<b>0.30*</b>	<b>0.28*</b>	<b>0.28*</b>	1.00							
2	0.16*	0.11	0.07	0.13*	1.00						
11	0.15	0.11	0.06	0.08	<b>0.32*</b>	1.00					
14	0.23*	0.10	0.04	0.15	<b>0.41*</b>	<b>0.30*</b>	1.00				
12	0.03	0.09	0.08	0.07	0.15*	0.05	0.11	1.00			
7	0.35*	0.19*	0.13	0.20*	0.08	0.10	0.12	<b>0.17*</b>	1.00		
8	-0.01	-0.02	0.03	-0.01	0.03	-0.13*	-0.05	<b>0.21*</b>	<b>0.30*</b>	1.00	
18	0.12	0.06	0.07	0.08	0.06	-0.04	-0.03	<b>0.17*</b>	<b>0.38*</b>	<b>0.24*</b>	1.00

*Note:* Bold values indicate correlations within factors.

\*  $p < 0.01$  (two-tailed)

#### *Descriptive Statistics*

In order to assess the relationship between participant scores for each of the factors of Machiavellianism as measured by the Kiddie Mach, Pearson two-tailed correlations were calculated (Table 4). An overall Machiavellianism score was calculated by adding all the scale items from the Kiddie Mach (using the proper reverse coding). Three Machiavellianism subscale scores were calculated by totaling the item scores for each salient item for each factor, with any

negatively loading items reversed. There are medium and large correlations between Machiavellianism and the subscales, while all the correlations between subscales are small.

Table 4.

*Pearson two-tailed correlations of components of Kiddie Mach (n=276)*

Scale	1	2	3	4
1. Machiavellianism	1.00			
2. Manipulation	0.63*	1.00		
3. Lack of Faith in Human Nature	0.45*	0.04	1.00	
4. Lack of Values	0.42*	0.18*	0.22*	1.00

\*  $p < 0.01$  (two-tailed)

A correlational analysis was performed using Pearson's two-tailed correlation coefficient to determine the relationship between subscales of the questionnaires. As can be seen in the correlation matrix in Table 5., the validity of the SGQ measure is questionable due to the significant intercorrelations between the subscales. As expected, Friendship Continuation had a strong negative correlation with Revenge and Relational Exclusivity; however, it positively correlated with Relational Inclusivity and Social Instrumentation, thereby calling into question its use as a separate construct. Relational Inclusivity and Social Instrumentation also correlated positively. It is possible that these three subscales, Relational Inclusivity, Social Instrumentation, and Friendship Continuation, are measuring the same construct. Similarly, Revenge positively correlated with Relational Exclusivity suggesting these two subscales may be measuring similar constructs. Based upon these results, the validity of the SGQ is questionable.

Table 5.

*Pearson two-tailed correlations of subscales (n=276)*

Scale	1	2	3	4	5	6	7	8	9
1. Social Aggression	1								
2. Relational Exclusivity	.002	1							
3. Relational Inclusivity	-.111	-.381*	1						
4. Social Instrumentation	-.028	-.120	.515*	1					
5. Revenge	.085	.447*	-.358*	-.258*	1				
6. Friendship Continuation	-.107	-.312*	.679*	.595*	-.408*	1			
7. Manipulation	-.092	.273*	-.161*	-.097	.248*	-.221*	1		
8. Lack of Faith in Human Nature	.009	-.053	-.089	-.089	.031	-.106	.041	1	
9. Lack of Values	.195*	.095	-.307*	-.197*	.170*	-.277*	.184*	.220*	1

*Note: Social Aggression is a subscale of the RSEQ; Relational Exclusivity, Relational Inclusivity, Social Instrumentation, Revenge, and Friendship Continuation are subscales of the SGQ; Manipulation, Lack of Faith in Human Nature, and Lack of Values are subscales of the Kiddie Mach.*

\*  $p < 0.01$  (two-tailed)

To determine the reliability of each measure with the current population, Cronbach's alpha values were calculated for the subscales of the SGQ. Additionally, the means and standard deviations were calculated. Because the RSEQ is a peer report measure, Cronbach's alpha was calculated by averaging the rater's responses by item. This yielded one mean item score per rater. These item means were used to calculate internal consistency within the Social Aggression subscale of the RSEQ. See Table 6 for internal reliability, means and standard deviations.

*Age Differences.* A one-way ANOVA supported no age differences existed for the following variables: Lack of Faith in Human Nature, Lack of Values, and Manipulation (as measured by the Kiddie Mach); Social Aggression (as measured by the RSEQ- Peer Report); and Relational Exclusivity, Relational Inclusivity, Friendship Continuation, Revenge, and Social Instrumentation (as measured by the SGQ). (See Table 7).

Table 6.

*Reliability, means, and standard deviations of all variables (n=276)*

Scale	M	SD	Cronbach's Alpha
RSEQ – Peer Report Social Aggression	10.19	2.97	0.93
<b>Social Goals</b>			
Relational Exclusivity	1.88	1.03	0.77
Relational Inclusivity	5.09	0.94	0.78
Social Instrumentation	4.36	0.94	0.64
Revenge	2.48	1.27	0.82
Friendship Continuation	5.17	0.89	0.75
<b>Machiavellianism</b>			
Manipulation	7.73	2.60	0.54
Lack of Faith in Human Nature	5.99	2.03	0.60
Lack of Values	5.73	2.07	0.59

*Note:* Lack of Faith in Human Nature, Lack of Values, and Manipulation are measured by the Kiddie Mach; Relational Exclusivity, Relational Inclusivity, Friendship Continuation, Revenge, and Social Instrumentation are measured by the SGQ.

Table 7

*Results of a one-way ANOVA comparing variables for significance across the age groups of 9, 10, 11, and 12 year olds (n=276)*

Variable	F	p
Lack of Faith in Human Nature	1.39	0.237
Lack of Values	2.50	0.057
Manipulation	2.37	0.053
Social Aggression	0.73	0.572
Relational Exclusivity	1.99	0.096
Relational Inclusivity	1.77	0.134
Friendship Continuation	1.93	0.106
Revenge	1.16	0.329
Social Instrumentation	0.68	0.606

*Note:* Lack of Faith in Human Nature, Lack of Values, and Manipulation are measured by the Kiddie Mach; Social Aggression is measured by the RSEQ- Peer Report; Relational Exclusivity, Relational Inclusivity, Friendship Continuation, Revenge, and Social Instrumentation are measured by the SGQ.

\*  $p < 0.05$

### *Regression Assumption Analysis*

All assumptions of a multiple regression analysis were met. Tolerance values were examined to assess the presence of multicollinearity (Values less than 0.1 were considered indicators of multicollinearity). Linearity was examined through scatterplots of the residuals against the predicted values and examination of the Loess line. A p-p plot was used to assess normality of the residuals. Homoscedasticity was assessed by examination of a scatterplot of the residuals. Multivariate outliers were identified by examining the leverage and influence values of each case (Outliers were defined as cases with leverage values greater than  $(2k+2/n)$  and influence values greater than 4).

### *Main Analysis*

#### *Consideration of Gender Differences*

*Hypothesis #1a:* The mean score of Social Aggression, as measured by the Social Aggression subscale of the RSEQ, will be greater for girls than for boys.

*Hypothesis #1b:* The mean scores of the Machiavellian subscales will be greater for girls than boys.

*Hypothesis #1c:* The mean score of Friendship Continuation, and Relationship Exclusivity, as measured by the SGQ, will be greater for girls than for boys. The mean score of the Revenge, as measured by the SGQ, will be greater for boys than for girls.

Independent samples t-tests were conducted with the Levene Test for Equality of Variance to compare the mean scores of boys and girls on Social Aggression, Lack of Values, Lack of Faith in Human Nature, Manipulation, Relational Exclusivity, Relational Inclusivity, Social Instrumentation, Revenge, and Friendship Continuation. Girls were rated as more socially aggressive by their peers than boys [ $t(274) = -2.076, p = .039$ ]. Regarding Machiavellianism

constructs, no significant differences were found between mean-level scores of boys and girls on Lack of Values [ $t(274) = 0.64, ns$ ], Lack of Faith in Human Nature [ $t(274) = -1.07, ns$ ] or Manipulation [ $t(274) = 1.83, ns$ ]. When examining specific social goals, there were no significant differences identified between the means for boys and girls for Relational Exclusivity [ $t(274) = 1.00, ns$ ], Social Instrumentation [ $t(274) = 0.78, ns$ ], Revenge [ $t(274) = 0.07, ns$ ], Friendship Continuation [ $t(274) = 0.26, ns$ ] or Relational Inclusivity [ $t(274) = 0.27, ns$ ].

#### *Relationship between Machiavellianism Constructs and Social Aggression*

*Hypothesis #2a:* The subscales of the Kiddie Mach (Lack of Values, Lack of Faith in Human Nature, and Manipulation), will predict social aggression, as measured by the RSEQ, after controlling for gender.

*Hypothesis #2b:* The interaction between the each of the subscales of the Kiddie Mach (Lack of Values, Lack of Faith in Human Nature, and Manipulation) and gender will not predict social aggression (measured by the RSEQ), suggesting Lack of Faith in Human Nature, Lack of Values, and Manipulation do not vary by gender across levels of social aggression.

A hierarchical linear regression analysis was performed to test the hypothesis. Gender was added in the first step to control for gender differences. Lack of Values, Lack of Faith in Human Nature, and Manipulation were added in the second step. To determine if the relationship between the subscales and social aggression varies by gender, interaction terms (gender x subscale) were added in the third and last step. Interaction terms were created by calculating the product of the centered predictor (e.g. Lack of Faith in Human Nature centered) and gender (scored as 0 = male; 1 = female). Continuous main effect variables were mean-centered to avoid multicollinearity. Results appear on Table 8.

Table 8.

*Summary of hierarchical multiple regression analysis examining predictors of social aggression  
(n=276)*

Predictor	B	SE of B	$\beta$	$t$	$p$
Block 1					
Gender <sup>a</sup>	0.47	0.32	0.08	1.38	0.177
Block 2					
Lack of Values	0.37	0.12	0.29	3.14	0.002*
Manipulation	-0.10	0.10	-0.10	-1.06	0.290
Lack of Faith in Human Nature	-0.26	0.14	-0.20	-1.91	0.057
Block 3					
Gender x Lack of Values	-0.08	0.33	-0.02	-0.25	0.802
Gender x Manipulation	-0.03	0.33	-0.01	-0.08	0.935
Gender x Lack of Faith in Human Nature	0.70	0.34	0.21	2.05	0.042*

*Note:* Full Model:  $F(7, 269) = 3.712, p = 0.001; R^2 = 0.01$  for Step 1;  $\Delta R^2 = 0.08$  for Step 2;  $\Delta R^2 = 0.02$  for Step 3.

<sup>a</sup> 0 = male, 1 = female

\*  $p < 0.05$

Results show that Lack of Values and the interaction of Gender x Lack of Faith in Human Nature were significant predictors of Social Aggression. It is important to note, however, that the small value of  $R^2$  value indicates that only a small proportion of the variance is explained by the predictors. The nature of the significant interaction between gender and Lack of Faith in Human Nature (Block 3) is depicted in Figure 1. Lack of Faith in Human Nature was a small positive predictor of Social Aggression for girls, and a small negative predictor for boys.

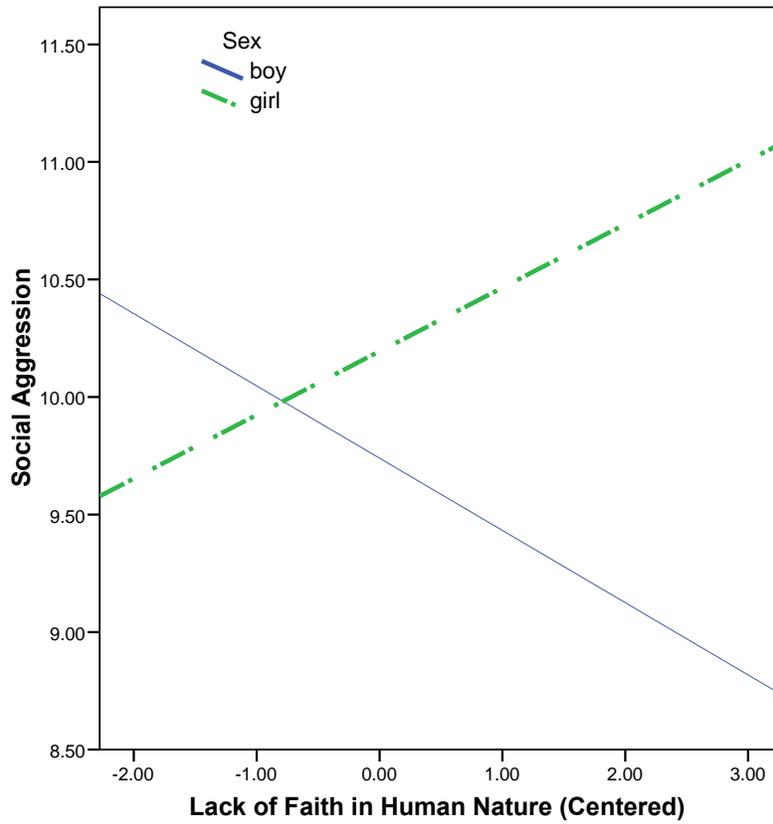


Figure 1. Examining the relationship between Social Aggression and LFHN for boys and girls separately.

*Relationship between Social Goals and Machiavellianism constructs*

*Hypothesis #3a:* The social goals of Relationship Exclusivity, and Social Instrumentation (measured by the SGQ) will predict Lack of Values, Manipulation, and Lack of Faith in Human Nature.

*Hypothesis #3b:* The interaction between each social goal (measured by the SGQ) and gender will not predict each subscale of the Kiddie Mach, suggesting the relationship between social goal and Dishonesty, Manipulation, and Lack of Faith in Human Nature does not vary by gender.

Three hierarchical linear regression analyses were performed to test each hypotheses. Gender was added in the first step to control for gender differences. Each of the subscales of the RGQ was added in the second step. To assess if the relationship between the subscales and the subscales of Machiavellianism varied by gender, interaction terms (gender x subscale) were added in the third and last step. Interaction terms were created by calculating the product of the centered predictor (e.g. Relational Exclusivity centered) and gender (scored as 0 = male; 1 = female). Continuous main effect variables were centered to avoid multicollinearity. Results appear on Table 9.

Results show that there are no predictors of Lack of Faith in Human Nature. Relational Inclusivity was a predictor of Lack of Values, while Relational Exclusivity and Friendship Continuation were predictors of Manipulation; however only a small amount of the variance was explained by the predictors. Relationships between social goals and Manipulation, Lack of Faith in Human Nature, and Lack of Values did not vary significantly by gender.

Table 9.

*Summary of hierarchical multiple regression analysis examining predictors of Manipulation, Lack of Faith in Human Nature, and Lack of Values (n=276)*

Predictor	B	SE of B	$\beta$	<i>t</i>	<i>p</i>
Lack of Faith in Human Nature					
Block 1					
Gender <sup>a</sup>	0.33	0.25	0.08	1.31	0.192
Block 2					
Relational Exclusivity	-0.09	0.21	-0.04	-0.45	0.679
Relational Inclusivity	-0.11	0.30	-0.05	-0.38	0.705
Social Instrumentation	0.05	0.31	0.03	0.17	0.862
Revenge	0.07	0.17	0.04	0.41	0.681
Friendship Continuation	-0.20	0.37	-0.08	-0.50	0.616
Block 3					
Gender x Relational Exclusivity	-0.33	0.31	-0.12	-1.09	0.277
Gender x Relational Inclusivity	-0.04	0.38	-0.01	-0.11	0.913
Gender x Social Instrumentation	-0.09	0.35	-0.03	-0.27	0.790
Gender x Revenge	-0.02	0.30	-0.01	-0.07	0.942
Gender x Friendship Continuation	-0.12	0.41	-0.04	-0.28	0.781

*(table continues)*

Table 9. (continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Lack of Values					
Block 1					
Gender <sup>a</sup>	-0.05	0.25	-0.01	-0.18	0.857
Block 2					
Relational Exclusivity	-0.28	0.20	-0.14	-1.38	0.170
Relational Inclusivity	-0.73	0.29	-0.33	-2.54	0.012*
Social Instrumentation	0.07	0.30	-0.03	-0.23	0.818
Revenge	0.07	0.17	0.04	0.40	0.694
Friendship Continuation	-0.20	0.36	-0.09	-0.57	0.571
Block 3					
Gender x Relational Exclusivity	0.32	0.30	0.11	1.08	0.282
Gender x Relational Inclusivity	0.43	0.37	0.14	1.18	0.240
Gender x Social Instrumentation	-0.11	0.34	0.04	0.33	0.746
Gender x Revenge	0.14	0.29	0.05	0.48	0.630
Gender x Friendship Continuation	0.00	0.40	0.00	-0.01	0.993
$F(5,264) = 0.79, p = 0.56, \Delta R^2 = 0.01$					

(table continues)

Table 9. (continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Manipulation					
Block 1					
Gender <sup>a</sup>	-0.48	0.31	-0.09	-1.56	0.120
Block 2					
Relational Exclusivity	0.51	0.17	0.20	2.96	0.003*
Relational Inclusivity	0.16	0.23	0.06	0.71	0.481
Social Instrumentation	0.05	0.21	0.02	0.24	0.810
Revenge	0.22	0.14	0.11	1.60	0.111
Friendship Continuation	-0.46	0.25	-0.16	-1.82	0.070*
Block 3					
Gender x Relational Exclusivity	0.46	0.37	0.13	1.24	0.217
Gender x Relational Inclusivity	0.63	0.46	0.16	1.38	0.171
Gender x Social Instrumentation	-0.33	0.42	-0.10	-0.80	0.428
Gender x Revenge	-0.33	0.42	-0.04	-0.35	0.728
Gender x Friendship Continuation	0.40	0.50	0.11	0.80	0.428
$F(5,264) = 1.19, p = 0.316, \Delta R^2 = 0.02$					

Note: Full Model: Manipulation  $F(11, 264) = 3.745, p = 0.000, R^2 = 0.00$  for Step 1,  $\Delta R^2 = 0.02$  for Step 2,  $\Delta R^2 = 0.01$  for Step 3; LFHN  $F(11,264) = 0.868, p = 0.572, R^2 = 0.00$  for Step 1,  $\Delta R^2 = 0.11$  for Step 2,  $\Delta R^2 = 0.01$  for Step 3; LV  $F(11, 264) = 3.292, p = 0.000, R^2 = 0.01$  for Step 1,  $\Delta R^2 = 0.08$  for Step 2,  $\Delta R^2 = 0.02$  for Step 3.

<sup>a</sup> 0 = male, 1 = female

\*  $p < 0.05$

### *Relationship between Social Goals and Social Aggression*

*Hypothesis #4a:* The social goals of Relationship Exclusivity, Social Instrumentation, and Revenge (measured by the SGQ) will predict social aggression (measured by the RSEQ).

*Hypothesis #4b:* The interaction between each social goal (measured by the SGQ) and gender will not predict social aggression (measured by the RSEQ), suggesting the relationship between each social goal and social aggression does not vary by gender.

A hierarchical linear regression analysis was performed to test the hypotheses. Gender was added in the first step to control for gender differences. Each of the subscales of the RGQ was added in the second step. To determine if the relationship between the subscales and social aggression varied by gender, interaction terms (gender x subscale) were added in the third and last step. Interaction terms were created by calculating the product of the centered predictor (e.g. Revenge, Centered) and gender (scored as 0 = male; 1 = female).

As shown in Table 10, none of the subscales of the SGQ were predictors of Social Aggression, nor were any of the interactions between subscales and gender predictors. As reflected in the finding of Hypothesis 1 that Social Aggression varies significantly by gender, gender approaches significance in the prediction of Social Aggression.

### *Post-hoc Analysis*

#### *Relationship of Machiavellian constructs and Social Goals*

In order to better understand the relationship of Machiavellian constructs and social goals, a hierarchical linear regression analysis was performed to determine if social goals predict Machiavellian constructs. Gender was added in the first step to control for gender differences. Each of the subscales of the Kiddie Mach was added in the second step. To determine if the

relationship between the subscales and each social goal varied by gender, interaction terms (gender x subscale) were added in the third and last step. Interaction terms were created

Table 10.

*Summary of hierarchical multiple regression analysis examining predictors of social aggression  
(n=276)*

Predictor	B	SE of B	$\beta$	<i>t</i>	<i>p</i>
Block 1					
Gender <sup>a</sup>	0.87	0.37	0.14	2.35	0.019
Block 2					
Relational Exclusivity	-0.53	0.30	-0.18	-1.75	0.082
Relational Inclusivity	-0.52	0.43	-0.17	-1.21	0.226
Social Instrumentation	0.30	0.44	0.10	0.68	0.494
Revenge	0.24	0.24	0.10	0.99	0.323
Friendship Continuation	-0.14	0.53	-0.04	-0.26	0.795
Block 3					
Gender x Relational Exclusivity	0.45	0.44	0.11	1.03	0.302
Gender x Relational Inclusivity	0.20	0.54	0.05	0.38	0.708
Gender x Social Instrumentation	-0.01	0.50	-0.00	-0.01	0.989
Gender x Revenge	-0.07	0.43	-0.02	-0.17	0.864
Gender x Friendship Continuation	-0.13	0.59	-0.03	-0.22	0.827

*Note:* Full Model:  $F(11, 264) = 1.226, p = 0.270, R^2 = 0.01$  for Step 1,  $\Delta R^2 = 0.03$  for Step 2,

$\Delta R^2 = 0.00$  for Step 3.

<sup>a</sup> 0 = male, 1 = female

\*  $p < 0.05$

by calculating the product of the centered predictor (e.g. Lack of Values, Centered) and gender (scored as 0 = male; 1 = female).

As shown in Table 11, Manipulation negatively predicted Friendship Continuation while it positively predicted Revenge and Relational Exclusivity. Lack of Values negatively predicted Friendship Continuation, Social Instrumentation, and Relational Inclusivity. It is important to note, however, that the proportion of variance accounted for by the predictors was very small.

### *Cultural Differences*

In an effort to gain insight into potential cultural difference in the use of social aggression, as measured by the RSEQ, the social aggression scores of the current sample were compared to the social aggression scores of a predominantly Caucasian, middle-class sample (Schaber, 2006). Because only fourth grade students were studied in the previous study, only the social aggression scores of fourth grade students in the current study were used in the analysis. An independent groups t-test was conducted to determine if cultural differences existed on the social aggression variable. There was no significant difference in the social aggression scores of fourth grade students who were predominantly Hispanic and economically disadvantaged ( $M = 10.13$ ,  $SD = 2.44$ ) and students who were predominantly Caucasian and middle-class ( $M = 10.62$ ,  $SD = 2.33$ ),  $t(165)=1.31$ ,  $p = 0.192$  (two-tailed).

Table 11.

*Summary of hierarchical multiple regression analysis examining predictors of social goals*

*(n=276)*

Predictor	B	SE of B	$\beta$	<i>t</i>	<i>p</i>
Relational Exclusivity					
Block 1					
Gender <sup>a</sup>	0.07	0.12	0.03	0.60	0.560
Block 2					
Manipulation	0.25	0.10	0.24	2.50	0.010*
Lack of Faith in Human Nature	-0.01	0.11	-0.01	-0.13	0.900
Lack of Values	-0.05	0.09	-0.05	-0.55	0.583
Block 3					
Gender x Manipulation	0.08	0.12	0.06	0.62	0.539
Gender x Lack of Faith in Human Nature	-0.10	0.13	-0.08	-0.77	0.440
Gender x Lack of Values	0.23	0.13	0.16	1.76	0.080

*(table continues)*

Table 11. (continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Relational Inclusivity					
Block 1					
Gender <sup>a</sup>	0.09	0.11	0.04	0.77	0.444
Block 2					
Manipulation	-0.16	0.09	-0.17	-1.82	0.070
Lack of Faith in Human Nature	0.01	0.10	0.01	0.05	0.957
Lack of Values	-0.34	0.09	-0.35	-3.91	0.000*
Block 3					
Gender x Manipulation	0.11	0.11	0.09	1.01	0.313
Gender x Lack of Faith in Human Nature	-0.04	0.12	-0.04	-0.36	0.719
Gender x Lack of Values	0.14	0.11	0.11	1.20	0.232

*(table continues)*

Table 11. (continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Revenge					
Block 1					
Gender <sup>a</sup>	-0.22	0.15	-0.08	-1.42	0.157
Block 2					
Manipulation	0.32	0.12	0.25	2.64	0.009*
Lack of Faith in Human Nature	0.06	0.14	0.05	0.45	0.650
Lack of Values	0.04	0.12	0.03	0.35	0.727
$F(3,271) = 7.06, p = 0.000, \Delta R^2 = 0.07$					
Block 3					
Gender x Manipulation	-0.05	0.16	-0.03	-0.32	0.748
Gender x Lack of Faith in Human Nature	-0.89	0.16	-0.06	-0.55	0.584
Gender x Lack of Values	0.22	0.16	0.12	1.37	0.172
$F(3,268) = 0.65, p = 0.587, \Delta R^2 = 0.01$					

(table continues)

Table 11.(continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Social Instrumentation					
Block 1					
Gender <sup>a</sup>	-0.06	0.12	-0.03	-0.49	0.630
Block 2					
Manipulation	-0.06	0.09	-0.07	-0.70	0.490
Lack of Faith in Human Nature	0.00	0.10	0.00	0.01	1.000
Lack of Values	-0.26	0.09	-0.27	-2.91	0.004*
Block 3					
Gender x Manipulation	0.01	0.12	0.01	0.11	0.914
Gender x Lack of Faith in Human Nature	-0.06	0.12	-0.06	-0.52	0.602
Gender x Lack of Values	0.17	0.12	0.13	1.41	0.159

*(table continues)*

Table 11. (continued)

Predictor	B	SE of B	$\beta$	$t$	$p$
Friendship Continuation					
Block 1					
Gender <sup>a</sup>	0.07	0.11	0.04	0.68	0.499
Block 2					
Manipulation	-0.18	0.08	-0.19	-2.11	0.036*
Lack of Faith in Human Nature	-0.03	0.09	-0.04	-0.34	0.734
Lack of Values	-0.25	0.08	-0.27	-3.01	0.003*
Block 3					
Gender x Manipulation	0.03	0.11	0.03	0.37	0.710
Gender x Lack of Faith in Human Nature	-0.02	0.112	-0.02	-0.18	0.855
Gender x Lack of Values	0.07	0.11	0.06	0.65	0.519

Note: Full Model: Relational Exclusivity  $F(7, 268) = 4.153, p = 0.000, R^2 = 0.00$  for Step 1,  $\Delta R^2 = 0.08$  for Step 2,  $\Delta R^2 = 0.10$  for Step 3; Relational Inclusivity  $F(7, 268) = 5.137, p = 0.000, R^2 = 0.00$  for Step 1,  $\Delta R^2 = 0.10$  for Step 2,  $\Delta R^2 = 0.01$  for Step 3; Revenge  $F(7, 268) = 3.809, p = 0.001, R^2 = 0.01$  for Step 1,  $\Delta R^2 = 0.07$  for Step 2,  $\Delta R^2 = 0.01$  for Step 3; Social Instrumentation  $F(7, 268) = 2.149, p = 0.039, R^2 = 0.00$  for Step 1,  $\Delta R^2 = 0.05$  for Step 2,  $\Delta R^2 = 0.01$  for Step 3; Friendship Continuation  $F(7, 268) = 3.556, p = 0.000, R^2 = 0.01$  for Step 1,  $\Delta R^2 = 0.11$  for Step 2,  $\Delta R^2 = 0.00$  for Step 3

<sup>a</sup> 0 = male, 1 = female

\*  $p < 0.05$

## CHAPTER 5

### DISCUSSION

The purpose of this study was to determine if Machiavellian constructs predict social aggression among children, in order to compare two similar concepts that have evolved in parallel lines of research. Machiavellianism has been studied primarily by evolutionary psychologists while social aggression has been studied primarily by developmental psychologists. Additionally, this study sought to better understand how Machiavellian constructs and the choice of a socially aggressive strategy related to the goal selection step of Social Information Processing theory. In the examination of these questions, this study furthered our understanding of gender differences in social aggression as well as Machiavellianism. A secondary goal of this research was to explore the nature of the construct of Machiavellianism to determine if it is multidimensional. Lastly, this study expanded our understanding of the relationships between social aggression, Machiavellianism, and social goals within a predominantly Hispanic and economically disadvantaged population.

Machiavellianism was found to be a multidimensional construct, and the Kiddie Mach was determined to have the subscales of Lack of Values, Lack of Faith in Human Nature, and Manipulation. It was hypothesized that all Machiavellian constructs would predict social aggression but that these relationships would not vary by gender. This hypothesis was only partially confirmed. As expected, the Lack of Values subscale positively predicted social aggression. While it was hypothesized that Lack of Faith in Human Nature would also predict social aggression, an unexpected gender difference emerged. Lack of Faith in Human Nature positively predicted social aggression for girls, but negatively predicted social aggression for boys. Contrary to the hypothesized relationship, Manipulation was not found to predict social aggression.

It was further hypothesized that the social goals of Relationship Exclusivity, Social Instrumentation, and Revenge would predict social aggression while Relationship Exclusivity and Social Instrumentation would predict all Machiavellian constructs. None of these relationships were expected to vary by gender. Unexpectedly, none of the social goals predicted social aggression. Additionally, Relational Exclusivity and Friendship Continuation predicted Manipulation while Relational Inclusivity predicted Lack of Values. Crick and Dodge (1994) describe the relationship between the child's "Data Base" (taken here to be the child's value system as measured by Lack of Values) and the goal selection step as "reciprocal." Although an analysis of a reciprocal relationship between Lack of Values and Social Goals is beyond the scope of the current study, a posthoc analysis was conducted to investigate if Machiavellian constructs predicted social goals. Manipulation was found to predict Relational Exclusivity, Revenge and Friendship Continuation while Lack of Values was found to predict Relational Inclusivity, Social Instrumentation, and Friendship Continuation. While this finding does not directly support Crick and Dodge's belief that the "Data Base" has a reciprocal relationship with each step of the model, it does lend credence to the idea.

Lastly, it was hypothesized that compared with boys, girls would be rated by peers as more socially aggressive and higher on Machiavellianism factors. Girls were also hypothesized to value the goals of Friendship Continuation and Relational Exclusivity more than boys, while boys would value the goal of Revenge more than girls. While girls were perceived by peers to be more socially aggressive than boys, no other significant gender differences were detected in social goals or Machiavellian factors.

A key finding of this study was the connection between children's social goals, value system, and behavior. Specifically, the results have important implications for our theoretical understanding of how a child uses goals to choose a behavioral strategy. Crick and Dodge's

(1994) Social Information Processing theory states that children go through six steps in selecting a behavioral strategy: social perception, interpretation of social cues, goal selection, response strategy generation, possible response evaluations, and enacting the response. The child's social scheme, store of memories, social knowledge and acquired rules (what they refer to as the "Data Base") reciprocally interact with each step of the Social Information Processing model. The current study clarifies one aspect of the child's "Data Base" that influences selection of a final social goal, as well as selection of a behavioral strategy. The child's value system is part of his or her acquired rules in the "Data Base" and is described in this study by the Lack of Values construct in Machiavellianism. The results of the current study lend credence to Crick and Dodge's model (1994) by demonstrating that the child's value system predicts social goals, and social goals predict by the child's value system. Lack of Values both predicted a child's social goals and was predicted by social goals. Therefore, based on the current results, a child with strong values would be more likely to have the social goals of including others, reversing a relational slight, and attempting to maintain friendships while this child would be less likely to attempt revenge. Likewise, the selection of the goal of including others predicts that a child would have higher values.

An equally important part of the relationship between social goals, values, and behavior is the link that was uncovered between values and social aggression. The child's value system, as part of the child's "Data Base," was shown to predict socially aggressive behavior. This expands our understanding of how the "Data Base" influences a child's selection of a behavioral strategy. Bandura (1999) has suggested that moral disengagement is a factor in a person's choice of an overt aggressive strategy. Bandura, Caprara, Barbaranelli, Pastorelli, and Regalia (2001) have shown moral disengagement to be inversely related to prosocial strategies and related to self-reported delinquency in girls. Furthermore, a recent study has demonstrated that moral

judgments about aggression related to both physical and social aggression for boys and girls (Murray-Close, Crick, & Galotti, 2006). The current finding that Lack of Values is related to peer-rated social aggression supports the line of research that morals and values are related to choice of behavioral strategy.

Results of the current study have important implications for how a child interprets his or her environment. The Machiavellian construct, Lack of Faith in Human Nature, describes a child's view of others as dishonest and mean. This construct bears similarities to a hostile attribution bias, described by Dodge (1984) as the tendency of a child to interpret an ambiguous provocation with hostile intent. Results in the current study show that girls who view others as dishonest and mean engage in higher levels of social aggression, while the inverse relationship is true for boys. If Lack of Faith in Human Nature and hostile attribution bias are assumed to be similar, this study supports previous research linking relational aggression and hostile attribution bias in girls (Crick, 1995; Crick et al., 2002). The finding that social aggression decreases as Lack of Faith in Human Nature increases for boys might reflect gender differences in the use of social aggression. Unfortunately, social aggression was the only form of aggression studied in the current study. Since research has shown a hostile attribution style to be related to overt aggression in boys (Crick & Dodge, 1996) it is hypothesized that in future studies, a positive relationship would exist between overt aggression and Lack of Faith in Human Nature in boys.

#### *Limitations of Current Study*

A main limitation of this study was the exclusion of a measure of overt or physical aggression. Previous research has suggested physical aggression is a more salient form of aggression for boys. Therefore, it is possible that non-significant relationships with aggression in the current study (between Manipulation and social aggression for example) were due to

aggression being described only in terms of social aggression. In future studies, it is possible that a relationship between Manipulation and physical aggression might be revealed.

Additionally, the method of measurement may have been a limitation in the current study. As mentioned earlier, results in gender differences in social aggression have been shown to be related to measurement type. Specifically, peer report measures have demonstrated girls to engage in more social aggression than boys, whereas self-report measures have not demonstrated consistent gender differences. It is unclear, however, which measurement form is accurate. It is possible that the nature of the construct impacts the accuracy of peer ratings. For example, it is unclear whether or not highly socially aggressive children rate their peers in a manner consistent with non-socially aggressive children. Our limited understanding of how the form of measurement impacts ratings of social aggression is a limitation in our ability to interpret and generalize findings in the current study.

A potential problem impacting all measures is the potential for sample bias inherent in the parental consent process. In requiring parents to complete consent forms, and in selecting the sample based upon affirmative parental consent, the sample might be biased based upon those parents who return affirmative consents. It is possible that parents who return affirmative consents share certain qualities that may differentiate them from non-consenting parents. As a result, this sample may not be as representative of the demographics of the district as a whole.

A more general problem with the current study is that it neglects the peer context and peer groups of the participants. Previous research has shown that some groups of children, perceived popular children for example, engage in higher levels of social aggression than other children yet remain well-liked (Lease, et al., 2000). Little is known about how social goals, social values, and social behavior vary among subgroups of peers. By failing to separate children

based upon popularity within this analysis, significant findings may be lost in conglomerated data.

The poor psychometric quality of the Kiddie Mach and its subscales are a weakness of this study. Although a factor analysis was conducted that identified subscales, thus confirming the multidimensional nature of the scale, none of the subscales were identified as having adequate psychometric reliability. While the low reliability estimates of subscale scores were an improvement over the unacceptably low reliability estimate of the total score, the reliability of the Kiddie Mach was still a weakness of the measure that may have influenced results. The low reliability of the subscales may cause relationships between subscales of the Kiddie Mach and other variables to be underestimated. It is possible that the low reliability of the subscales may be influenced by the reading ability of the participants. If it is assumed, however, that the reading ability of the sixth grade students as measured by the statewide reading test is an indication of the reading success of lower grades, it is likely reading ability was not a factor in the low reliability levels.

While the composition of the studied population (Hispanic, and economically disadvantaged) expands our understanding both of this population, and of the constructs of interest, the uniqueness of the sample is also a limitation. Little is known about how the use of social aggression and the selection of social goals varies across ethnicity. A recent study which used the RSEQ measured social aggression in a sample of predominantly Caucasian 4<sup>th</sup> grade students from a middle class background (Schaber, 2006). A comparison of the social aggression mean from that study with the current study yielded a non-significant difference, indicating that the children engaged in roughly equivalent amounts of social aggression. Unfortunately, the limitation in this comparison is the small sample size of the previous study (72 participants) as well as the limitation of the study to only fourth grade students. Therefore, while the comparison

of these samples may indicate that children from these different cultural backgrounds may engage in similar amounts of social aggression, these findings are tentative and suggestive at best.

Furthermore, low values of  $R^2$  in the regressions in this study are a weakness. These values indicate that, although significant predictors were identified, these predictors account for a very small proportion of the variance.

Lastly, the measure used to determine the social goals of a child, the Revised Social Experiences Questionnaire, was created on a predominantly Caucasian population. Current study results suggest that while social goals relate to Machiavellian constructs, they do not relate to social aggression as they have been shown to in a primarily Caucasian population. It is possible that Hispanic children who are predominantly economically disadvantaged may have different social goals than a primarily Caucasian population. Future research should investigate how social goals and social aggression each vary across ethnicity and SES.

#### *Implications for Future Research*

Results from the current study have important methodological implications for the study of children's social behavior. Because of the influence of the child's "Data Base" on the selection of goals, it will be important for future studies investigating the connection between goals and behavior to study the value system of the child. Better understanding how the child's values affect goal selection will allow researchers to better predict the choice of behavioral strategy. Furthermore, although several studies have noted that social aggression is more salient for girls while overt aggression is more salient for boys, research continues to study these forms of aggression in isolation from one another. This study provides evidence that gender differences in the form of social aggression exist, and suggests all forms of aggression must be studied when aggression is a factor. In particular, this study demonstrates that it will be important for future

research investigating morals and values in relation to behavioral strategy to investigate strategy types salient for both genders.

Additionally, this study demonstrates that the method used to study social aggression may influence the results of the study. The gender differences that emerged in the current study both confirmed and challenged previous research on socially aggressive behaviors. This study, like other studies which have used a child's peers to measure relational and social aggression (e.g. Crick & Grotpeter, 1995; Prinstein & Cillessen, 2003; Xie et al., 2002) demonstrated that girls engage in more social aggression than boys; however, present results contrast studies which have used self-report methodology to measure social aggression which have found boys engage in more or equal amounts of social aggression compared to girls (e.g. Loudin, Loukas, & Robinson, 2003). This trend supports Xie, Cairns, and Cairns' (2005) assertion that gender differences in social aggression may be tied to the form of measurement. Future studies should consider a multi-informant approach to aggression in order to eliminate biases in forms of measurement.

### *Implications for Treatment*

This study's findings linking a child's value system with both social goals and behavior has important implications for interventions targeting social aggression. Some existing interventions focus on teaching prosocial behaviors in order to decrease the incidence of social aggression. These prosocial interventions assume that children value maintaining harmony and being "nice" to other children. The importance of the child's value system in predicting social aggression, as demonstrated in the current study, implies that it is the children who are lacking in values who are engaging in socially aggressive behaviors and choosing goals of revenge. For

these children, teaching prosocial behaviors may not be sufficient to change their behavior because they may fundamentally not value the use of prosocial behaviors or the ends these behaviors achieve.

Future interventions will need to focus on not only teaching the skills to combat forms of bullying, such as social aggression, but will also need to work to alter the values of the child. A recent study suggests that future interventions targeting aggressive behavior should focus on a child's moral values (Bosacki, Marini & Dane, 2006). A child's attitude towards bullying is established and supported on many levels. The social-ecological model of bullying conceptualizes the individual as embedded in multiple environmental contexts (Swearer & Espelage, 2004). Beginning with the individual and broadening out, these contexts include family, school and peers, community, and culture. The authors posit that all of these contexts are influential on bullying attitudes, beliefs and actions. Interventions may need to focus on all the contexts which support the child's attitudes towards bullying, including their value system, in order to better effect change. One such intervention showed promise for increasing children's empathy and moral reasoning maturity through an elementary school-wide physical education curriculum (Miller, 1998). When choosing interventions to target aggression, schools may be best served by using a school-wide curriculum with a parent or community component with one of the stated goals of altering the child's values.

## Appendices

## APPENDIX A

### Instrumentation Phase Results

#### *Overview*

In the instrumentation phase, the Social Experiences Questionnaire was piloted on third grade boys to ensure that the adapted hypothetical vignettes, which were originally developed for girls, were appropriate for use with boys. Additionally, the Kiddie Mach and the Children's Tactics and Beliefs Questionnaire were piloted on third grade girls and boys to determine which measure was better suited for use with fourth through sixth graders.

#### *Participants*

##### *Child Participants*

The participants in the instrumentation phase were drawn from two third grade regular education classrooms at one of the schools participating in the main study. Fifteen third-grade students' parents returned consent for their children to participate in the study. Of the 15 students, 8 were girls and 7 were boys. All students assented to participate. Participating students represented two of the six third grade classes at the participating elementary school.

#### *Measures*

The Adapted Social Experiences Questionnaire (SGQ) and Kiddie Mach are described in detail in Chapter 3, Measures, p55-57.

##### *Children's Tactics and Belief's Questionnaire (CTBQ)*

The Children's Tactics and Beliefs Questionnaire (CTBQ) is a 16 item questionnaire designed to assess Machiavellianism in children. Developed by Braginsky (1970) on sample of 10 year old children in Connecticut, agreement on statements was indicated on a forced-choice true-false format. Scores range from 0 to 16. For the purposes of this study, agreement was indicated on the following scale: not true (1), not really true (2), a little true (3), and really true

(4). The revised range of scores range from 16 to 64. Additionally, a practice item was added to familiarize participants with the Likert scale.

The CTBQ has been used primarily on American populations (e.g. Barnett & Thompson, 2001; Braginsky, 1967). Split-half reliability of scale was found to be 0.43 on a sample of 37 fifth grade children (Braginsky, 1967).

### *Procedure*

#### *Recruitment of Students*

The instrumentation school was recruited for this study in the summer of 2006 by contacting the principals in the school district by phone and email to discuss the project and gauge interest. Two principals expressed interest in participating in the main study. Of those two, one principal expressed interest in participating in the instrumentation phase of the study. The researchers met with the principals of the two interested schools and each principal signed a letter of intent to denote their interest in the study. The principal of the school participating in the instrumentation phase of the study chose two of the third grade classrooms to participate in the instrumentation phase.

At the instrumentation school, information packets detailing the instrumentation phase of the study in both English and Spanish were given to the teachers and parents of the participating third grade classrooms. The information packet included details about the purpose of the study, the data collection procedure, and the measures that would be administered (See Appendix I). Included in each packet were two copies of the parental consent form: one copy for the parent to sign and return, and one copy for the parent to keep for his or her records. The parent was asked to sign and return the form with either “Yes” or “No” checked indicating their preference for their child’s participation. Parents were given the contact information for the researchers to

contact regarding any questions they may have. A Spanish speaker was available to accept phone calls from Spanish-speaking parents with concerns or questions.

Children were given one week to return the forms. Any child who returned a signed parental consent form (regardless of whether participation is granted) received a stacking pencil. Teachers were given large manila envelopes to use to collect the parental consent forms as well as to hold the stacking pencils until they were distributed to the students. On the front of each manila envelope was a roster of the children in the class. The teachers were asked to check off the students who returned signed parental consent forms. At the end of the week an investigator collected the parental consent forms.

#### *Data Collection*

During the instrumentation phase of the study, the Kiddie Mach (Appendix E) and the CTBQ (Appendix J) were piloted on all consenting children. Of this sample, consenting boys also piloted the Social Goals Questionnaire (SGQ; Appendix D).

The day and time of the instrumentation study was chosen based upon the preference of the participating teachers in order to minimize intrusion. The investigators formed groups of three to four children per classroom to meet with to administer the pilot measures. The data collection occurred outside of the children's classroom, in an empty classroom in order to be free from distractions and to allow for confidentiality. Non-participating children worked quietly on homework in their designated classroom. The Kiddie Mach and CTBQ were administered first to all the children in the group. Following completion of these measures, the girls were walked back to their classroom by a research assistant while the boys completed the SGQ.

The data collection began with the investigators meeting with children in their small groups. The child assent form was read aloud to each child individually, and not in the presence of other children. Each child was asked to sign the child assent form which indicated agreement

to participate (Appendix K). Children who assented to participate were told that their answers were confidential and that they should not talk about their answers with others. Children were next lead through administration of the two Machiavellianism measures (Kiddie Mach and CTBQ). (Note: The order in which these two measures were administered was counterbalanced by small group so that order of presentation would not affect instrumentation results.) The researcher read the instructions for the first measure aloud and then asked the children to read the measures on their own so that the reading difficulty of the measures could be informally assessed. Investigators did not answer questions regarding comprehension of questions, or assist with reading the measures so as to better measure the appropriateness of the measure for the population of interest. The investigators did, however, note the specific type and number of questions the children asked during completion so as to later evaluate difficulties the children had understanding the questionnaires. Once all the children completed the first questionnaire, they were asked several questions to determine difficulties they may have had in understanding the measure (Appendix L). Once these questions were answered by the children in writing, administration of the second measure began with the investigator reading each item aloud and following the procedures as outlined above. Administration of these two measures lasted approximately 20 minutes.

Following the administration of the first two measures (Kiddie Mach and CTBQ) to the whole group, the girls were walked back to their classroom by a research assistant. The boys in the group remained in the room in order to pilot the SGQ. The boys were provided with vignettes describing relational conflict situations that were adapted to include the names of boys. After reading each vignette, the boys were asked several questions to confirm that they have experienced or witnessed a situation similar to the vignette (Appendix L). The administration of the SGQ took approximately an additional 10 minutes.

## *Results*

### *Machiavellianism*

Children were asked to identify the item number of each question they found confusing, their understanding of the intended meaning of the confusing item, the words they could not read, and the words they had never seen before (See Table 12). Of the sixteen items on the CTBQ, the children identified nine confusing items and seven words they had never seen before. Of the twenty items of the Kiddie Mach, the children identified seven confusing items and seven words they had never seen before.

A readability analysis using Spache's readability formula (Spache, 1974), determined the CTBQ to have a reading grade level of 3.54 while the Kiddie Mach was determined to have a reading grade level of 3.100. Additionally, reliability estimates were calculated for both the CTBQ and the Kiddie Mach (Table 13).

### *Social Goals*

Of the seven boys participating in the instrumentation phase of the study, five had never seen or experienced the relational slight depicted in question five of the SGQ. Due to the high proportion of male students who were unfamiliar with the scenario, it was not included in the analysis for either boys or girls.

## *Conclusions*

The purpose of piloting the measures was to determine: (a) which questionnaire measuring Machiavellianism (the Kiddie Mach or the CTBQ) was best suited for the population of interest, (b) if any items needed to be re-worded or altered, and (c) that the SGQ is appropriate for use with boys. Using the Spache readability list and formula jointly with student feedback, the investigators determined the Kiddie Mach to be more understandable measure than the CTBQ for children in the third grade from the population of interest. Results of the

instrumentation phase yielded that boys were familiar with all six scenarios depicted in the vignettes with the exception of scenario five. For the purposes of the main study, the 5<sup>th</sup> vignette was administered, but excluded from the analysis.

**Table 12.***Instrumentation Results for Kiddie Mach and CTBQ (n=15)*

Measure	Confusing Item	Frequency	Unreadable Words	Frequency
Kiddie Mach	9	1	dishonest	1
	10	1		
	11	1	Successful	2
			Honest	1
			Good	1
	12	1		
	13	1	Criminal	1
	17	1		
CTBQ	19	1	Never Right	1
	1		Important	1
	2	6	Humble	7
			Dishonest	3
	3	1		
	5	1	Forced	1
	8	9	Sucker	4
	10	1		
	12	9	Flatter	8
	13	1	Policy	1
	15	1		
16	1			

Table 13

*Descriptive Statistics for Machiavellianism (n=15)*

Measure	M	SD	$\alpha$
CTBQ	2.31	.358	.403
Kiddie Mach	2.35	.319	.676

Table 14

*Number of male participants familiar with vignette scenario (n=7)*

Vignette	Frequency	Percentage
1	4	57.1%
2	6	85.7%
3	5	71.4%
4	7	100%
5	2	28.6%
6	7	100%

APPENDIX B

Demographic Questionnaire

**How old are you today?**

- a) 8 years old
- b) 9 years old
- c) 10 years old
- d) 11 years old
- e) 12 years old

**When is your birthdate?** \_\_\_\_\_

**What grade are you in?**

- a) 4<sup>th</sup>
- b) 5<sup>th</sup>
- c) 6<sup>th</sup>

**Are you a (circle one):**

- a) boy
- b) girl

**Circle all the people you live with:**

Mother	Step-Mother	Father's Girlfriend
Father	Step-Father	Mother's Boyfriend
Grandmother		Grandfather
Brother	Sister	Cousin
Uncle	Aunt	Niece      Nephew

APPENDIX C

Revised Social Experiences Questionnaire – Peer Rating

Name of Classmate: \_\_\_\_\_

Ratee Number: \_\_\_\_\_

---

Answer the questions by circling how much each question is true of that person, Never if the question is NOT true of that person, Almost Never if the question is mostly NOT true of that person, Sometimes if the question is sometimes true of that person, Almost Always if it's mostly true of that person, and Always if that question is almost all the time true of that person. When answering the questions, think about that person's behavior in the LAST TWO WEEKS.

Rater Number: \_\_\_\_\_

**How well do you know this person?**

- Not at All       A Little       Really Well       They are my Best Friend
- 

**1. Do you look up to or want to be like this person?**

- Never       Almost Never       Sometimes       Almost Always       Always

**2. Does this person do nice things for other classmates?**

- Never       Almost Never       Sometimes       Almost Always       Always

**3. Does this person get even by keeping classmates he/she is mad at out of their group of friends?**

- Never       Almost Never       Sometimes       Almost Always       Always

**4. Does this person give help to classmates who need it?**

Never       Almost Never       Sometimes       Almost Always       Always

**5. Does this person tell classmates he/she won't be their friend unless they do what he/she wants them to do?**

Never       Almost Never       Sometimes       Almost Always       Always

**6. Does this person ignore classmates or stop talking to classmates when he/she is mad at a classmate?**

Never       Almost Never       Sometimes       Almost Always       Always

**7. Does this person try to cheer up other classmates who are upset or sad about something?**

Never       Almost Never       Sometimes       Almost Always       Always

**8. Does this person try to exclude or keep other classmates from being in his/her group when doing things?**

Never       Almost Never       Sometimes       Almost Always       Always

**9. Does this person spread rumors or talk behind other classmates' backs to make other people not like that classmate?**

Never       Almost Never       Sometimes       Almost Always       Always

**10. Does this person roll his/her eyes at other classmates or snub his/her nose at classmates?**

Never       Almost Never       Sometimes       Almost Always       Always

APPENDIX D

Adapted Social Experiences Questionnaire

Note to Readers: The following is a sample of the ratings following one vignette. In order to save space, the remaining vignettes are listed without the ratings. For the purposes of clarity in presenting this measure, all questions are labeled according to what variable they are measuring. These labels would not appear in the measure when it is administered to participants. Furthermore, items within each subscale would be randomized in the final measure. Lastly, one of two versions would be used based upon the gender of the participant. Vignettes would be reprinted at the top of each page.

(Girl Version)

**You are in the bathroom one day after recess. While you are in there, two other girls from your class come in and start talking to each other. You hear them talking about Melissa’s birthday party next Friday night. Melissa is your good friend. You have not received an invitation to Melissa’s party.**

GOAL SELECTION

**What would be your goal, or what would you want to happen in this situation?**

\_\_\_ A) I would want **Melissa** to only be friends with me, and not with the other girls...  
(relationship exclusivity)

1	2	3	4	5	6
Definitely Would Not	Most Likely Would Not	Maybe Would Not	Maybe Would	Most Likely Would	Definitely Would

\_\_\_ B) I would want to get invited to **Melissa’s** party after all... (social instrumental)

1	2	3	4	5	6
Definitely Would Not	Most Likely Would Not	Maybe Would Not	Maybe Would	Most Likely Would	Definitely Would

\_\_\_ C) I would want to stay friends with **Melissa**... (Friendship Continuation)

1	2	3	4	5	6
Definitely Would Not	Most Likely Would Not	Maybe Would Not	Maybe Would	Most Likely Would	Definitely Would

\_\_\_ D) I would want to “get even” with **Melissa** for not inviting me to the party... (Revenge)

1	2	3	4	5	6
Definitely Would Not	Most Likely Would Not	Maybe Would Not	Maybe Would	Most Likely Would	Definitely Would

\_\_\_ E) I would want to be sure that I stay friends with all of the girls... (**relationship inclusivity**)

1	2	3	4	5	6
Definitely Would Not	Most Likely Would Not	Maybe Would Not	Maybe Would	Most Likely Would	Definitely Would

**Please make a check in the space above next to your Top Goal.**

*The following are the remaining vignettes, without the ratings to conserve space for the purposes of this paper.*

When the teacher assigns school projects, you usually work with Diana. You really like Diana and you think she likes you too. Today, when the teacher tells the class to work in pairs, Diana decides to work with Kelly.

When you are the team captain during sports activities at school you always pick your good friend Maria first. When Maria is the team captain she always picks you first. Today, during recess, Maria is the team captain and she picks Karla first.

During recess, you usually meet your good friend, Deborah, to sit on the bench and talk. You like to spend the time alone with Deborah, and you think she likes it too. Today you get out to the playground a little late and Deborah is already sitting on the bench and talking alone with Carrie.

You are sharpening your pencil during science class. On the way back to your desk you pass by your friend, Anna. You watch Anna fold up a note with your name written on it. She passes it to Sarah. Sarah opens the note, reads it, and smiles at Anna.

You are standing in the hallway one day before school. While you are standing there two girls from your class, Rachel and Tina, walk by. As they pass you, Rachel turns toward Tina and whispers something and they both giggle.

Boy Vignettes:

You are in the bathroom one day after recess. While you are in there, two other boys from your class come in and start talking to each other. You hear them talking about Robert's birthday party next Friday night. Robert is your good friend. You have not received an invitation to Robert's party.

When the teacher assigns school projects, you usually work with Joe. You really like Joe and you think he likes you too. Today, when the teacher tells the class to work in pairs, Joe decides to work with Chris.

When you are the team captain during sports activities at school you always pick your good friend John first. When John is the team captain he always picks you first. Today, during recess, John is the team captain and he picks Ricardo first.

During recess, you usually meet your good friend, Tim, to sit on the bench and talk. You like to spend the time alone with Tim, and you think he likes it too. Today you get out to the playground a little late and Tim is already sitting on the bench and talking alone with Dave.

You are sharpening your pencil during science class. On the way back to your desk you pass by your friend, Aaron. You watch Aaron fold up a note with your name written on it. He passes it to Marco. Marco opens the note, reads it, and smiles at Aaron.

You are standing in the hallway one day before school. While you are standing there two boys from your class, David and Andrew, walk by. As they pass you, Andrew turns toward David and whispers something and they both laugh.

APPENDIX E

Kiddie Mach

**Directions:** You will be asked to describe how true these sentences are for you. They ask for your opinion. Fill out the answer below to describe how true the following statement is for you.

**1. Chocolate ice cream is the best flavor ice cream.**

Not true       Not really true       A little true       Really true

---

**Directions:** Read each sentence, and put a check next to the sentence that matches the answer that you think is most true..

1. Never tell anyone why you did something unless it will help you.

Not true       Not really true       A little true       Really true

2. Most people are good and kind.

Not true       Not really true       A little true       Really true

3. The best way to get along with people is to tell them things that make them happy.

Not true       Not really true       A little true       Really true

4. You should do something only when you are sure it is right.

Not true       Not really true       A little true       Really true

5. It is smartest to believe that all people will be mean if they have a chance.

Not true       Not really true       A little true       Really true

6. You should always be honest, no matter what.

Not true       Not really true       A little true       Really true

7. Sometimes you have to hurt other people to get what you want.

**Not true**       **Not really true**       **A little true**       **Really true**

8. Most people won't work hard unless you make them do it.

**Not true**       **Not really true**       **A little true**       **Really true**

9. It is better to be ordinary and honest than famous and dishonest.

**Not true**       **Not really true**       **A little true**       **Really true**

10. It's better to tell someone why you want him to help you than to make up a good story to get him to do it.

**Not true**       **Not really true**       **A little true**       **Really true**

11. Successful people are mostly honest and good.

**Not true**       **Not really true**       **A little true**       **Really true**

12. Anyone who completely trusts anyone else is asking for trouble.

**Not true**       **Not really true**       **A little true**       **Really true**

13. A criminal is just like other people except that he is stupid enough to get caught.

**Not true**       **Not really true**       **A little true**       **Really true**

14. Most people are brave.

**Not true**       **Not really true**       **A little true**       **Really true**

15. It is smart to be nice to important people even if you don't really like them.

**Not true**       **Not really true**       **A little true**       **Really true**

16. It is possible to be good in every way.

**Not true**       **Not really true**       **A little true**       **Really true**

17. Most people can not be easily fooled.

**Not true**       **Not really true**       **A little true**       **Really true**

18. Sometimes you have to cheat a little to get what you want.

**Not true**       **Not really true**       **A little true**       **Really true**

19. It is never right to tell a lie.

**Not true**       **Not really true**       **A little true**       **Really true**

20. It hurts more to lose money than to lose a friend

**Not true**       **Not really true**       **A little true**       **Really true**

## APPENDIX F

Information Packet for Teachers

# WHY DO KIDS BULLY AT YOUR SCHOOL?



Hello!

We would like to take this opportunity to notify you of an opportunity we are providing **fourth, fifth and sixth grade students** at your elementary school. We are looking for a school that would be willing to allow us to collect information about **bullying attitudes** and **bullying behavior of children** in the fourth through sixth grades. When we think of bullying, we think of fighting, pushing and intimidation. But recently, research has found that **other types of bullying have equally negative effects**. These behaviors – gossiping, exclusion, triangulation in friendships – are called **social aggression**, and they've been connected with higher rates of depression, loneliness, and sadness in victims. **This is your chance to find out if social aggression is a problem at your school.** After collecting our data, **we'll be able to tell you if kids at your school use this type of bullying, as well as why they are bullying, and to suggest ways to intervene.** After collecting our data, we'll come to your school and present our findings. If your campus is interested, we can also guide you in setting up a bullying intervention or making changes to existing bullying programs. Our goal is to gain a better understanding of why kids use these bullying techniques so that we can make better interventions.

**Who are we?** We are advanced doctoral students in the School Psychology Program at the University of Texas at Austin. This study is part of our dissertation research under the direction of Drs. Cindy Carlson and Janay Sander.

**What would happen?** The first step would be a meeting with you and your teachers to talk about social aggression, and the questions we'd like to ask the students. Next we would visit classrooms at your school and introduce ourselves. At this time we would give the students consent forms to take home. While we hope that everyone would be eager to participate, we recognize that parents might have concerns. We would like to

attend a parent meeting (such as a PTA meeting or open house) to be available to address their concerns.

**Data Collection.** We will be asking students to fill out a number of different questionnaires. We want to measure and understand the amount and type of bullying that occurs in the school. Research indicates that knowing the amount and type of bullying behavior can help schools identify the extent of the problem and know where to offer intervention and support.

**How long will data collection take?** Data collection will take approximately **two hours in total**. We will work with you and the teachers to **find a time that is least intrusive**, and can break up this time into a number of days to best fit your schedules. We will be reading the questionnaires in small groups to the children. Each child's responses will be **completely confidential**. Once the children have answered all the questions, we will remove the children's names from the questionnaires so that responses will remain confidential and the students' privacy will be protected.

**What about the consents?** The consent form will ask for parent permission for child participation in the data collection process (more on this below). This consent will need to be signed indicating approval or disapproval. Participation in the data collection process of this study is **entirely voluntary**. Parents will be free to refuse to allow their child to participate in the data collection. Their refusal will not influence current or future relationships with The University of Texas at Austin or with your child's school district. Also, children whose parents consent are informed at the time of data collection that they may end their participation at any point in the study, without need to give a reason or justify their actions and without any ramifications whatsoever.

**Can parents change their mind about allowing their child to participate?** Parents will be free to withdraw their consent and their child's participation in the research study at any time without penalty or loss of benefits for which their child may be entitled. If they wish to stop their child's participation in this research study for any reason, they will be able to contact: Shanna Reeves at (512) 773-5739 or Sarah Ricord-Griesemer at (512) 589-3324. Throughout the study, the researchers will notify parents and the school of new information that may become available and that might affect a decision to remain in the study.

In addition, if parents have questions about their child's rights as a research participant, they can contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, 512/232-4383.

**What are the risks?** One of the questionnaires will ask students to rate how often their classmates engage in certain bullying and prosocial behaviors. One possible risk of this particular questionnaire is that children may talk about their ratings of other children with one another. Their discussions could be harmful to the child in question. For example, Jenny may talk to Sue about her ratings of Janet. Janet could overhear and may become hurt that Jenny and Sue are talking about her. To help discourage children from talking to one another about their ratings, children will be asked to keep their answers

confidential and not to talk about them. Teachers will also be asked to pay special attention to what children are talking about after the rating forms have been filled out so the teacher can put an end to the discussion. Further, the coordinators of the project will remain on campus after data collection of sensitive information, so that they would be available in the event that any of the children experience discomfort after answering questions.

If parents, teachers, or school administration wish to discuss the information above or any other risks children may experience, they may ask questions by calling the Principal Investigators listed on the bottom of this letter.

We are very excited at the prospect of working with children at your school. **We hope that you will be excited as well about the opportunity your children will have to participate in valuable research and hopefully learn something as well!**

We encourage questions, thoughts, and concerns so please do not hesitate to call or email us. Please let us know if you would be interested in participating in this valuable research project. The results of this study will provide beneficial and valuable information to any campus that chooses to participate. **Taking a proactive stance on bullying can help prevent future bullying behavior.** If you are interested please contact us and let us know and we will be happy to set up a meeting to give you more information about our project and answer any questions you might have. We look forward to meeting you.

Sincerely,

Sarah Ricord-Griesemer, M.A. and Shanna Reeves, M.A.  
512/589-3324 512/773-5739

## APPENDIX G

### INFORMATION PACKET FOR PARENTS

#### WHY DO KIDS BULLY AT YOUR SCHOOL?



Dear Parent:

We would like to take this opportunity to notify you of an opportunity we are providing **fourth, fifth, and sixth grade students** at your elementary school.

When we think of bullying, we think of fighting, pushing and intimidation. But recently, research has found that **other types of bullying have equally negative effects**. These behaviors – gossiping, exclusion, triangulation in friendships – are called **social aggression**, and they've been connected with higher rates of depression, loneliness, and sadness in victims. **We are working with your principal to find out if this type of bullying is a problem at your school.**

After collecting our data, **we'll be able to tell your child's school if kids at your school use this type of bullying, as well as why they are bullying, and to suggest ways to intervene.** We are very excited at the prospect of working with children at your school. We hope that you will be excited as well about the opportunity your children will have to participate in valuable research and hopefully learn something as well!

We encourage questions, thoughts, and concerns so please do not hesitate to call or email us. Please let us know if you would be interested in participating in this valuable research project. The results of this study will provide beneficial and valuable information to any campus that chooses to participate.

Please take a moment to review the attached consent form. Regardless of whether or not you choose to have your child participate, please return the last page of the consent form!

Sincerely,  
Sarah Ricord-Griesemer, M.A. and Shanna Reeves, M.A.  
512/589-XXXX

512/773-XXXX

## ¿PORQUE LOS NIÑOS INTIMIDAN EN SUS ESCUELAS?



Querido padre de familia:

Nos gustaría aprovechar esta oportunidad para notificarle de una gran oportunidad que estamos brindando a los estudiantes de cuarto, quinto y sexto grado de su escuela elemental.

Cuando pensamos en intimidación, pensamos en peleas, empujones y tiranías. Pero recientemente, estudios han encontrado que **otros tipos de agresión tienen igualmente efectos negativos**. Estas conductas - chismes, exclusión, triangulación en amistades - son llamadas **agresión social**, y ellas han sido conectadas con los altos índices de depresión, soledad, y tristeza en las víctimas. **Estamos trabajando con tu director para averiguar si esta clase de agresión es un problema en tu escuela.**

Después de recolectar los datos, **estaremos en capacidad de informar a la escuela de tu hijo si los niños en su escuela están usando este tipo de agresión, también el porqué ellos están agrediendo, y sugerir además, los medios para intervenir.** Estamos muy entusiasmados ante la posibilidad de trabajar con los niños de tu escuela. Esperamos que igualmente se entusiasme por la oportunidad que sus hijos tienen al participar en una investigación tan valiosa y que además aprenda con este proyecto.

Nosotros fomentamos preguntas, pensamientos y preocupaciones, así que por favor, no vacile en llamarnos o enviarnos un correo electrónico. Por favor, informenos si usted estaría interesado en participar en este valioso proyecto de investigación.

Por favor, tómesese su tiempo para revisar el formato de consentimiento adjunto. Sin importar si aprueba o no la participación de su hijo; por favor, regrémenos la última hoja del formato de consentimiento.

Sinceramente,

Sarah Ricord Griesemer, M.A. y Shanna Reeves, M.A.  
encargadas del proyecto de investigación.  
512/589-XXXX y 512/773-XXXX respectivamente.

### ***Informed Consent to Participate in Research***

**IRB Study # 2006-07-0026**

Researchers: Shanna Reeves, M.A. and Sarah Ricord-Griesemer, M.A.

Phone Numbers : 512/773-XXXX and 512/589-XXXX

*Doctoral Candidates in the Department of Educational Psychology, School Psychology Program at the University of Texas at Austin*

Faculty Sponsor: Cindy Carlson, Ph.D.

Your child, along with all the children in your child's grade, is being asked to participate in a research study. This form provides you with information about the study so that you may decide whether your child may participate in this study. You also may contact the researchers, Shanna Reeves and Sarah Ricord-Griesemer so that they can describe this study to you and answer all of your questions. Please read the information below and if you have any questions please contact Shanna Reeves at 512/773-5739 or Sarah Ricord-Griesemer at 512/589-3324. Your participation is entirely voluntary and you can refuse to participate without any consequences, and this study has no bearing on your relationship with your child's school or the University of Texas. **It is entirely voluntary.**

**Title of Research Study:** The Implications of Social Aggression

#### **What is the purpose of this study?**

The goal of our study is to better understand bullying behaviors called social aggression. These behaviors include gossiping, spreading rumors behind someone's back, purposefully excluding a particular child, and so forth. The questionnaires that we are asking children to fill out will help us to better understand why kids use these bullying behaviors and what they accomplish. Specifically, the questionnaires that your child fills out will help us understand the level of peer aggression your child's peers are engaging in, your child's beliefs about aggression, and the level of empathy they feel for their peers. This better understanding will allow us to inform other researchers so that better programs can be created to decrease bullying behaviors.

#### **If you agree to be in the study, we will ask you and your child to do the following things:**

- (1) You will be asked to complete the attached consent form and return it to your child's school.
- (2) Your child will be asked if he/she wants to participate.
- (3) If so, he/she will be asked to complete six different questionnaires, spread out over two sessions that should last approximately forty-five minutes each. The two sessions will occur on different days. With the help of teachers and the principal, researchers will schedule the study to minimize any impact on academic time.

**Total Estimated Time:** Two forty-five minute sessions.

#### **Risks and Benefits to being in the study:**

One possible risk of this study is that children may **talk about their ratings** of other children with one another. Their discussions could be harmful to the child in question. For example, Jenny may talk to Sue about her ratings of Janet. Janet could overhear and may become hurt that Jenny and Sue are talking about her. To help discourage children from talking to one another about their ratings, children will be asked to keep their answers confidential and not to talk about them. Teachers will also be asked to pay special attention to what children are talking about after the rating forms have been filled out so the teacher can put an end to the discussion.

Children are asked to describe their own perceptions of other children who engage in different types of social aggression, and children also rate their own levels of behaviors related to social aggression, using names of children. It may **make your child uncomfortable** to describe their own, or their classmates', behaviors using names. Researchers will explain to the children that the behaviors being asked about are not necessarily a problem, nor are the answers going to be used to get anyone "in trouble," and that most of the behaviors described in the study are seen in many children at different times and is not unusual. These explanations may reduce any potential for discomfort. A graduate student and the school counselor will remain available in case there is any child who experiences discomfort.

There is a possible risk of **loss of privacy**. Every effort will be made to protect the privacy of your child's responses, and names will immediately be replaced with a researcher-assigned ID number to protect privacy. All documents will be stored in a locked file cabinet on the University of Texas campus to protect your child's privacy.

There are no direct benefits to your child. By collecting data about how the children interact with one another, researchers are able to determine contributing factors of social aggression, and can suggest interventions to your school that will be more effective in eliminating these behaviors.

**Will your child receive compensation for his/her participation in this study?**

All children who return this form, regardless of whether their parent consents or declines to allow participation, will receive a UT pencil as a reward.

**If you do not want your child to take part in this study, what other options are available to you?**

Participation in the data collection process of this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with The University of Texas at Austin. Children who do not participate in the study will simply participate in a different activity, determined by the child's teacher, during the time the study is taking place.

**Contacts and Questions**

If you wish to stop your child's participation in this research study for any reason, you should contact: Shanna Reeves at 512/773-5739 or Sarah Ricord-Griesemer at 512/589-3324. You are free to withdraw your consent and your child's participation in this research study at any time without penalty or consequences of any kind. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study. In addition, if you have questions about your rights as a research participant, please contact Lisa I. Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871.

**How will your child's privacy and the confidentiality of your child's research records be protected?**

Information pertaining to your **child's race and whether he or she receives subsidized free or reduced lunches will be gathered from the school**. This information is gathered only to describe the type of children who participate in our study. Your child's name will not be recorded with the race and subsidized lunch information.

As part of the data collection process, children's names will need to be placed on each rating form the child fills out so that the child can identify which classmate he/she is rating. Your child's name, however, will be replaced by a code number so that the identity of who has rated the children will remain unknown. To ensure confidentiality and privacy, after the children have finished rating their classmates and turned in their forms, the names on each form of who has been rated will be removed and will be replaced with a number so no child's responses can be identified later. Once this process has occurred, there should be no information on any of the data forms that would link responses to a specific child. For further assurance, records will be stored at the University of Texas at Austin in a locked filing cabinet.

Authorized persons from The University of Texas at Austin and the Institutional Review Board have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. If the research project is sponsored then the sponsor will also have the legal right to review your research records. Otherwise, your research records will not be released without your consent unless required by law or a court order.

If the results of this research are published or presented at scientific meetings, your child's identity will not be disclosed.

**Signatures:**

PLEASE RETURN ONE COPY OF THIS PORTION TO YOUR CHILD'S TEACHER. PLEASE KEEP ONE COPY FOR YOUR RECORDS.

Name of child (please print): \_\_\_\_\_

Please indicate your decision below:

**YES** I give my permission for my child to participate in this research study.

**NO** I do not give my permission for my child to participate in this research project.

\_\_\_\_\_  
Parent or Legal Guardian Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher signature

\_\_\_\_\_  
Date

NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS AND ONE SHOULD BE RETURNED TO YOUR CHILD'S TEACHER.

## Consentimiento informado para participar en la Investigación

Investigadoras: Shanna Reeves, M.A. y Sarah Ricord Griesemer, M.A.  
Números telefónicos: 512/773-XXXX y 512/589-XXXX  
*Candidatos doctorales en el Departamento de Psicología Educacional, Programa de Psicología de la Universidad de Texas en Austin.*

Profesor Universitario: Cindy Carlson, Doctora en Filosofía.

Su hijo, junto con todos los niños de su clase, está siendo invitado para participar en un estudio de investigación. Este formato le dará la información sobre el estudio para que pueda decidir si su niño participa o no en el estudio. Puede contactar a las investigadoras (Personas encargadas de la investigación), Shanna Reeves y Sarah Ricord-Griesemer para que le describan el estudio y respondan sus preguntas. Por favor, lea la información de abajo y llame a las investigadoras en caso de tener alguna pregunta. Su participación es enteramente voluntaria y puede negarse a participar sin ninguna consecuencia. Este estudio no tiene relación con la escuela de su niño o con la Universidad de Texas. **Es enteramente voluntario.**

**Título del Estudio de Investigación:** *Implicaciones de la Agresión Social.*

### ¿Cual es el propósito de este estudio?

La meta de nuestro estudio es entender mejor las conductas intimidantes llamadas agresión social. Estas conductas incluyen chismes, hablar mal detrás de la espalda de los otros, exclusion determinante de un niño en particular, y así sucesivamente. Las preguntas que le pedimos a los niños completar, nos ayudará a entender mejor porque los niños usan estas conductas intimidantes y lo que ellos realizan. Específicamente, los cuestionarios que su niño llenará nos ayudará a entender en nivel de agresión con el que los compañeritos de su hijo están identificados, las creencias de su hijo sobre la agresión, y el nivel de empatía que ellos tienen por sus compañeros. Este mejor entendimiento nos permitirá informar a otros investigadores para que mejores programas puedan ser creados y reducir así, las conductas amenazantes.

### Si está de acuerdo en participar en este estudio, le pedimos a usted y a su niño hacer lo siguiente:

1. Le pediremos que complete el formato de consentimiento adjunto y devolverlo a la escuela de su hijo.
2. Le preguntaremos a su hijo si desea participar en el estudio.
3. En caso de aceptar, él/ella deberá completar seis diferentes cuestionarios en dos sesiones de cuarenta y cinco minutos cada uno, aproximadamente. Las dos sesiones se llevarán a cabo en días diferentes. Las investigadoras, con la ayuda de los profesores y el director, fijarán el día y la hora del estudio para minimizar cualquier impacto en el tiempo académico.

**Total tiempo estimado:** Dos sesiones de cuarenta y cinco minutos cada uno.

### Riesgos y beneficios de estar en el proyecto:

Un posible riesgo del estudio es que los niños pueden **hablar de la valoración** de los demás niños con los otros. Sus discusiones podrían ser dañinas para el niño interrogado. Por ejemplo, Jenny puede decirle a Sue su valoración sobre Janet. Janet puede oír por casualidad y puede sentirse herida porque Jenny y Sue estaban hablando de ella. Para ayudar a evitar que los niños hablen de los otros, les pediremos que guarden sus respuestas de manera confidencial y no hablen de ellas. Los profesores también pondrán especial atención a lo que los niños dicen después de llenar el formato de valoración, por lo tanto el profesor pondría un “alto” a la discusión.

Pediremos a los niños que describan sus propias percepciones sobre los otros niños pertenecientes a diferentes tipos de agresión social, y los niños también valorarán sus propios niveles de conducta relacionados con la agresión social, usando nombre de los niños. Esto **puede hacer que su hijo se sienta incómodo** al describir su propia conducta y la de los otros compañeros utilizando sus nombres. Las investigadoras explicarán a los niños que las conductas por las cuales han sido interrogados no son necesariamente un problema, ni tampoco las respuestas van a ser usadas para meter a nadie en problemas, y que la mayoría de las conductas descritas en el estudio son vistas en muchos niños en diferentes ocasiones y que no es algo inusual. Estas explicaciones pueden reducir el potencial de

inconformidad. Un estudiante graduado y el consejero de la escuela permanecerán disponibles en caso de que haya un niño que experimente inconformidad.

Hay un posible riesgo de **pérdida de privacidad**. Haremos todos los esfuerzos para proteger la privacidad de las respuestas de sus niños, y los nombres serán inmediatamente reemplazados por un número de identificación asignado por el investigador para proteger su privacidad. Todos los documentos serán guardados en un archivador asegurado en un campus de la Universidad de Texas en Austin para proteger la privacidad de su hijo.

No hay beneficios directos para su niño. Por medio de la recolección de datos sobre cómo los niños interactúan con los otros, las investigadoras estarán en capacidad de determinar los factores que contribuyen a la agresión social, y pueden sugerir intervenciones a la escuela que pueden ser más efectivas en la reducción de estas conductas.

### **¿Recibirá su niño/a alguna compensación por su participación en este estudio?**

Si su niño devuelve este formato de consentimiento, sin importar si completará los cuestionarios o no, él o ella recibirá un lápiz de la Universidad de Texas.

### **Si usted no quiere que su niño haga parte de este estudio, qué otras opciones están disponibles para usted?**

La participación en el proceso de recolección de datos de este estudio es enteramente voluntaria. Usted está en su derecho de negarse e impedir a su hijo participar en este estudio, y su negativa no influirá en sus relaciones actuales o futuras con la escuela o con la Universidad de Texas en Austin. Los niños que no participen en el estudio, simplemente participarán en una actividad diferente, determinada por el profesor de los niños, durante el tiempo en que el estudio se lleve a cabo.

### **Contactos y preguntas**

Si usted, por alguna razón, desea impedir a su hijo participar en la investigación de estudio, deberá contactar a las investigadoras Shanna Reeves en el número telefónico 512/773-5739 o Sarah Ricord-Griesemer en el 512/589-3324. Usted es libre de retractarse de su consentimiento y de la participación de su hijo en la investigación de estudio en cualquier momento sin penalidad o consecuencias de ningún tipo. A lo largo del estudio, las investigadoras le notificarán nueva información que puede estar disponible y que podría influir en su decisión para permanecer en el estudio. Además, si tiene alguna pregunta sobre sus derechos como participante de la investigación, por favor, contacte a Lisa I Leiden, Doctora en Psicología, catedrática, Universidad de Texas en Austin en el Consejo de Revisión Institucional para la protección de Materias Humanas, 512/471-8871.

### **¿Cómo la privacidad y la confidencialidad de los archivos de los niños serán protegidas?**

La información relacionada **con la raza de su hijo y si él o ella recibe almuerzos subvencionados, gratis o reducidos, será obtenida de parte de la escuela**. Esta información obtenida es sólo para describir la clase de niños que van a participar en el estudio. El nombre de su hijo no será registrado con la raza y la información de almuerzo subsidiado.

Como parte del proceso de recolección de datos, será necesario colocar el nombre de los niños en cada formato de evaluación que ellos llenen, ya que el niño puede identificar qué compañerito está evaluando. El nombre de su hijo, sin embargo, será reemplazado por un número de código para que la identificación de quien ha evaluado permanezca desconocida. Para estar seguros de la privacidad y confiabilidad, después de que cada niño haya terminado la evaluación de sus compañeros y entregado sus formatos, los nombres de los que fueron evaluados serán borrados de los formatos y reemplazados por un número de código para que las respuestas de su niño no sean identificadas más tarde. Una vez este proceso haya pasado, no habrá información en ninguno de los formatos de archivos que puedan relacionar las respuestas con un niño en específico. Para mayor garantía, los archivos serán guardados en la Universidad de Texas en Austin en un archivador asegurado.

Personas autorizadas de la Universidad de Texas en Austin y del Consejo de Revisión Institucional tienen el derecho legal de revisar sus archivos protegiendo la confidencialidad de estos documentos hasta el punto permitido por la ley. Si el proyecto de investigación es patrocinado, el patrocinador también tiene el derecho legal de revisar los archivos de dicha investigación. De otra manera, sus archivos no serán revelados sin su consentimiento a menos que sea requerido por la ley u orden judicial.

Si los resultados de esta investigación son publicados o presentados ante reuniones científicas, la identidad de su hijo no será revelada.

**FIRMAS**

**POR FAVOR DEVUELVA UNA COPIA DE ESTA PARTE AL PROFESOR DE SU HIJO. Y  
POR FAVOR, GUARDE UNA EN SUS ARCHIVOS.**

Nombre del niño (en letra imprenta): \_\_\_\_\_

Por favor, indique su decisión abajo:

- Si**, si doy permiso a mi hijo para participar en este estudio de investigación.
- No**, no doy permiso a mi hijo para participar en este proyecto de investigación.

\_\_\_\_\_  
Firma del padre/madre o guardian                      Fecha                      \_\_\_\_\_

\_\_\_\_\_  
Firma de la investigadora                      Fecha                      \_\_\_\_\_

NOTA: DOS COPIAS DE ESTA CARTA LE SERAN ENTREGADAS. UNA DEBERA GUARDARLA EN SUS ARCHIVOS Y LA OTRA DEVOLVERLA AL PROFESOR DE SU NIÑO.

APPENDIX H

Child Assent Form

The Implications of Social Aggression

I am being asked to be in a study about how my classmates interact with one another. This study was explained to my (mother/father/parents/guardian) and (she/he/they) said that I could be in it. The only people who will know about what I say and do in the study will be the people in charge of the study.

In this study, I will be asked questions about what I would like to happen in certain situations. I will also be asked questions about my beliefs about what other people think and want. My answers will only be shared with the people in charge of the study, and I understand that I am not to talk about my answers or ask others about their answers.

Writing my name on this page means that the page was read (by me/to me) and that I agree to be in the study. I know that it is my choice to participate, and that nothing bad will happen if I decide I do not want to answer the questions. If I decide to drop out of the study, all I have to do is tell the person in charge. Dropping out of the study will not cause any damage to my grades or relationship with the people in the study, my teacher(s), or the University of Texas at Austin.

I am saying “YES” or “NO” to participating in this project:

\_\_\_\_ YES, I want to participate.

\_\_\_\_ NO, I do not want to be in this project.

\_\_\_\_\_  
Child's Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Date

## APPENDIX I

### Instrumentation Parental Consent

#### Parental Consent Form for the Participation of Minors

#### **CONSENT FORM What do Kids' Conflicts Look Like?**

Your child is invited to participate in a study to determine what the conflicts of kids in elementary school look like. My name is Sarah Ricord-Griesemer and I am a doctoral student in the department of Educational Psychology at The University of Texas at Austin. This study is part of a requirement for my Ph.D. degree. I am asking for permission for your child to participate as I am hoping to have at least 10 fourth and fifth grade male participants for this part of the study.

I am asking parents to allow a graduate student researcher to read a scenario depicting a conflict situation and discuss with their child whether or not the child has ever observed such a conflict. All the scenarios depict a conflict in which elementary aged children get into a relational conflict.

Any information that is obtained in connection with this study and that can be identified with your child will remain confidential and will be disclosed only with your permission. His responses will not be linked to his or her name or your name in any written or verbal report of this research project.

Your participation is completely voluntary and may be revoked at any time.

You may keep the copy of this parental consent form.

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided and have decided to allow him or her to participate in the study. If you later decide that you wish to withdraw your permission for your child to participate in the study, simply tell me. You may discontinue his or her participation at any time.

**YES** I give my permission for my child, \_\_\_\_\_, to participate in this research study.

**NO** I do not give my permission for my child, \_\_\_\_\_, to continue any further with this research project.

\_\_\_\_\_  
Parent's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Sarah Ricord-Griesemer, M.A.

\_\_\_\_\_  
Date

NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS

APPENDIX J

Children's Tactics and Beliefs Questionnaire

*Adapted from Braginsky (1970)*

**Directions:** You will be asked to describe how true these sentences are for you. They ask for your opinion. Fill out the answer below to describe how true the following statement is for you. Read the sentence, and put a check next to the sentence that matches the answer that you think is most true.

**1. Chocolate ice cream is the best flavor ice cream.**

Not true       Not really true       A little true       Really true

---

**Directions:** Read each sentence, and put a check next to the sentence that matches the answer that you think is most true.

**1. A person can be good in every way.**

Not true       Not really true       A little true       Really true

**2. It is better to be a person who is humble and honest than to be one who is important and dishonest.**

Not true       Not really true       A little true       Really true

**3. Never tell anyone the real reason you did something unless it be helpful to you.**

Not true       Not really true       A little true       Really true

**4. The best way to handle people is to tell them what they want to hear.**

Not true       Not really true       A little true       Really true

5. Most people won't work hard at things unless they are forced to.

Not true       Not really true       A little true       Really true

6. Anyone who completely trusts anyone else is asking for trouble.

Not true       Not really true       A little true       Really true

7. People should be sure they are doing the right thing before they act.

Not true       Not really true       A little true       Really true

8. The saying that there is a sucker born every minute is right. (belief)

Not true       Not really true       A little true       Really true

9. Most people who get ahead in the world lead good, clean lives.

Not true       Not really true       A little true       Really true

10. You can be sure that most people have a mean streak and they will show it whenever they have the chance.

Not true       Not really true       A little true       Really true

11. Most people are brave.

Not true       Not really true       A little true       Really true

12. It is a smart thing to flatter important people.

Not true       Not really true       A little true       Really true

13. Honesty is always the best policy.

Not true       Not really true       A little true       Really true

**14. Most people are good and kind.**

Not true       Not really true       A little true       Really true

**15. It is hard to get ahead without cutting corners here and there.**

Not true       Not really true       A little true       Really true

**16. There is no excuse for lying to someone.**

Not true       Not really true       A little true       Really true

## APPENDIX K

### Instrumentation Child Assent Form

#### The Implications of Social Aggression

I agree to be in a study about how my classmates interact with one another. This study was explained to my (mother/father/parents/guardian) and (she/he/they) said that I could be in it. The only people who will know about what I say and do in the study will be the people in charge of the study.

In this study, I will be asked to read a description of an argument between kids and talk about it. I will also be asked to read some questions and tell the researcher if the questions make sense or are confusing. My answers will only be shared with the people in charge of the study.

I know that it is my choice to participate, and that nothing bad will happen if I decide I do not want to answer the questions. If I decide to drop out of the study, all I have to do is tell the person in charge. Dropping out of the study will not cause any damage to my grades or relationship with the people in the study, my teacher(s), or the University of Texas at Austin.

I am saying “YES” or “NO” to participating in this project:

\_\_\_ YES, I want to participate.

\_\_\_ NO, I do not want to be in this project.

## APPENDIX L

### Piloting Questions

#### Questions for the pilot of the Social Goals Questionnaire:

*To be read after each vignette:*

1. Have you ever seen something like this happen?
2. Describe a similar situation that you've witnessed.
3. If you could change this story to make it more like real life, how would you change it?

#### Questions for the pilot of the Children's Tactics and Beliefs Questionnaire and the Kiddie Mach:

*To be read after each questionnaire:*

1. Circle the number beside each question that seemed confusing to you.
2. For the questions that were confusing, write under each one a short sentence describing what you think it means.
3. Cross out the words that you couldn't read.
1. Circle the words you have never seen before.

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