THE CONSEQUENCES OF MOTHERS' REGULATIVE COMMUNICATION STRATEGIES FOR CHILDREN'S SOCIAL COGNITION, MOTIVATION, AND LONELINESS: AN ANALYSIS OF INDIRECT EFFECTS

by

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# TABLE OF CONTENTS

LIST OF TABLES ........................................................................................................... ix  
ABSTRACT ...................................................................................................................... xi  

Chapter  

1 INTRODUCTION ........................................................................................................ 1  
An Organizing Framework .................................................................................. 2  

2 OVERVIEW OF RELEVANT RESEARCH ......................................................... 10  
Social Cognition: Conceptualizations and Consequences .......................... 11  
   Social Cognition: Conceptualizations ......................................................... 11  
   Consequences of Individual Differences in Social Cognition ............... 15  
   Limitations of Research on Social Cognition ........................................ 18  
Motivation: Conceptualizations and Consequences .................................. 24  
   Locus of Control: Conceptualizations ....................................................... 25  
   Consequences of Individual Differences in Locus of Control .......... 26  
   Empathy: Conceptualizations ................................................................. 29  
   Consequences of Individual Differences in Empathy ....................... 31  
   Limitations of Research on Locus of Control and Empathy .......... 33  
Parental Discipline as an Antecedent of Individual Differences in Children’s Development: An Overview .................................................. 36  
Parental Discipline and Children’s Behavior: Support for a Direct Effects Model ................................................................. 37  
   The Effects of Parental Discipline on Children’s Social Cognition and Motivation ................................................................. 40  
Summary ................................................................................................................... 42  
   An Indirect Effects Model of Socialization ............................................ 43  
   Support for the Indirect Effects Model .................................................. 44  
   Critique of Research on Indirect Effects ............................................. 45
A Constructivist Approach to the Study of Indirect Effects:
Focus of the Current Study ........................................ 46

Limitations of a Constructivist Analysis of Socialization .......................... 52

Hypotheses and Research Questions ............................................... 55

3 METHODOLOGY .................................................................. 58

Participants ........................................................................ 58
General Procedures ................................................................ 60
Indices of Children's Social Cognition, Motivation, and Loneliness .... 61

Indices of Social Cognition .................................................................. 61

Elicitation of Social Cognitive Ability ........................................ 61
Cognitive Differentiation: Coding and Index Construction .................. 62
Cognitive Abstractness: Coding and Index Construction ....................... 64

Indices of Motivation .................................................................. 66

Locus of Control ........................................................................ 66
Emotional Empathy .................................................................... 68
Self-efficacy ............................................................................. 70
Loneliness ................................................................................ 72

Indices of Maternal Regulative Communication .................. 73

Message Elicitation .................................................................... 73
Message Coding ........................................................................ 74

Unitization ................................................................................. 74
Substantive Coding .................................................................... 76

Index Construction .................................................................. 77

Summary .................................................................................. 78

4 RESULTS .............................................................................. 80

Analyses of Potentially Confounding Effects ................................. 81

Effects of Demographic Variables on Maternal Communication .... 84
Effects of Demographic Variables on Children's Social Cognition, Motivation, and Loneliness .............................................................. 86
Examining Hypotheses 1 through 4: Relationships between Maternal Communication and Children's Social Cognition and Motivation .......................... 87

Zero-order Correlations between Maternal Communication and Children's Social Cognition and Motivation .................................................. 88
Fourth-order Partial Correlations between Maternal Communication and Children's Social Cognition and Motivation ........................................ 89

Examining Research Questions 1 and 2 ............................................. 91

Research Question 1: Examining the Relative Influence of Maternal Communication on Children's Social Cognition and Motivation ............... 92
Research Question 2: Tests of the Indirect Effects Model ............. 93

The Hierarchical Approach to Assessing Indirect Effects .................. 94
Lisrel Path Analysis ..................................................................... 101

Additional Analyses ..................................................................... 105

Relationships between Children's Social Cognition and Motivation .......... 105
Relationships among Social Cognition, Motivation, and Loneliness ............ 108

Summary of Results ..................................................................... 111

5 DISCUSSION ........................................................................... 114

Significant Relationships between Maternal Communication and Children's Social Cognition and Motivation ......................................... 115

Maternal Communication and Children's Locus of Control .................. 115
Marginal Relationships between Maternal Communication and Children's Social Cognition and Motivation ........................................ 118
Comparing the Relationship between Maternal Communication and Children's Social Cognition and Maternal Communication and Children's Motivation: Addressing the First Research Question ........................................ 123
The Mediating Effect of Children's Social Cognition and Motivation on the Relationship between Maternal Communication and Children's Loneliness: Addressing the Second Research Question ........................................ 126
Summary ....................................................................................... 130

Accounting for Nonsignificant Findings ........................................ 131
Methodological Accounts for Nonsignificant Findings........... 131
Theoretical Accounts for Nonsignificant Findings............. 135

Relationships between Children's Social Cognition and Motivation...... 143
Relationship among Children's Social Cognition, Motivation, and Loneliness................................................................. 149
Limitations of the Current Study and Suggestions for Future Research................................................................. 152
Conclusion........................................................................... 154

REFERENCES........................................................................ 157

Appendix

A INFORMED CONSENT FOR MOTHERS AND CHILDREN........ 177
B ROLE CATEGORY QUESTIONNAIRE FOR CHILDREN........... 180
C CODING MANUAL FOR CHILDREN'S COGNITIVE ABSTRACTNESS................................................................. 182
D THE NOWICKI-STRICKLAND INTERNAL-EXTERNAL CONTROL SCALE FOR CHILDREN........................................ 186
E INDEX OF EMPATHY FOR CHILDREN AND ADOLESCENTS 189
F SELF-EFFICACY SCALE FOR CHILDREN............................ 191
G LONELINESS QUESTIONNAIRE FOR CHILDREN................. 199
H QUESTIONNAIRE FOR MOTHERS........................................ 205
I CODING MANUAL FOR THE UNITIZATION AND CODING OF REGULATIVE MESSAGES........................................ 211
J CODING SYSTEM TO SCORE MOTHERS' REGULATIVE MESSAGES................................................................. 224
LIST OF TABLES

1 Means, Standard Deviations, and Range of Responses for Variables ........... 79

2 Zero-order Correlations among Maternal Communication, Education, Socioeconomic Status, and Children's Social Cognition, Motivation, Loneliness, Sex, Grade Level, Birth-order, Number of Children in Family, and School ......................................................... 82

3 Means for Children's Social Cognition, Motivation, and Loneliness According to the Children's Sex and Grade Level .................................. 87

4 Zero-order Correlations between Maternal Communication and Children's Social Cognition and Motivation ........................................ 89

5 Fourth-order Partial Correlations between Maternal Communication and Children's Social Cognition and Motivation (Controlling for Education, Socioeconomic Status, Sex, and Grade Level).............. 90

6 Fourth-order Partial Correlations among Maternal Communication and Children's Social Cognition, Motivation, and Loneliness (Controlling for Education, Socioeconomic Status, Sex, and Grade Level) .......... 96

7 Hierarchical Regression Analyses Assessing the Mediation Effects of Children's Social Cognition and Motivation on the Relationship between Maternal Regulative Communication and Children's Loneliness .......................................................... 97

8 Hierarchical Regression Analyses Assessing the Mediation Effects of Children's Locus of Control on the Relationship between Maternal Communication (Television Situation) and Children's Loneliness .......... 100

9 Lisrel Path Analysis of the Indirect Influence of Maternal Communication on Children's Loneliness Via Children's Social Cognition and Motivation ......................................................... 103

10 Zero-order Correlations between Children's Social Cognition and Motivation.................................................................................... 106

11 Second-order Partial Correlations between Children's Social Cognition and Motivation (Controlling for Sex and Grade Level) ............. 107
12 Zero-order Correlations among Children's Social Cognition, Motivation, and Loneliness ........................................ 109

13 Second-order Correlations among Children's Social Cognition, Motivation, and Loneliness ........................................ 110
ABSTRACT

This study examined an indirect effects model of socialization to assess the relationship between maternal communication and children's social cognition, motivation, and loneliness. The message features contained in mothers' communication were coded according to their reflection-enhancing quality and then compared with measures of children's cognitive differentiation, cognitive abstractness, locus of control, empathy, self-efficacy for aggression, self-efficacy for the inhibition of aggression, self-efficacy for prosocial behavior, and loneliness. It was expected that mothers' reflection-enhancing communication would lead to more advanced social cognitive abilities and motivational tendencies in children which, in turn, would lead the children to feel less lonely. While the majority of the hypotheses were not strongly supported, this study does suggest that mothers have the potential to influence how lonely their children will feel by impacting on their locus of control orientation. A number of other relationships were observed among children's social cognition, motivation, and loneliness. In general, these relationships suggest that, when compared to their non-lonely counterparts, children who feel lonely have external locus of control orientations, feel less empathic, and less confident in their ability to inhibit aggression.
Chapter 1

INTRODUCTION

The purpose of the present study was to examine the relationship between mothers' disciplinary strategies and individual differences in children's social cognition, motivation, and loneliness. Although fathers play an important role in their children's development, the majority of research on the effects of discipline has focused on mother-child relationships (Staub, 1979). Thus, in order to remain consistent with previous research, this study examined the mother-child dyad as well.

Chapter One presents the theoretical model guiding the current study. In Chapter Two, extant research on social cognition and motivation is reviewed. Studies examining the consequences children experience as a result of these variables are discussed and critiqued. Parental discipline is then featured as a particularly important antecedent to the development of children's social cognition and motivation. It is further argued that individual differences in various social cognitive and motivational tendencies mediate the effects of parental discipline on children's loneliness. Hypotheses and research questions guiding this study are presented at the end of Chapter Two. Chapter Three describes the methods used to test these hypotheses and research questions, while Chapter Four presents the results of statistical tests used to examine them. Finally, Chapter Five provides a discussion of this study's major findings and offers explanations for why some of its expectations were not met as well as suggestions for future research.
An Organizing Framework

Socialization is "the process by which we learn the ways of a given society or social group so that we can function within it" (Elkin & Handel, 1989). Researchers have identified several ways in which society teaches people to become "functioning" members. For example, Elkin and Handel (1989) assert that as infants, human beings are provided only with the potential to interact successfully with other members of society and, therefore, must learn appropriate standards for conduct from others. This requires that youngsters not only learn which behaviors are appropriate in certain situations, but also understand how to enact these behaviors in order to accomplish relevant social goals. In a very real way, then, it is through socialization that human beings become social beings.

Socialization is also believed to be essential for maintaining a stable and enduring society (Elkin & Handel, 1989). That is, through socialization, norms and values held by the larger society are transmitted to individuals who are then able to function as socializing agents for others. In this way, societal expectations are passed from one generation to the next so that relatively stable patterns of social beliefs and behaviors can be maintained.

Parents comprise the first social relationship that the child experiences. Thus, much of what children learn about how to behave with others and about the appropriate norms and values of any given society comes from parents. Beginning in infancy, parents provide their children with many rules designed to facilitate the newborn's adaptive functioning within both the family system and the larger social system (Youniss, 1980). Interestingly, children often learn these rules and norms by initially violating them and then being reprimanded. Thus, the process of socialization
occurs largely by trial and error. Children experiment with behaviors and then learn which ones are acceptable based on the subsequent rewards or punishments that result.

One particularly important mechanism of socialization is discipline. According to Staub (1979), discipline is defined as "...how the parents respond to transgression or wrongdoing by the child or how parents attempt to bring about obedience" (p. 22). To date, most studies have examined the impact of parents' discipline on the outcomes children experience by assuming what is called a "direct effects" model (Hart, Ladd, & Burleson, 1990). These studies are guided by the belief that parents' communication has a direct and linear effect on a variety of childhood outcomes (Fabes, Eisenberg, & Miller, 1990; Hoffman, 1960; Pettit, Harrist, Bates, & Dodge, 1991). For example, researchers have examined the relationship between parents' discipline and their children's relative acceptance by peers. This work suggests that parents who use threats and coercion as the primary means of discipline often have children who are rejected by their peers. In contrast, children whose parents use reasoning and nurturance as a disciplinary strategy tend to be well liked by their peer group (Hart et al., 1990; Putallaz, 1987).

Other work has focused on the relationship between parents' discipline and children's prosocial behavior. Overall, this research shows that parents who enact coercive strategies often have children who enact aggressive, hostile behavior with peers (Pettit et al., 1991). In contrast, more nurturing parental styles have been linked with prosocial (Barnett, 1984), helping (Fabes et al., 1990), and altruistic (Hoffman, 1977) behavior in children.

While some support has been observed for a direct effects model of socialization, relationships found between parental discipline and children's life outcomes are moderate at best (Pettit, Dodge, & Brown, 1988). That is, while the
associations between parental discipline and various outcomes have been significant, they have not been as strong as researchers might have expected. Such findings suggest, then, that there may be other factors which influence the relationship between parents' communication and the outcomes children experience.

Interestingly, a separate body of literature indicates that many of the outcomes children experience are predicted by their social cognitive and motivational development. For the most part, researchers have defined social cognition as an individual's perception or understanding of the social world (Abrahami, Selman, & Stone, 1981; Shantz, 1975) and have conceptualized motivation as an individual's desire or willingness to act in that world (Samter & Burleson, 1984). In particular, extensive research suggests that individual differences in social cognition and motivation are important predictors of a variety of consequences, including academic achievement (Nowicki & Duke, 1983), peer acceptance (Deutsch, 1974; Putallaz & Gottman, 1981), interpersonal functioning (Gottman, Gonso, & Rasmussen, 1975; Marsh, Serafica, & Barenboim, 1981; Perry, Perry, & Rasmussen, 1986), and psychological health and adjustment (Nowicki & Duke, 1983).

Even more importantly, parental discipline has been found to be central to determining the social cognitive and motivational development underlying these life outcomes. Parents who enact a nurturing disciplinary style have been found to have children with more advanced perspective-taking abilities (Bearison & Cassel, 1975; Putallaz, 1987), internal locus of control orientations (Nowicki & Duke, 1983), and high degrees of empathy (Barnett, 1984; Fabes et al., 1990); these children also tend to evaluate prosocial behavior as relatively easy to perform (Pettit et al., 1991).

Perhaps one reason why these associations hold is that the communication parents use in disciplining their children not only remediates behavior, but also provides
them with a logic that emphasizes certain features of the social world. Researchers working from a constructivist perspective (e.g., Delia, O'Keefe, & O'Keefe, 1982) argue that disciplinary messages not only teach the child that a particular behavior is unacceptable, but also impart prescriptions for the degree of attention that should be granted to another's psychological and emotional perspective when selecting actions (Applegate, Burleson, & Delia, 1992). The child thus adopts a particular orientation to the social world based on repeated exposure to disciplinary messages that emphasize distinct features of that world.

According to this perspective, disciplinary strategies that encourage children to reason about situations and consider the consequences of specific behaviors for the psychological and emotional states of others are referred to as "reflection-enhancing." Children who are exposed to reflection-enhancing discipline are socialized into an orientation toward the social world that focuses on others' feelings and the maintenance of relationships. Thus, reflection-enhancing communication should foster the development of advanced social cognitive abilities in children. In contrast, parents who do not employ reflection-enhancing communication may raise children with less sophisticated ways of viewing the social world; that is, these children may regard others in terms of more physical or role-based attributes.

Interestingly, early models of socialization fail to account for this body of work; that is, the direct effects model has ignored the possibility that children's social cognition and motivation may mediate the effects of parental discipline on various life outcomes. In response to the findings cited above, this project sought to extend and refine a relatively new model of socialization known as the "indirect effects" model. This model assumes that parents' communication directly affects children's social cognition and motivation which, in turn, then influence the outcomes they experience.
Although relatively few studies have assumed an indirect effects model, the few that have been conducted suggest that it is a promising conception of socialization. For example, Pettit et al. (1988) found that children's problem-solving skills (defined as an index of social cognition) mediated the relationship between early family experience and children's social competence. The authors suggest that familial values are communicated verbally to the child who, in turn, adopts a conception of the social world that parallels these values; this conception, then, directs the child's subsequent social behavior. Other studies also suggest that children's social cognition serves as a link between parenting behavior and children's social outcomes. For instance, Putallaz (1987) found that mothers' behavior predicted children's social cognitive skills (e.g., problem-solving skills), while children's social cognitive skills predicted children's social status. Taken together, these investigations provide some evidence that the relationship between parents' behavior and the outcomes children experience may be indirect.

The current study was designed to refine our understanding of the indirect effects model. More specifically, this project examined the extent to which individual differences in discipline are related to individual differences in children's social cognition, motivation and loneliness. It extended prior work in a number of important ways.

First, most indirect effects studies have examined discipline from a rather broad perspective. In other words, researchers have typically classified discipline as a general style of interaction (e.g., power-assertive versus inductive) and neglected to specify the particular communicative features that constitute these styles. As a result, we are left with a rather vague conception of discipline and, consequently, a rather vague understanding of how discipline influences children's development. In other words, we
know that inductive discipline is related to positive outcomes such as advanced social cognitive ability; however, we do not know what it is about inductive strategies that produces these effects.

As noted earlier, the constructivist analysis of messages provides a way of understanding why different forms of parental discipline are associated with different levels of social cognitive and motivational development in children. As a result, this study examined how the specific message features that compose various disciplinary styles influence the development of individual differences in children's social cognition and the subsequent outcomes they experience. In this way, the process or mechanisms of socialization were examined.

Second, the little research that has assumed an indirect effects model has focused only on children's social cognition as a mediating variable and ignored motivational tendencies known to influence the outcomes children experience. As noted earlier, parents appear to be instrumental in shaping children's motivational tendencies as well as their social cognition. Thus, the current study considered the influence of parents' communication on both social cognition and motivation. In this way, it extended prior indirect effects studies by examining two distinct classes of variables that may mediate the relationship between discipline and the consequences children encounter in their lives.

Third, most prior work has examined how parental discipline indirectly influences the objective outcomes children experience. These outcomes include academic performance (assessed via grade point average or performance on standardized tests) and peer acceptance (assessed via peer nominations or ratings). Interestingly, relatively little is known about how the variables featured in this study (i.e., parental discipline, social cognition, and motivation) are related to the child's own subjective
social experience. Researchers have defined loneliness as an unpleasant reaction to a perceived discrepancy between ideal and actual social relationships (Peplau & Perlman, 1982). As such, loneliness represents the individual's subjective reaction to his or her social life rather than an objective index of social standing.

The few studies that have examined loneliness among children suggest that somewhere between 8 and 10% of youngsters under the age of 11 are lonely. Moreover, research on adult loneliness suggests that it is associated with a variety of important long-term consequences. For example, lonely people often report feelings of anxiety and depression (Jones, Hobbs, & Hockenbury, 1982). Loneliness has also been associated with life threatening consequences such as alcoholism, suicide, and physical illness (Peplau & Perlman, 1982). It is quite possible that chronic adult loneliness has its roots in childhood. Thus, it is important that we gain a greater understanding of the etiology of loneliness so that preventative measures can be taken prior to the onset of these extreme consequences.

Some researchers suggest that loneliness is a response to external or environmental conditions such as parental influence (Schultz & Moore, 1986); others suggest that loneliness is better predicted by internal traits such as social cognition and motivation (Jones, Freemon, & Goswick, 1981; Russell, Peplau, & Ferguson, 1978). The theoretical perspective advanced in the current study suggests that children's loneliness may stem from individual differences in the orientations toward the social world that children adopt as a result of parental discipline. Thus, another purpose of the present study was to examine whether social cognition and motivation mediate the effects of parental discipline on a subjectively experienced outcome.

In sum, the model that guided the current study suggests that the relationship between parents' disciplinary communication and children's loneliness is
mediated by individual differences in social cognition and motivation. Chapter Two overviews research that supports these claims and outlines the ways in which social cognition, motivation, loneliness, and parental discipline were conceptualized and assessed in this study.
Chapter 2

OVERVIEW OF RELEVANT RESEARCH

As noted earlier, this thesis was designed to examine an indirect effects model of socialization. More specifically, it was concerned with understanding how individual differences in children's social cognition and motivation mediate the effects of parental discipline on children's loneliness. Historically, the model has its roots in several distinct bodies of literature, each of which will be reviewed in this chapter.

The chapter begins with a discussion of social cognition. In this section, various conceptualizations of social cognition are presented and the consequences associated with individual differences in social cognitive ability are reviewed. The section ends with a critique of this body of literature. Next, research on various motivational traits is summarized; conceptualizations and consequences of motivational indices are presented and critiqued. Research on parental discipline is the focus of the third section of this chapter. Here, traditional definitions of parental disciplinary styles are presented and evidence for the direct effects model of socialization is discussed and critiqued. Literature suggesting that the effects of parental discipline may be mediated by individual differences in children's social cognition and motivation is then presented. Finally, a theoretical framework for examining how social cognition and motivation mediate the effects of parental discipline on children's loneliness is overviewed. The chapter ends with a summary of the study's research questions and hypotheses.
Social Cognition: Conceptualizations and Consequences

Social Cognition: Conceptualizations

Social cognition has been defined and measured in many different ways. For the most part, however, it is conceptualized as an individual's perception or understanding of the social world (Abrahami et al., 1981; Shantz, 1975). In this way, social cognition refers to an individual's social knowledge and may include beliefs about the norms governing specific social interactions and relationships (Damon, 1977; Turiel, 1978), as well as conceptions of friendship (Corsaro, 1981; Damon, 1977; Selman, 1976; Youniss, 1975), positive justice (Damon, 1977), and authority relations (Damon, 1977). According to Shantz (1975), social cognition refers to a child's "...intuitive or logical representation of others; that is, how he characterizes others and makes inferences about their covert, inner psychological experiences" (p. 258).

Most prior work on individual differences in social cognition is based on Piaget's cognitive developmental theory (Piaget, 1950). Briefly, Piaget suggested that children develop more sophisticated cognitive capacities as they grow older and pass through a series of stages in which distinct ways of organizing and understanding information are featured. In general, Piaget argued that children begin with a completely egocentric view of the world. As they gain more experience with social interaction and develop other cognitive capacities (e.g., the capacity to learn, understand, and think; Elkin & Handel, 1989), they begin to take the physical, perceptual, and affective perspectives of others. From this viewpoint, then, social cognition is an individual's developmentally based ability to conceptualize the social world and the social actors comprising it.
Given the emphasis on Piaget's discussion of egocentrism and developing cognition, many researchers assume that perspective-taking (sometimes referred to as "role-taking") is the basic underlying structure of social cognition. According to this approach, social cognitive development proceeds from a relatively egocentric conceptualization of social relationships (in which the perspectives of self and others are combined) to a state of social understanding that distinguishes social perspectives from one another (Abrahami et al., 1981).

While some researchers have conceptualized perspective-taking as a global construct, evidence suggests that it is best defined and studied as a multidimensional phenomenon. Recent studies demonstrate not only that there are at least three different types of perspective-taking ability (Barnett, 1984), but also that these abilities are uncorrelated with one another (Kurdek & Rodgon, 1975). For example, cognitive perspective-taking has been defined as the degree to which individuals recognize the thoughts, motives, attitudes, or intentions of others. In contrast, affective perspective-taking is believed to tap individuals' ability to "...perceive, identify, and accurately infer the emotional state of another individual" (Barnett, 1984; p. 47). Some researchers refer to this ability as "cognitive empathy" (Feshbach & Roe, 1968; Monfries & Kafer, 1986). Finally, perceptual perspective-taking has been conceptualized as reflecting the degree to which individuals can infer the physical or spatial perspectives of others.

What is clear about these distinct forms of perspective-taking ability is that each develops over time. There is strong evidence (see the reviews of Selman, 1973; Shantz, 1975) that over the course of development, children begin to understand that others have different views of physical reality (perceptual perspective-taking), different thoughts and ideas (cognitive perspective-taking), and different feelings and emotions (affective perspective-taking). It is less clear, however, what particular outcomes are
predicted by each type of perspective-taking ability. In other words, the literature
indicates that a variety of positive consequences (e.g., peer acceptance, sophisticated
communication strategies) are related to advanced perspective-taking skill—particularly in
the domains of cognitive and affective perspective taking—however, the precise nature of
these relationships remains uncertain.

In part, this confusion has resulted from the failure of many researchers to
recognize the multidimensional nature of the perspective-taking construct. Much early
work treated perspective-taking as a global construct and neglected to recognize the
existence of its distinct dimensions. Even more importantly, however, very different
tasks have been employed to assess the same perspective-taking skill. For instance,
some studies of cognitive perspective-taking use "game" situations in which the child's
success is contingent upon his or her ability to infer the opponent's strategies (see
DeVries, 1970). Researchers using this approach classify the degree of cognitive
perspective-taking a child exhibits by observing his or her overt behavior. Other studies
present children with hypothetical dilemmas and then ask them to describe what the
cognitive perspective of others in the same situation might be (see Selman, 1971).
Similarly, a variety of tasks have been used to measure affective perspective-taking
abilities. In some studies, children are shown pictures of youngsters displaying
different emotions and asked to identify the target's emotional states. In other studies
also using pictures (Burns & Cavey, 1957; Deutsch, 1974), children are asked to
identify the affective state of characters whose facial expressions do not correspond with
the situation presented (e.g., a frowning child at a birthday party).

Furthermore, the age at which both cognitive and affective perspective-
taking abilities emerge appears to be task dependent. For example, DeVries (1970)
found that children in the game situation are able to take the cognitive perspective of
other children by the age of five, whereas in Selman's task (1971), five-year-olds did not exhibit cognitive perspective-taking skills. Furthermore, studies show that children are more or less able to recognize the affective perspective of other children depending on the nature of the affect. For example, Borke (1973) found that by the age of three, children are able to identify happiness; however, the ability to recognize negative emotions (e.g., anger, fear) slowly developed over the four- to seven-year-old range. The task-dependent nature of perspective-taking suggests that the construct has not been clearly conceptualized. That is, measures of perspective-taking should yield consistent results regardless of the specific task employed if they are to claim conceptual uniformity. However, because studies using different measures of perspective-taking have found discrepant results, it may be that these studies have actually measured different constructs. Hence, the task-dependent nature of perspective-taking calls the validity of the construct into question.

There is also some confusion regarding the manner in which various outcomes are related to individual differences in cognitive and affective perspective-taking ability. In some cases, consequences found to be associated with a particular index of cognitive or affective perspective-taking in one study are found to be uncorrelated with another index of the same perspective-taking ability in a different study. In other cases, the same outcome may be predicted by different forms of perspective-taking skill; however the relative strength of these associations is not made clear. The problem here is that we cannot tell whether cognitive or affective perspective-taking is the better predictor of a given outcome. Thus, despite research which indicates the multi-dimensionality of perspective-taking, much of the work in this domain has not treated the construct as such. As a result, studies linking perspective-taking to various
outcomes are marred by conceptual and methodological inconsistencies. This body of literature is reviewed in the following section.

**Consequences of Individual Differences in Social Cognition**

Although cognitive and affective perspective-taking have been linked with a variety of consequences, most research has focused on the extent to which individual differences in these abilities underlie two important outcomes: peer acceptance and the use of relatively sophisticated or skillful forms of communication.

Studies conducted within the field of developmental psychology indicate that children with less advanced perspective-taking skills are often rejected by their peer group (Cowen, Pederson, Babigan, Izzo, & Trost, 1973; Hartup, 1983). Mead (1934) suggests that effective social relations can only be established when the individual develops adequate role-taking abilities. Monfries and Kafer (1986) found that rejected children were more likely to lack the ability to recognize the affective state of others than children who were accepted by their peers. Measuring what they called "cognitive empathy," the researchers showed children a series of slides depicting various facial expressions (e.g., anger, fear, happiness, surprise) and asked them to identify how the characters in the slides felt. Results indicated that children who received low sociometric ratings by their peers were less able to correctly identify the affect of the children in the slides. Monfries and Kafer explain that rejected children "are less competent than others in encoding and decoding the verbal and nonverbal communication cues so necessary for a smooth interaction" (p. 405) and, therefore, are judged less favorably by their peers. Other studies have also found significant relationships between cognitive perspective-taking ability and various indices of popularity (e.g., Mouton, Bell, & Blake, 1956).
In addition to identifying social outcomes, scholars have also focused their attention on examining how individual differences in cognitive and affective perspective-taking influence children's use of skillful or sophisticated forms of communication. Numerous studies conducted within the field of communication provide convincing evidence that children who are "skilled" communicators are better able to infer the thoughts and feelings of others than children who are "unskilled" communicators. For instance, Marsh et al. (1981) found that children with relatively sophisticated cognitive and affective perspective-taking skills scored highly on tasks measuring their ability to interact with peers in a positive, non-aggressive, and friendly manner. In contrast, youngsters whose cognitive and affective perspective-taking skills were less well developed tended to talk too much, interrupt others, and use threatening or accusatory remarks in their conversations with peers.

Other work suggests that children with advanced cognitive and affective perspective-taking abilities are more likely to enact cooperative and prosocial behavior with peers. For example, Staub (1974) found that kindergarteners who were trained in cognitive perspective-taking skills were more likely to help younger children than kindergarteners who did not receive this training. Rubin and Schneider (1973) also found that seven-year-olds with advanced cognitive perspective-taking skills were more likely to share with and help younger children. Researchers have also observed a positive relationship between children's affective perspective-taking abilities and cooperative behavior (Johnson, 1975).

Research also indicates that various forms of perspective-taking are associated with children's interpersonal problem-solving strategies (McGillicuddy-Delisi, 1980; Selman, 1981; Shure & Spivak, 1980). For example, Marsh et al. (1981) found that children who were better able to infer the thoughts and feelings of others
produced problem-solving strategies in which specific and attainable goals were articulated. When compared to youngsters with less advanced cognitive and affective perspective-taking skills, these children were also more likely to generate a greater number of problem-solving strategies, the majority of which gave explicit attention to the consequences of their actions for the thoughts and feelings of others. In a related vein, research indicates that children with less advanced perspective-taking abilities are less successful negotiators (Shantz, 1984) than children with more advanced perspective-taking abilities.

Finally, other work suggests that children with more advanced cognitive perspective-taking abilities integrate their listener's viewpoint on a number of verbal communication tasks. For example, Shatz and Gelman (1973) found that these children adapted their language to suit listeners of different ages. That is, when talking with children who were younger than themselves, subjects with advanced cognitive perspective-taking skills used simpler and more attention-getting language than when talking with peers or adults. Other work also shows that cognitive perspective-taking ability is associated with children's polite interactional styles (e.g., attending to the listener, taking turns speaking; Ervin-Tripp, 1976) as well as with the tendency to modify language according to their listener's knowledge of the topic (Menig-Peterson, 1975).

In sum, the majority of work examining the consequences associated with individual differences in perspective-taking skill has focused on the cognitive and affective aspects of this ability. In general, this work suggests that children who are able to infer the thoughts and feelings of others are liked by their peers and engage in relatively sophisticated forms of communication. That is, when compared to their less advanced counterparts, children with relatively developed cognitive and affective
perspective-taking skills enjoy a greater degree of acceptance among peers, are better managers of interpersonal problems, exhibit more helpful and cooperative behavior, and are friendlier and more polite speakers.

Although informative, these findings may be somewhat open to question. As noted earlier, the perspective-taking literature suffers from theoretical and methodological confusion. While some researchers have failed to specify the particular form of perspective-taking they are studying (e.g., cognitive or affective), others have observed inconsistent results when different tasks were used to measure the presumed same ability (e.g., using games or interviews). There are at least two problems associated with this lack of theoretical and methodological precision. First, it prohibits a clear understanding of what outcomes are consistently predicted by cognitive perspective-taking and what outcomes are consistently predicted by affective perspective-taking. Second, in cases where both forms of perspective-taking ability have been found to be associated with the same outcome (e.g., interpersonal problem-solving strategies), the magnitude of the relationships is not specified. Consequently, it is difficult to determine whether various consequences are more strongly related to individual differences in the ability to infer another's thoughts (cognitive perspective-taking) or individual differences in the ability to detect another's emotion (affective perspective-taking). Other criticisms of research examining the outcomes associated with individual differences in perspective taking ability are detailed below.

Limitations of Research on Social Cognition

At this point, it is important to reiterate that most studies examining the relationship between social cognition and the outcomes children experience have utilized perspective-taking as their index of social cognitive ability. That is, the vast majority of
research has operationalized individual differences in social cognition as individual differences in perspective-taking skill. Some researchers suggest, however, that perspective-taking may not be the most valid index of social cognitive ability. In fact, these researchers argue that perspective-taking is best conceptualized and studied as a social perception process and not an index of social cognitive ability. Thus, in addition to the theoretical and methodological confusion concerning the precise ways that various forms of perspective-taking skill are related to the outcomes children experience, there is also some confusion concerning whether the concept of perspective-taking is an appropriate measure of social cognition.

Researchers operating within the theoretical perspective of constructivism (Delia et al., 1982) draw a sharp distinction between social perception processes and social cognition. Whereas social perception processes refer to "the mental activities through which persons perceive and interpret the qualities, thoughts, states, and behaviors of others" (Burleson, 1987; p. 310), social cognition refers to the more fundamental cognitive structures through which these processes occur.

According to this viewpoint, perspective-taking is not an index of social cognition but, instead, represents a social perception process which occurs through the application of cognitive structures. Specifically, constructivists argue that "interpersonal constructs" are the mental elements or schemes used to interpret social situations (Samter & Burleson, 1984). Social cognition, then, is assessed by counting the number of interpersonal constructs contained in individuals' descriptions of others and also by determining their degree of abstractness. Individuals with relatively differentiated (i.e., a greater number) and abstract (i.e., referring to others' psychological identity) interpersonal constructs are said to be more cognitively complex than individuals who
use fewer, less abstract (i.e., referring to others' physical characteristics) interpersonal constructs.

Thus, because it taps fundamental social cognitive structures rather than social perception processes, cognitive complexity may be a more appropriate measure of social cognition than perspective-taking. Measures of cognitive complexity may reflect core social cognitive abilities whereas perspective-taking indices may represent more secondary processes. Furthermore, measures of cognitive complexity may have a more direct relationship with various social perception processes than indices of perspective-taking; some of the abilities contained in the perspective-taking construct (e.g., perceptual perspective-taking) are not fundamental to social perception. Cognitive complexity, on the other hand, specifically taps individuals' perceptions of others with whom they are socially connected. In this way, cognitive complexity may be a more relevant measure of social cognition than the various indices of perspective-taking.

Thus, given that cognitive complexity both represents individuals' more fundamental social cognitive structures and bears a more relevant relationship with social perception, it follows that cognitive complexity should be directly associated with social and communicative outcomes. That is, because individuals who are cognitively complex will be better readers of the social world, they should interact with others using more sophisticated communicative techniques. These strategies may, in turn, lead to greater interpersonal acceptance.

In fact, some research has documented these associations. For example, Samter and Ely (1985) showed that children earning higher cognitive complexity scores were more skilled conflict managers than less cognitively complex children. Other work shows that cognitive complexity is related to persuasive (Clark & Delia, 1977), referential (Delia, Kline, Burleson, Clark, Applegate, & Burke, 1980), regulative
(Kline, 1987), and comforting skills (Burleson, 1984a). Burleson and Samter (1990) explain that cognitively complex individuals are likely to orient themselves to others in terms of the feelings and needs of their partners; hence, it makes sense that these individuals are better able to produce effective messages.

Moreover, because complex individuals are better communicators, they may also enjoy a greater degree of acceptance among peers than individuals who are less complex, less skilled communicators. In other words, the outcomes of being judged favorably by one's peers may result from being perceived as an attractive and skilled communicator. This latter assumption has received some empirical support within the constructivist literature. For example, research suggests that individuals who use more skilled comforting messages are judged more favorably than individuals who produce less skilled strategies (Burleson, 1985; Samter, Burleson, & Basden, 1985). Furthermore, Burleson, Applegate, Burke, Clark, Delia, and Kline (1986) found that rejected children performed more poorly on comforting and referential communication skill tasks than children who were accepted by their peers.

Taken together, these two bodies of literature suggests that cognitive complexity may impact on peer acceptance by influencing the degree to which individuals are able to produce sophisticated messages. Although few studies have examined the relationships between cognitive complexity, communication skill, and social outcomes, there is some support for this order of events. Applegate et al. (1985) found that children who earned higher cognitive complexity scores used more sophisticated comforting skills and earned higher sociometric ratings than children who were less cognitively complex. It may be that children who view the world in a sophisticated way enjoy positive social outcomes because they are better equipped to communicate in an effective and satisfying manner.
In sum, indexing social cognition via the extent to which a child's interpersonal constructs are differentiated and abstract provides an attractive alternative to indexing social cognition through measures of cognitive and affective perspective-taking skill. Thus, the current project used indices of cognitive complexity and abstractness to assess individual differences in social cognitive ability.

In addition to the confusion concerning how best to conceptualize and assess social cognitive ability, the literature reviewed above is also limited by the type of outcomes examined. To date, most research has focused on the relationship between individual differences in social cognition and objective outcomes such as interpersonal success and the use of sophisticated forms of communication. While important, this focus has ignored the possibility that social cognition may be related to the child's own subjective evaluation of his or her social standing. Loneliness is defined as an unpleasant "response to a discrepancy between desired and actual relationships" (Peplau & Perlman, 1982; p. 682) and, therefore, is a self-reported appraisal of social satisfaction rather than an objective assessment of interpersonal success.

There are several reasons why the study of loneliness among children is warranted. First, while considerable research has examined loneliness in adults, relatively little work has focused on children's loneliness. This paucity of research may stem from the long-standing assumption that children are relatively unaware of their inner, subjective states. However, two studies suggest that a sizeable number of youngsters experience feelings of loneliness and dissatisfaction with social relationships. In a national survey of 7- through 11-year-olds, The Foundation for Child Development found that eight percent of the children surveyed reported being very lonely. More recently, Asher, Hymel, and Renshaw (1984) conducted a study to test the validity of a questionnaire designed to measure loneliness in children. Ten percent
of the children who participated in their study (in third through sixth grades) reported being lonely. Taken together, these results suggest that a considerable number of children are experiencing a phenomenon about which we know relatively little.

Second, strong and consistent support has been observed for the finding that among adults, chronic loneliness (indicating a perpetual condition rather than an isolated reaction to identifiable events) is associated with a variety of negative and even life-threatening consequences (Peplau & Perlman, 1982). For example, when compared to nonlonely individuals, lonely adults are more likely to experience anxiety and depression, to suffer from physical illness, and attempt suicide (Peplau & Perlman, 1982). It is quite possible that loneliness is a chronic problem, the roots of which lie in childhood. Thus, it is important that we discover the factors contributing to the development of loneliness so that preventative measures can be employed before these extreme consequences are experienced.

Researchers admit that they have not yet reached a consensus regarding the etiology of loneliness (Anderson, Mullins, & Johnson, 1989). However, there is good reason to believe that individual differences in social cognition may be significant predictors of this condition. In fact, previous studies of loneliness in adults suggest that, unlike objective indices of interpersonal success, chronic loneliness is not necessarily related to frequency of interaction. Instead, chronic loneliness appears to be better predicted by various psychological factors such as low self-esteem, introversion (Stokes, 1985), and egocentrism (Jones et al., 1981; Russell et al., 1978).

In addition, some research suggests that loneliness is associated with a negative cognitive bias toward the social world. Lonely people have been found to approach interaction cautiously and to expect the worst from social situations (Stokes, 1985). Apparently, their communication reflects this negative bias. For example,
research suggests that lonely people are more likely to make self-centered statements, ask fewer questions during conversation, change the topic more frequently, and respond more slowly to others' statements (Bell, 1985; Horowitz & French, 1979; Jones et al., 1982). Taken together, these findings provide some evidence that lonely people tend to think about and behave in the social world in ways which are somewhat different from nonlonely people.

To date, no research has examined whether children's loneliness is an outcome of individual differences in social cognition. If the literature on adults is any indication, it may well be that youngsters with relatively unsophisticated social cognitive abilities are lonelier than children whose social cognitive skills are more sophisticated. In other words, children whose construct systems are undeveloped may orient to the social world in relatively concrete ways. This cognitive bias may, in turn, prohibit them from engaging in forms of communication that others consider attractive. The absence of interaction with peers may ultimately foster feelings of loneliness.

In sum, it is quite possible that lonely children are marked by less advanced social cognitive abilities. It may be that children's approach to and evaluation of the social world predisposes them to experiencing loneliness. In order to explore these possibilities, the current project examined the relationship between children's loneliness and their level of social cognition (as indexed by cognitive differentiation and abstractness).

**Motivation: Conceptualizations and Consequences**

Researchers have also been interested in examining how various indices of motivation are related to the subsequent life outcomes children experience. Cofer and Appley (1964) define motivation as "...the arousal of a tendency to act or produce one
or more effects" (p. 8). Motivation is thus distinguished from social cognition in that the latter construct reflects an individual's ability to conceptualize the social world, whereas motivation represents a desire and/or willingness to act in that world (Samter & Burleson, 1984). A review of the literature suggests that two forms of motivation have received widespread attention as predictors of various life outcomes: locus of control and empathy. Conceptualizations of these forms of motivation as well as the outcomes typically associated with them are summarized below.

**Locus of Control: Conceptualizations**

Locus of control is a measure of motivation that has received a great deal of empirical attention. This construct refers to an individual's beliefs about his or her ability to control the reinforcements that occur in relation to his or her behavior (Phares, 1965). Research shows that locus of control is an important determinant of individuals' motivation in various situations (Lefcourt, 1976; Wortman & Brehm, 1975).

According to Rotter (1975), individuals may be classified as having either an internal or external locus of control orientation. Individuals with an internal locus of control believe they are responsible for determining the rewards they receive and, therefore, see themselves as active agents who control their own destiny. Externals, on the other hand, believe that forces beyond their control (e.g., luck, powerful others, fate, God) determine the outcomes associated with actions and see little or no connection between the enactment of behavior and subsequent outcomes. To them, external forces are responsible for controlling the occurrence of events; thus, the world is an unpredictable place.

Rotter (1954) developed the locus of control concept based on the principles of social learning theory. According to this perspective, individuals develop certain
expectations based on what they have experienced in previous, similar situations. In other words, people learn what outcomes are likely to follow from certain behaviors by experiencing similar stimulus-response relationships. Individuals who have learned in past experiences that their behavior has no apparent connection to the subsequent outcomes that ensue will most likely develop an external orientation. On the other hand, individuals who have learned that their behavior results in relatively predictable outcomes will most likely develop an internal orientation.

While most of the research on locus of control has been conducted with adult samples, mounting interest in children's locus of control has emerged since the early 1970s (Nowicki & Duke, 1983). As a result, researchers have developed valid and reliable locus of control measures that are suited for children. In general, studies conducted on children suggest that even pre-schoolers can be distinguished according to their locus of control orientations (Nowicki & Duke, 1974). Furthermore, research has linked individual differences in children's locus of control to a variety of outcomes. This literature is reviewed in the following section.

Consequences of Individual Differences in Locus of Control

Locus of control has been found to influence a number of important outcomes in both children and adults. In general, it seems that individuals with an internal locus of control orientation experience greater academic, social, and communicative success than individuals with an external locus of control orientation.

A good deal of literature suggests that children who have an internal locus of control earn higher grade-point averages (Nowicki & Segal, 1973; Prawatt, Grissom & Parrish, 1979; Rupp & Nowicki, 1978) and perform better on standardized tests (Nowicki & Roundtree, 1971; Nowicki & Segal, 1973; Nowicki & Walter, 1974;
Sherman & Hoffman, 1980; Testiny, Lefkowitz, & Gordon, 1980) than children with an external orientation. In a related vein, Hallahan, Gajar, Cohen, & Tarver (1978) found that children with learning disabilities tended to be more external than children without learning disabilities. Subsequent research has replicated this finding (Hisama, 1979).

Locus of control has also been linked with psychological adjustment in both children and adults. Previous work has shown that externality is associated with alcoholism (Nowicki & Hopper, 1974), emotional disturbance (Nelson, Finch, Montgomery, & Bristow, 1975), and juvenile delinquency for both males and females (Nowicki & Duke, 1983). Interestingly, studies have found that even among delinquent populations, children with relatively greater internal orientations are better adjusted and enact more positive behavior than children who are less internally oriented (Beck & Ollendick, 1976; Duke & Fenhagen 1975). Other work shows that externality increases as a function of psychological disturbance. For instance, Duke and Mullens (1973) observed that among individuals who were hospitalized for psychiatric problems, schizophrenics were more external than non-schizophrenics. However, the non-schizophrenic group was more external compared to a group of non-hospitalized controls. Overall, then, it seems that internality is associated with behavioral adjustment, while externality is linked with maladjustment in both children and adults.

Research also indicates that children with an external orientation toward the social world are less accepted by their peers than children with an internal orientation (Nowicki, 1975). In addition, individuals with an internal orientation are typically judged to be more attractive than individuals with an external orientation (Cash & Begley, 1976; Nowicki & Blumberg, 1975). Interestingly, researchers explain that internals may be judged more favorably than externals because they are more observant
and perceptive during their interactions with others; this, in turn, enables them to create a more comfortable and pleasing atmosphere for their listeners (Lefcourt & Wine, 1969).

Other work suggests that internals have better interaction skills than externals (Deysach, Keller, Ross, and Hiers, 1975). Lefcourt, von Baeyer, Ware, & Cox (1979) found that internals were better listeners than externals. In their study, subjects were paired with a same-sex peer who was instructed to describe things he or she wanted to change about him or herself. Results indicated that internal subjects were more likely to nod as they listened to the peer and were rated as more interested and accepting by the speakers. Furthermore, speakers who were paired with internal listeners spoke for longer periods of time than speakers who were matched with externals.

Thus, internals may have fewer social problems than externals because they also have better interaction skills. Research shows that in addition to influencing one's listening skills, locus of control orientations also influence one's ability to formulate sophisticated messages in a variety of communicative domains. For example, Chandler (1975) observed that external children had more difficulty communicating with both peers and teachers than internals. Among adult samples, significant relationships have been observed between internality and the tendency to ask an appropriate number of questions during conversation as well as the tendency to allow others to speak (Lefcourt, Martin, Fink, & Saleh, 1985).

Other research shows that locus of control predicts the type of resolution strategy individuals employ during conflict situations. Canary, Cunningham, and Cody (1988) found that among college students, internality was positively associated with the use of integrative, cooperative conflict behaviors. In contrast, externality was positively
associated with the use of sarcasm during conflict and with strategies that tended to avoid or deny the issue.

Interestingly, research in a variety of other contexts also supports the notion that specific locus of control orientations are related to distinct communicative tactics. For example, studies on marriage suggest that internal partners are more likely to be more assertive and persistent than external partners (Doherty & Ryder, 1979). In addition, the literature on organizational communication suggests that internals attempt to persuade others through encouragement while externals are more likely to use coercion (Goodstadt & Hjelle, 1973).

In sum, locus of control orientations have been linked with academic, social, and communicative outcomes in both adults and children. In general, it seems that internals experience less difficulty than externals in these contexts and that communication may act as a mediating variable which facilitates the development of more positive outcomes.

**Empathy: Conceptualizations**

Empathy is a widely studied index of motivation. Empathy has been defined as the spontaneous tendency to feel what another feels (Mehrabian & Epstein, 1972; Samter & Burleson, 1984). Researchers have assumed that empathic arousal serves as the motivation for the enactment of prosocial behavior (e.g., helping, sharing) by focusing an individual's attention on another's distress and the anticipated relief associated with ending that distress (Barnett, 1984; Feshbach, 1978). In other words, experiencing the affective states of another is presumed to motivate individuals to act in a way that corrects the other's problems as if they were their own.
Obviously, this is not the only definition of empathy. Interestingly, early work assumed that empathy was synonymous with an individual's awareness of another's thoughts and/or feelings. In this way, empathy was considered to be more of a cognitive than an emotional process (Feshbach, 1978). For example, Truax (1961; 1967; 1972) developed a scale of "accurate empathy" which was designed to measure therapists' ability to understand their clients' experiences and communicate back the meaning of those experiences. Many other researchers have operationalized empathy in this way as well (e.g., Borke, 1971; Chandler, 1974; Taguiri, 1969). Today, however, researchers generally agree that these early definitions of empathy are actually more akin to conceptions of cognitive or affective perspective-taking. In other words, current conceptualizations suggest that empathic arousal includes more than the mere recognition of others' emotional states. These conceptions mandate that individuals must actually experience another's affect in order to be classified as empathic. Thus, empathy is typically thought to involve both the recognition of and vicarious response to another's emotional state (see Hoffman, 1977).

Research conducted by Feshbach and Roe (1968) underscores the importance of conceptualizing empathy in this manner. These researchers had first-grade children watch slides and hear stories depicting youngsters in various social situations. For example, one set of slides featured a child in a happy condition (e.g., a birthday party) while another set of slides featured a child in a sad condition (e.g., losing the family pet). After each presentation, children were asked "how do you feel?" and "how does this child feel?" Feshbach and Roe found that children were capable of recognizing others' emotional states, however, this recognition did not guarantee a subsequent empathic response. That is, while most children were able to accurately identify the affective state of the child featured in the slides, they did not uniformly
experience the same emotions themselves. This work, then, supports the notion that empathy is more than the ability to recognize another's affect (what affective perspective-taking measures), and involves the actual experiencing of another's emotional state.

Consequences of Individual Differences in Empathy

Children's empathy has been associated with a number of important outcomes. For the most part, empathy has been positively linked with prosocial behaviors (e.g., cooperation, altruism, helping, sharing) and negatively associated with antisocial behavior such as aggression.

Many researchers (Aderman & Berkowitz, 1970; Aronfreed, 1970; Berkowitz, 1970; Hoffman, 1975; Marcus, Telleen, & Roke, 1979) explain that a high level of empathy facilitates prosocial behavior because its pleasurable consequences are vicariously experienced. Thus, it is not surprising that a good deal of research has found empathy to be an important correlate of prosocial behavior. For example, in a study of sixth graders, Barnett, Howard, Melton, and Dino (1982) induced an empathic mood by asking children to describe and then think about a sad incident that they or another had experienced. The children were then given the choice of either helping assemble "Winnie-the-Pooh Color and Activity" booklets for sick children in a hospital or reading pamphlets. As predicted, highly empathic children (assessed prior to the experimental manipulation) who were asked to recall a sad story involving another child (the empathic inducement) assembled more booklets than non-empathic children.

In a related vein, Marcus et al. (1979) found that empathy was positively associated with cooperative behavior in pre-school children. Using Feshbach and Roe's (1968) measure, children were shown slides of children experiencing a variety of
emotions such as happiness, sadness, anger, and fear. Children were asked "how do you feel?" after the presentation of each slide. Levels of empathy were assessed based on the number of times the subjects reported the same affect as the children in the slides. Empathic responses were then compared to ratings of cooperative behavior completed by two teachers and four research assistants. Results indicated that empathic children received more cooperative ratings than non-empathic children. More specifically, high empathy children more frequently sought out other children for mutual play and shared play materials; in addition, they rarely played alone. In contrast, children low in empathy were seen as extremely individualistic (rarely joining group activities, abandoning an activity when others joined and almost always playing alone).

Other work suggests that an inverse relationship exists between empathy and aggression in both children and adults. For example, Huckaby (1971) found that six- and seven-year-old children who received high empathy scores were rated as less aggressive by teachers. Similarly, Mehrabian and Epstein (1972) found that highly empathic college students were less likely to administer electric shocks to an experimental confederate than students who were not as empathic. Researchers generally argue that empathy serves as a control for aggressive responses by highlighting the imagined pain and distress for others as the victims of aggressive behavior.

In sum, both locus and control and empathy have been linked with a variety of outcomes in children. In general, internal locus of control orientations are associated with children's academic, social, and communicative adjustment, while empathy is related to their altruistic, cooperative, and non-aggressive behavior. Although the research on locus of control and empathy does not suffer from the same theoretical and methodological confusion that the literature on social cognition does, it is nevertheless
limited in two important ways. First, this work has ignored the possibility that motivations other than locus of control and empathy may exert some influence on the outcomes children experience. Second, relationships between various indices of motivation and children's subjective experience of loneliness have not been systematically explored. These criticisms are discussed in the next section.

**Limitations of Research on Locus of Control and Empathy**

While previous work has demonstrated that locus of control and empathy are important motivators for behavior, studies have ignored the possibility that other motivational tendencies may make important contributions to children's behavior and the subsequent outcomes they enjoy as a result of enacting these behaviors. Recent research suggests that self-efficacy may be an important form of motivation to explore. According to Perry et al. (1986) self-efficacy refers to "people's beliefs about their abilities to execute and regulate the important actions in their lives" (p. 700). Like locus of control, this concept is grounded in social learning theory; however, the two motivations are distinct in that self-efficacy refers to an individual's beliefs about his or her ability to perform a given behavior, whereas locus of control reflects the individual's expectations that the behavior will lead to certain outcomes (Donovan & O'Leary, 1983). As noted earlier, social learning theory maintains that people enact certain behaviors when they perceive themselves to be competent. Thus, if an individual does not feel capable of performing a certain action, he or she will refrain from attempting it. In contrast, individuals who perceive themselves as competent in performing a certain act will be more inclined to do so. Thus, perceptions of self-efficacy may function to encourage (or prohibit) particular forms of behavior.
It is important to note that self-efficacy is not a global construct. That is, individuals' perceptions of self-efficacy are likely to vary across situations. People may feel more or less competent in performing certain behaviors based on the nature of the actions themselves. For example, some may feel competent in comforting a friend but incompetent when making persuasive appeals. As a result, indices of self-efficacy typically assess perceptions of ability for a variety of behaviors including aggression (Perry et al., 1986; Pettit et al., 1991), the inhibition of aggression (Perry et al., 1986), verbal persuasion (Ladd & Price, 1986; Perry et al., 1986), prosocial behavior (Perry et al., 1986; Pettit et al., 1991), and peer interaction (Ladd & Price, 1986; Wheeler & Ladd, 1982).

Only a handful of studies have explored the consequences associated with individual differences in children's self-efficacy. These studies suggest, however, that self-efficacy is an important predictor of behavior and its attendant outcomes. For example, Perry et al. (1986) found that fourth- through seventh-grade children who believed it was easy to perform aggressive acts were more aggressive in their actual interactions with peers. These children also felt less able to successfully control aggression than their non-aggressive counterparts. In a more recent study, Pettit et al. (1991) also observed that aggressive behavior in children was related to high self-efficacy scores regarding their abilities to perform aggressive acts. Finally, in a study of third through fifth graders, Wheeler and Ladd (1982) found that when compared to rejected children, those who were accepted by the peer group were more confident in their ability to verbally persuade peers in non-conflict situations.

Taken together, these studies suggest that self-efficacy is a promising construct that may function as an important motivation for children's behavior. In general, it seems that self-efficacy for aggression encourages children's aggressive
behavior and prohibits non-aggressive, prosocial behavior. Thus, self-efficacy deserves more attention in and of its own right. In addition, self-efficacy may also be an important predictor of the types of outcomes featured in the current study.

This possibility brings us to a second limitation associated with work on motivation. Like the social cognition literature, the majority of research on the outcomes associated with individual differences in children's locus of control and empathy has ignored the possibility that these motivational tendencies may be linked with loneliness. Although they did not directly test this assumption, Asher et al. (1984) argued that youngsters who attribute their social competence to uncontrollable, internal, personal causes (e.g., personality, physical attractiveness, lack of ability) may be more lonely than children who blame external events for their relative social satisfaction. This notion of attribution bears conceptual similarity to locus of control; thus, the extent to which children feel they are responsible for controlling events may be an important antecedent of children's loneliness. In fact, other research has shown that externality is associated with loneliness in adolescents (Moore & Shultz, 1983), college students (Jones et al., 1981; Solano, 1989), and among the elderly (Schultz & Moore, 1986). Thus, it is possible that locus of control is related to loneliness in children as well.

It is also reasonable to expect that individual differences in empathy and self-efficacy may predict children's loneliness. For example, it may be that in the process of empathizing with others, children feel less lonely because they feel connected to others by sharing similar emotions. Furthermore, children earning high self-efficacy scores for prosocial behavior and the inhibition of aggression may feel less lonely than other children. That is, because these children feel confident in their ability to create positive situations by enacting certain behaviors, they may be more inclined to behave in a manner that earns approval by peers. The enactment of prosocial behavior, in turn,
may earn them subsequent approval from their peers, thereby decreasing their chances of experiencing loneliness. In order to explore these possibilities, the current project examined the relationship between children's loneliness and individual differences in locus of control, empathy, and self-efficacy. In this way, a better understanding of how a variety of important motivational traits are linked to a subjective outcome can be gained.

In sum, the literature indicates that individual differences in locus of control, empathy, and self-efficacy are particularly important forms of motivation in determining the outcomes children experience. These variables have been found to influence various forms of aggressive and prosocial behavior as well as the level of acceptance children achieve in the peer group. There is good reason to believe that they will also impact on the extent to which children are lonely.

**Parental Discipline as an Antecedent of Individual Differences in Children's Development: An Overview**

Given that both social cognition and motivation have been linked with a variety of important outcomes, it is not surprising that a good deal of research has been devoted to examining the antecedents of individual differences in these areas. One antecedent that has received a significant amount of attention is parents' disciplinary style. The remainder of this chapter focuses on a review and critique of the literature on parental discipline. The majority of this work has assumed that discipline affects children's outcomes directly. However, a smaller but more consistent body of literature indicates that the effects of discipline are mediated by children's social cognition and motivation. In other words, discipline is thought to directly affect the child's social cognition and motivation which, in turn, then influences various life outcomes. This hypothesis is offered as an alternative explanation to the direct effects model.
Discipline has been operationalized in a number of different ways. As a result, a wide assortment of terms has been used to describe various styles. For the most part, however, researchers have defined disciplinary styles as either power-assertive/authoritarian or inductive/authoritative (Applegate et al., 1985; Pettit et al., 1991).

Power-assertive styles generally do not encourage children to consider the consequences of their behavior for others, and instead use threats or force as a means of inducing compliance (Hoffman, 1960). For example, the parent who threatens his or her child by saying "If you don't go to bed right now, you can't watch any television this week" uses a power-assertive or authoritarian style and attempts to control the child's behavior through negative reinforcement.

Inductive/authoritative styles, on the other hand, employ more nurturing communication and control behavior via explanation and reasoning. Inductive strategies typically offer rationales for claims that encourage children to consider the consequences of their behavior for their own and others' psychological well-being (Burleson, 1983). Hence, the statement "I know you want to stay up, but it's a school night and if you don't get some sleep, you'll be tired tomorrow" represents an inductive or authoritative style. Thus, parents who use inductive strategies encourage children to reason through the consequences of behavior so that they may understand why it is important to comply with demands.

**Parental Discipline and Children's Behavior: Support for a Direct Effects Model**

Most of the research on the impact of parental discipline has assumed that parents directly affect the outcomes children experience. This work suggests that children model their parents' behavior and therefore adopt interaction strategies that are
either positively or negatively evaluated by their peers. Thus, direct effects studies have typically focused on the relationship between parental discipline and children's social competence and subsequent acceptance. In general, this work suggests that parents who use power-assertive disciplinary styles have children who are hostile and aggressive with peers and, consequently, suffer from peer rejection (Baumrind, 1967; Hoffman, 1960). In contrast, parents enacting more inductive styles typically have children who are socially competent (Baumrind, 1967; 1971) and accepted by peers (Roopnarine & Adams, 1987).

Several studies indicate that inductive disciplinary techniques are associated with children's social acceptance. In their study of sixth through eighth graders, Roff, Sells, & Golden (1972) found that children's perceptions of parental acceptance and warmth were positively related to their level of acceptance by peers. Furthermore, Patterson, Kupersmidt, & Griesler (1990) found that third and fourth graders' reports of parental rejection correlated with low levels of acceptance. These studies suggest that children who receive warm and accepting attention from parents respond to others in a similarly warm and accepting manner, thereby eliciting favorable evaluations by peers.

Other studies using an observational methodology support the claim that parents directly influence their children's subsequent peer acceptance and social competence. For example, Putallaz (1987) observed mother-child interactions and classified mothers' styles according to the degree to which they used positive verbal statements (e.g., polite requests, suggestions) with their children. Putallaz then compared these assessments to children's sociometric ratings and their observed social behavior with peers. Results indicated a direct relationship between mothers' use of positive verbal statements and children's peer acceptance. Furthermore, mothers who used these statements tended to have children who exhibited prosocial, less abrasive
behavior. In contrast, mothers who were negative and controlling in their interactions tended to have children who were less accepted by peers and who enacted disagreeable and demanding social behavior.

Parallel findings have been observed in conjunction with the use of power-assertive techniques. Proponents of the direct effects model argue that children whose parents serve as aggressive role models are less accepted because they imitate their parents' behavior and respond aggressively to peers. According to Hoffman (1960), children may develop a power-assertive orientation toward others as a result of identifying with their power-assertive parents. In fact, Hoffman found support for this hypothesis. Hoffman (1960) correlated mothers' scores on a power-assertion test with children's levels of hostility, power-assertiveness, and resistance to others' influence. Results indicated that mothers who relied on power-assertive techniques had children who were more hostile with peers, used direct commands, threats, and physical force as a means of influencing others, and who resisted all attempts of influence initiated by both teachers and peers. Similarly, in a study of the relationship between parental discipline and the development of aggressive behaviors in school-age boys, Dishion (1990) observed that parents who used negative and punishing styles had children who were marked by aggressive, antisocial behavior and who were less accepted by their peers.

Overall, the majority of the research on the effects of parental discipline assumes that children learn behaviors directly from parents during interactions with them. These behaviors, then, are believed to influence the degree to which the child is accepted by his or her peer group (Dishion, 1990; Pettit et al., 1988). In general, findings suggest that parents who use power-assertive strategies teach their children to behave aggressively; these children are then negatively responded to by their peers. In
contrast, parents who use inductive strategies teach their children to behave in a positive, prosocial manner which is favorably responded to by the peer group.

It is important to note, however, that direct effects studies have typically found only moderate relationships between parental discipline and children's outcomes. That is, discipline has been found to account for a relatively small amount of the variance in the different consequences children experience. This suggests there may be other variables contributing to children's behavior and subsequent peer acceptance. The less than robust findings may stem from the failure of direct effects researchers to account for two important bodies of literature. First, the literature on direct effects has ignored the research reviewed earlier suggesting that individual differences in social cognition and motivation exert a strong influence on various outcomes. Second, direct effects studies have also ignored a separate body of work indicating that discipline plays an important role in shaping children's social cognition and motivation. This literature is overviewed in the following section.

The Effects of Parental Discipline on Children's Social Cognition and Motivation

A limited but convincing body of research has shown that parents' disciplinary styles are instrumental in shaping children's social cognitive abilities and motivational tendencies. In general, this work suggests that inductive disciplinary styles are associated with the child's ability to take the psychological perspectives of others, internal locus of control orientation, and empathic tendency.

Studies examining the relationship between parental discipline and individual differences in children's social cognition indicate that parents employing inductive styles have youngsters who exhibit more advanced role-taking abilities than children of parents who use power-assertive strategies (Hart, deWolf, Royston, Burts,
Thomasson, 1990; Jones, Rickel, & Smith, 1980; Putallaz, 1987). For example, in a study of six- and seven-year-olds, Bearison and Cassel (1975) observed that inductive disciplinary styles were positively related to children's cognitive role-taking skills. Youngsters who were disciplined via reason and explanation were better able to take on another's perspective and, therefore, come to know and understand that individual. Similarly, work by Dlugokinski and Firestone (1974) suggests that parents' use of inductive strategies is associated with other-centered values and orientations in third- and fifth-grade children. It seems that by encouraging children to consider the consequences of behavior in terms of others, inductive strategies foster the development of perspective-taking skills. That is, because inductive strategies attempt to induce compliance by making the child understand why his or her behavior is harmful or inappropriate to others, they encourage the child to consider the perspectives of others.

Other work suggests that parents' disciplinary styles influence the development of various motivational tendencies in children. For example, Nowicki and Duke (1983) studied the effects of discipline on the development of locus of control orientations. The researchers used an observational methodology in which coders watched parents as they monitored their children attempting to complete puzzles of varying difficulty. Results indicated that mothers who were warmer, more nurturing, encouraged more independence, and were less critical typically had children with internal orientations. In contrast, mothers who were critical and obtrusive had children with external orientations. Given that inductive styles encourage children to consider the consequences and impact of their behavior for others, it makes sense that children who are consistently exposed to these strategies would develop the belief that they are causal agents who are capable of influencing others.
Finally, research also reveals that parents' disciplinary styles are associated with individual differences in children's empathy. Studies by Fay (1970) and Huckaby (1971) indicate that children's empathy is positively related to maternal tolerance and permissiveness and negatively associated with punitiveness, overcontrol, competition, and rejection. Other work (Barnett, 1984; Buck, 1984; Fabes et al., 1990; Zahn-Waxler, Radke-Yarrow, & King, 1979) suggests that inductive parents have children who are emotionally responsive to others, while power-assertive parents have children who disregard or deny others' emotional states. Hoffman (1977) explains that inductive strategies should foster empathic responses because they contain information that reduces any existing opposition between the children's desires and parents' demands. In other words, rather than positioning the child's desires in opposition to external conditions, the inductive parent encourages the child to recognize and experience the emotional states of others as a means of finding solutions to problems. Thus, inductive strategies promote the child's reflection on and vicarious experience of others' emotional states in order to induce behavioral compliance.

Summary. This body of literature thus suggests that parental discipline is a significant predictor of individual differences in children's social cognition and motivation. Parents who employ inductive, nurturing styles have children with more advanced social cognitive skills, internal locus of control orientations, and empathic tendencies than parents who employ power-assertive styles.

As noted in the previous section, however, individual differences in these traits have also been found to predict a variety of important life outcomes. In general, it seems that children with more advanced social cognitive abilities are better liked by their peers and have more sophisticated communication skills. In addition, children with an
internal locus of control are more likely to experience academic, social, and communicative adjustment, while empathic children are more likely to enact altruistic, cooperative, and non-aggressive behavior. Interestingly, the direct effects model of socialization ignores these two bodies of literature. In other words, it fails to account for findings indicating that children's social cognition and motivation predict important outcomes, and that parents' discipline influences the development of children's social cognition and motivation. Thus, there is reason to believe that the influence parents exert on children is more complicated than a direct effects model suggests. In fact, statistical relationships observed between parental discipline and outcomes children experience can be categorized as moderate at best.

Perhaps one reason why these relationships are marginal is because discipline exerts its strongest effect on children's social cognition and motivation which, in turn, then influences the academic, social, and communicative outcomes they encounter. In other words, a direct effects model ignores the possibility that individual differences in social cognition and motivation mediate the influence of parental discipline on children's life outcomes.

The assumption that social cognition and motivation mediate the relationship between parental discipline and children's outcomes has been tested in research examining an "indirect effects" model of socialization. This model and its theoretical origins are the focus of the next section.

**An Indirect Effects Model of Socialization**

An indirect effects model of socialization assumes that parents influence their children's outcomes by shaping their social cognitive abilities and motivational tendencies. As reviewed earlier, many studies have found significant relationships
between parental discipline and children's social cognition and motivation. Likewise, other work has located associations between children's social cognition and motivation and subsequent outcomes. Thus, the two important links in the indirect effects model have found empirical support (i.e., discipline to social cognition and motivation; social cognition and motivation to behavioral outcomes and subsequent consequences). In contrast, relatively few studies have examined both links simultaneously. In fact, only a handful of studies have investigated how children's psychological factors mediate the effects of discipline on the life outcomes they encounter. These studies, which tend to focus on the mediating effects of either social cognition or motivation, are reviewed and critiqued below.

Support for the Indirect Effects Model. Pettit et al. (1991) investigated both the influence of parent-child interactions on the development of children's social cognitive orientations and the impact of children's social cognition on subsequent behavior. Specifically, they classified parents' styles according to the degree to which they were coercive and intrusive (i.e., exhibited power-assertion) and then compared these observations with children's self-efficacy regarding prosocial and aggressive behavior and teacher ratings of their social competence with peers. Results indicated that children of power-assertive parents had higher self-efficacy scores regarding aggressive or anti-social behavior and earned lower social competence ratings. Furthermore, these children scored lower on self-efficacy scales tapping beliefs in their ability to perform competent or prosocial behavior.

In another study, Putallaz (1987) found that mothers who used polite requests and suggestions (rather than threats and demands) had children with more advanced social problem-solving skills; these children also earned higher sociometric
ratings from peers. Similarly, Pettit et al. (1988) found that significant relationships between family experiences and children's social skills washed out when the effects of cognitive reasoning (defined as an index of social cognition) were removed. More specifically, these researchers examined family experiences in terms of mothers' responses to interview questions assessing the child's level of exposure to aggressive behavior, the harshness of discipline directed toward the child, and the mothers' endorsement of aggression as a disciplinary technique. Results indicated that mothers' endorsement of aggression predicted lower levels of children's cognitive reasoning, which in turn, predicted lower sociometric ratings by peers.

Critique of Research on Indirect Effects. While the studies cited above suggest that an indirect effects model may be a promising way to approach the study of socialization, more work is needed to replicate and extend prior findings. For one thing, indirect effects studies are limited in that they have failed to explain how disciplinary styles lead to different levels of social cognitive and motivational development. In other words, very little is known about how certain styles translate into particular messages which lead children to develop orientations toward the social world that guide their behavior.

Research conducted from a constructivist perspective, however, offers a viable explanation for these relationships. According to constructivists, different communicative styles reflect differences in individuals' underlying social belief systems. In this way, different orientations toward the social world are revealed in communication. Parents who repeatedly expose their children to messages that reflect a concern for others in terms of their psychological identity implicitly illustrate how members of the social world are connected through feelings and emotions. In contrast,
parents whose messages focus attention on the various social roles that individuals occupy teach their children the relevance of these positions in understanding of relationships. The beliefs the child adopts, then, direct his or her behavior and the subsequent outcomes they experience. Thus, the model of indirect effects becomes understandable from a constructivist analysis because it highlights communication as the mechanism of socialization. From this perspective, disciplinary messages not only regulate behavior, but contain particular message features that teach more general lessons about the social world and the actors comprising it. Background on constructivist theory and its analysis of message features is detailed below.

A Constructivist Approach to the Study of Indirect Effects: Focus of the Current Study

The constructivist perspective emphasizes the contribution of social cognition to the formation of sophisticated message strategies. Whereas cognitive complexity is the fundamental concept in the constructivist analysis of social cognition, "person-centeredness" is the key concept in their analysis of messages.

As noted earlier, cognitive complexity refers to the level of sophistication with which individuals regard the social world. According to constructivists, cognitive complexity varies according to the development of one's interpersonal construct system. Interpersonal constructs (the cognitive structures through which we interpret the thoughts and behaviors of others) are viewed as the basic elements of social cognition. Hence, cognitively complex individuals interpret the social world using differentiated (i.e., a greater number) and abstract (i.e., more psychologically centered) interpersonal constructs.

The constructivist analysis of messages regards person-centeredness as the key factor determining sophisticated communication. According to this perspective,
person-centered messages are those which address the unique intentions, feelings, and perspectives of others. In contrast, position-centered messages are uniformly directed toward others in terms of their broadly defined social roles.

The distinctions constructivists draw between person and position-centered messages are based in Bernstein’s (1974) analysis of elaborated versus restricted codes. Bernstein suggests that individuals who use an elaborated code do so because they regard others as distinct individuals with unique feelings, intentions, and psychological perspectives. In contrast, individuals who use a restricted code regard others only in terms of their socially prescribed roles. Thus, individuals embracing an elaborated code adapt their communication to the unique perspectives of their listeners, while individuals embracing a restricted code communicate with others in accordance with the social roles they occupy.

Bernstein has used this analysis to explain communication differences occurring among members of different social classes. He suggests that members of different social classes embrace fundamentally different conceptions of the social world that are reflected in their distinct communication patterns. Specifically, individuals from middle and upper socioeconomic groups believe that others have unique psychological perspectives and therefore use an elaborated code to appeal and accommodate to others’ viewpoints. In contrast, members of lower socioeconomic groups are believed to define others in terms of social roles and status positions and therefore use a restricted code. Bernstein thus suggests that communication differences may reflect more general cultural beliefs embodied in one’s social class.

Constructivists extend Bernstein’s analysis by asserting that when compared to restricted or position-centered messages, person-centered forms of communication are more complex—that is, they accomplish more goals. According to
Burleson (1987), communication is a functional activity that is directed toward accomplishing some fundamental instrumental aim. From this perspective, individuals engage in communication with the purpose of persuading, comforting, telling a story, offering support, etc. In addition to these instrumental goals, however, individuals may also pursue a number of subsidiary goals in their communication with others; they may, for instance, seek to protect their own identity, address the face needs of the listener, and protect or enhance the status of the relationship (Burleson, 1987).

Constructivists argue that individuals using a restricted code are less likely to address these subsidiary goals because information about the partners' identities, face needs, and relational status is contained in their social roles. Thus, restricted or position-centered messages need only focus on achieving instrumental ends. In contrast, elaborated code users assume that in addition to occupying various social roles, people also maintain unique psychological perspectives on themselves, others, and relationships. Because these perspectives are constantly changing and open to negotiation, they must be addressed in the on-going messages one constructs. Thus, person-centered messages must focus on achieving both instrumental and relational goals. In this way, person-centered messages are considered to be more complex than position-centered messages.

Constructivists argue that the goals pursued in any given context will vary according to the demands of the situation. Thus, the manner in which person-centeredness manifests itself will also vary according to the situation. For example, person-centeredness is evident in comforting contexts when the speaker attempts to alleviate another's distress by acknowledging, legitimizing, and elaborating his or her feelings. In persuasion, person-centeredness is evident when the speaker attempts to
bring about attitudinal or behavioral change by adapting requests to the needs and desires of the listener.

Of particular importance to the current study is how person-centeredness manifests itself in a disciplinary context. Burleson (1987) asserts that in addition to regulating behavior, person-centered disciplinary messages encourage the child to "reason through the consequences--especially the interpersonal or social consequences--of his or her actions rather than invoking rules, threatening punitive actions, or using force" (p. 317). Applegate et al. (1992) refer to person-centered disciplinary messages as "reflection-enhancing." Parents who use reflection-enhancing communication thus attempt to discipline children by appealing to their unique perspective and encouraging them to think in terms of others' perspectives as well.

Constructivists argue that this analysis differs from the traditional conceptions of discipline in that it underscores the features of messages contained in inductive versus power-assertive styles. According to Burleson (1987), this analysis allows us to understand how qualitative differences in communicative styles are linked with underlying conceptions of the social world by examining messages in terms of goal configurations. Put simply, inductive or reflection-enhancing strategies address more goals than power-assertive or position-centered disciplinary strategies. By acknowledging the child's perspective and encouraging him/her to do the same for others, person-centered strategies not only attempt to achieve the instrumental aim of regulating action, but also seek to protect the child's face needs, encourage autonomy, and seek to bring about behavioral change in a way that does not damage the parent-child relationship.

Studies employing this analysis of parental discipline have yielded several results germane to the current study. First, significant relationships have been observed
between cognitive complexity and the use of reflection-enhancing discipline. In other words, there have been a number of studies which support the claim that cognitively complex individuals of various populations (e.g., teachers, college students, mothers of young children) use more reflection-enhancing communication than non-complex persons. These relationships make sense given that cognitively complex individuals regard others in terms of their unique psychological identities and that reflection-enhancing communication appeals to these identities as a means of inducing compliance in others.

Even more importantly, however, parents who use reflection-enhancing discipline have been found to have children who are more cognitively complex and have more advanced communication skills than youngsters whose parents use position-centered forms of discipline. For example, Applegate, Burke, Burleson, Delia, and Kline (1985) tested a model of indirect effects and found that mothers who used reflection-enhancing discipline had children who were more cognitively complex and exhibited more sophisticated comforting and persuasive communication skills than children whose parents did not use reflection-enhancing discipline. Interestingly, associations between mothers' discipline and children's communication became nonsignificant when the effects of cognitive complexity were partialled out. This indicates that parents' reflection-enhancing communication maintains its strongest and most direct relationship with children's cognitive complexity.

A constructivist analysis thus provides an account for why various forms of parental communication produce differential effects in children's social cognition and motivation. Because communication styles reflect underlying assumptions about the social world, children who are continually subjected to certain strategies will learn similar orientations. In discipline, parents are not only communicating the importance of
complying with demands, but are also either explicitly or implicitly offering reasons for why the behavior is necessary. Children exposed to reflection-enhancing communication learn that compliance is important because it has behavioral and emotional consequences for themselves and others. Thus, children whose parents use these strategies learn to consider others in terms of their emotional states and, therefore, are more likely to be cognitively complex. In contrast, children exposed to more position-centered styles of discipline learn the importance of conforming to rules and maintaining social roles. As a result, they are more likely to regard others in terms of the social roles they occupy rather than the unique psychological dispositions they possess. As a result, these children should not be as cognitively complex as children who are exposed to reflection-enhancing communication. Through discipline, then, parents provide their children with a certain orientation toward the social world.

The constructivist analysis also provides an explanation for why researchers have found that children subjected to different disciplinary styles develop distinct motivations. Parents who use inductive styles containing reflection-enhancing communication teach their children that they are active agents whose behavior has consequences for others' psychological and emotional states. These parents encourage their children to view situations in terms of others' perspectives. As a result, children learn that as causal agents, they are able to control events in their lives (thereby fostering the development of an internal locus of control), and that they are capable of ensuring positive consequences by enacting prosocial behavior (thus rendering a sense of self-efficacy regarding prosocial behavior). In addition, by emphasizing the importance of considering others' emotional perspectives when selecting behaviors, inductive strategies may also foster the development of empathy in children. Youngsters who possess this combination of social cognitive and motivational traits should then enact
positive and prosocial behaviors, thereby earning them favorable evaluations from their peers.

In sum, indirect effects studies conducted from the constructivist perspective suggest that through discipline, parents not only teach their children explicit rules for behavior but also socialize them into a certain understanding of the social world. The understanding or logic children adopt then guides their behavior and the subsequent outcomes they experience.

Limitations of a Constructivist Analysis of Socialization. While constructivism offers a sensible explanation concerning how parental discipline influences children's development, it is limited for two reasons. First, constructivist studies have only examined the relationship between parents' reflection-enhancing communication and children's social cognition. However, as reviewed earlier, parents also influence the development of children's motivational tendencies which are known to be important predictors of various outcomes.

In fact, some research suggests that the outcomes children encounter may be best predicted by the interaction between social cognition and motivation (Samter & Burleson, 1984). For example, studies have shown that individuals with advanced levels of cognitive complexity and perspective-taking abilities did not produce sophisticated comforting messages in the absence of affective empathy (Barnett, 1984; Samter & Burleson, 1984) or when the motivation to avoid communication was salient (Samter & Burleson, 1984). Thus, at least where communicative development is concerned, social cognition appears to act as a necessary but not sufficient condition for the production of skillful communication messages.
Other research shows that both social cognition and motivation may function together to promote the enactment of prosocial behavior. For example, Barnett (1984) suggests that the cognitive ability to recognize others' distress only translates into an empathic response when subjects are sufficiently motivated to do so (by actually experiencing the other's emotional state). In addition, Feshbach and Roe (1968) suggest that children's ability to recognize another's emotional state is distinct from their actual experience of empathy. Other studies (Aronfreed, 1968) support the notion that prosocial behavior is dependent upon both the child's cognitive ability to take the perspective of others and his or her motivation to enact the behavior.

Despite these findings, there is relatively little work examining either (a) how both social cognition and motivation influence other outcome variables, or (b) how maternal communication affects the development of individual differences in both social cognition and motivation. The current study was designed to address these issues and thereby provide some insight into several questions left unanswered by previous research. For example, the present study examined how individual differences in both children's social cognition and motivation were related to individual differences in children's loneliness. The current project also assessed the extent to which social cognition and motivation were similarly influenced by maternal communication. In other words, the strength of the relationship between mothers' reflection-enhancing messages and children's social cognition was compared with the strength of the relationship between mothers' reflection-enhancing messages and children's motivation.

Previous studies have also ignored the possibility that parental discipline may indirectly influence the subjective outcomes children experience. To date, constructivist research has examined how the orientations children adopt as a result of discipline are reflected in behavior that leads to objective outcomes such as peer
acceptance or rejection. However, there is reason to believe that parents may indirectly influence the extent to which children experience feelings of loneliness.

Some researchers operating outside the constructivist paradigm believe that parents contribute to their children's loneliness by exerting either too little or too much control over them. For example, some research indicates that children whose parents neglect them (e.g., physical separation, ignoring) fail to form secure attachments which subsequently prevents the children from developing a sense of security in relationships (Anderson et al., 1989). Research on attachment (Bowlby, 1969) explains that this feeling of insecurity produced from the parent-child relationship then leads the child to develop relational problems later in life, thereby fostering a sense of loneliness.

On the other hand, parents who direct too much attention toward their children may instill in them a rather self-centered view of the world. Researchers (Anderson et al., 1989) assert that this orientation is then negatively responded to by others, thereby causing feelings of loneliness due to social rejection. For example, research has shown that controlling and punishing parents have children who are lonelier than children of accepting, warm, and understanding parents (Schultz & Moore, 1986).

It appears, then, that the cognitive and motivational tendencies parents impart to children may influence their subjective experience of the social world as well as their objective standing in that social world. However, this possibility has not been examined. Thus, another purpose of the present study was to extend previous research by examining how individual differences in social cognition and motivation mediate the influence or effects of discipline on a subjectively experienced outcome such as loneliness.
Hypotheses and Research Questions

To summarize, this study tested an indirect effects model of socialization and examined whether the relationship between mothers' disciplinary communication strategies and children's loneliness is mediated by individual differences in children's social cognition and motivation. Several relationships were expected.

First, because mothers who use reflection-enhancing communication encourage their children to focus on the psychological states of others as a means of inducing compliance, their children should exhibit more sophisticated levels of social cognition:

H1a: Mothers' reflection-enhancing regulative communication will be positively associated with children's cognitive differentiation.

H1b: Mothers' reflection-enhancing regulative communication will be positively associated with children's cognitive abstractness.

Secondly, because reflection-enhancing communication encourages listeners to consider themselves active agents who are responsible for the outcomes that result from behavior, mothers' use of reflection-enhancing communication should be associated with internal locus of control orientations in children:

H2: Mothers' reflection-enhancing regulative communication will be positively associated with children's internal locus of control orientations.

Third, because mothers who use reflection-enhancing communication encourage their children to see others' perspectives and experience others' emotional states as a means of inducing compliance, their children should be marked by a tendency toward experiencing others' emotional conditions:

H3: Mothers' reflection-enhancing regulative communication will be positively associated with children's empathy.
Fourth, because mothers who use reflection-enhancing communication encourage their children to consider the benefits of enacting prosocial rather than aggressive behavior, they should feel less confident in their ability to behave aggressively and more confident in their ability to enact prosocial behavior and inhibit aggression than children whose mothers do not use reflection-enhancing communication:

H4a: Mothers’ reflection-enhancing regulative communication will be negatively associated with children’s self-efficacy scores for aggression.

H4b: Mothers’ reflection-enhancing regulative communication will be positively associated with children’s self-efficacy for the inhibition of aggression.

H4c: Mothers’ reflection-enhancing regulative communication will be positively associated with children’s self-efficacy for prosocial behavior.

In addition, several research questions were addressed. First, previous work has only examined the relationship between maternal communication and either children’s social cognition or motivation. However, as noted earlier, it is quite possible that both social cognition and motivation function together to influence the outcomes children experience. This project, then, investigated how maternal regulative communication is related to both social cognition and motivation:

RQ#1: Is mothers’ reflection-enhancing regulative communication as strongly related to children’s social cognition as it is to children’s locus of control orientations and levels of empathy and self-efficacy?

Second, because previous work has ignored the possibility that children’s social cognition and motivation mediate the relationship between maternal communication and children’s subjective outcomes, this project also examined children’s loneliness as it relates to these variables:
RQ#2: To what extent do individual differences in children's social cognition and motivation mediate the relationship between mothers' reflection-enhancing regulative communication and children's loneliness?

The next chapter describes the methods used to address these hypotheses and research questions.
Chapter 3

METHODOLOGY

Participants in this study were drawn from two elementary schools and one religious school. One of the elementary schools was a large, public, urban institution for children in kindergarten through eighth grades, and was located in New Egypt, New Jersey. The other elementary school was a small, private, suburban institution for children in kindergarten through eighth grades, and was located in Newark, Delaware. The religious school was a small institution for children, and was also located in Newark, Delaware. The data were collected in two waves during January and February of 1994. During the first wave, teachers had children take home the surveys designed for mothers to complete. When finished, children returned the surveys to the teachers. During the second wave, children completed a number of instruments during school hours. At each institution, children were given one survey a day to complete over a one-week period. These surveys were administered to the children in groups. Each question was read to the children in order to facilitate their understanding of the questions. The following chapter provides a more detailed description of the sample, procedures, and instruments used in this study.

Participants

Of the 371 mothers who were contacted for this study, approximately 42% agreed to participate. Thus, the participants in this study were 155 children in middle childhood (fourth through seventh grades) and their mothers. This age range was
selected for three important reasons. First, youngsters in middle childhood have
developed the basic cognitive tools necessary for relatively sophisticated thought about
the social world. Prior to this time, children are unable to think of others in terms of
psychological traits and instead base their evaluations on purely physical and material
characteristics (Selman, 1981; Youniss & Volpe, 1978). Second, children at this age
are still relatively closely connected to parents; hence, relationships between maternal
communication and children's social cognition and motivation may be stronger than
might be expected in adolescence where the influence of peers becomes increasingly
important. Third, because various social cognitive abilities and motivational tendencies
have already developed by middle childhood, differences in the chronological age of
fourth through seventh graders should not explain a large amount of variance. Thus,
subjects across all ages of middle childhood should be capable of using the same
cognitive and motivational tools with a relatively similar degree of sophistication.

Fifty-seven percent of this sample was female (n = 88) and 43% was male
(n = 67). Females accounted for 53.3% of the fourth graders (n = 16), 45.1% of the
fifth graders (n = 23), 63.46% of the sixth graders (n = 33), and 72.7% of the seventh
graders (n = 16). Fifth and sixth graders comprised the largest portion of this sample,
each accounting for approximately 33% (n = 51, 52, respectively) of the total number of
children. Twenty percent was from the fourth grade (n = 30) and 14% were seventh
graders (n = 22).

The mean age for the mothers who participated was 38.81, but participants
ranged from 28 to 53 years of age. Ninety percent of the mothers were married.
Although some mothers reported having as many as six children, 44.4% had two and
35.5% had three children (M = 2.47). Most of the mothers in this sample were
employed (72.3%), and categorized themselves as upper-middle class (63.2%). On
average, mothers had completed at least some college or achieved a technical degree (36.8%); 27% reported receiving a high school diploma only, 19.4% reported receiving a bachelor's degree, and 14.2% had received a graduate degree.

**General Procedures**

Over a one-week period, children completed five different surveys designed to assess their social cognitive ability, motivational tendencies, and loneliness. Because children cannot concentrate for extended periods of time, the principal researcher administered only one survey per day. The surveys were administered in a random order at each school. The specific time for administering the surveys was left to the discretion of the teachers so that the most convenient time of the school-day would be selected.

On each day, the principal researcher distributed the surveys to the children. In two of the schools, all of the children from each grade were gathered at one time so that fourth through seventh graders completed questionnaires during the same sitting. Because of the large number of children participating from the third school, however, surveys were distributed according to class throughout the day. Once the questionnaires were distributed, the principal researcher read the instructions to the children and then asked if they had any questions. After instructions were clarified, the principal researcher read through each question with the children and then allowed time for them to circle their answers.

In order to assess maternal regulative communication, children were asked to take surveys home to their mothers who, upon completing the measures, sent them back with their children for teachers to collect. These surveys contained three
hypothetical situations designed to elicit regulative communication as well as some questions concerning demographic information.

Informed consent forms for both mothers and children were provided (see Appendix A). In order to ensure confidentiality, children's and mothers' surveys were numerically coded so that mother-child responses could be matched without requiring participants to provide their names.

Indices of Children's Social Cognition, Motivation, and Loneliness

Indices of Social Cognition

Elicitation of Social Cognitive Ability. Social cognition was assessed by obtaining measures of cognitive differentiation and cognitive abstractness using a modified version of Crockett's (1965) Role Category Questionnaire (RCQ; see Appendix B). Children were asked to think of two peers—one whom they like and one whom they do not like. They were then asked to provide written descriptions of these individuals. While most prior research has conducted interviews with children to elicit their levels of social cognitive development, Livesley and Bromley (1973) found that written descriptions adequately capture children's impressions of others and that interview procedures only add a small amount of additional information. Hence, they argue that time-consuming individual testing procedures are not justified.

However, Livesley and Bromley (1973) do make several recommendations for testing children under these conditions. First, they assert that children should be given rather lengthy and detailed instructions prior to completing the measure. Second, in their study of youngsters in middle childhood, the researchers observed that children who were given a "negative set" as part of their instructions were better able to complete the task than children who were not given these instructions. That is, children who
were told what not to include in their responses gave answers that revealed their impressions of others more fully. Children given these instructions were also less likely to describe others only in terms of physical characteristics. Thus, both of these recommendations were incorporated into the verbal instruction set the principal researcher read prior to administering the RCQ. More specifically, children received the following instructions:

I want you to describe the person as carefully as you can. I don't want you to tell me how tall they are, or whether they are fat or thin, whether they have brown eyes or blue eyes, dark hair or fair hair. I don't want you to tell me what sort of clothes they wear. Instead, I want you to describe what sort of person they are. I want you to tell me what you think about them and what they are like.

Livesley and Bromley (1973) maintain that this exercise is not an unusual or foreign task for children. They explain that in their everyday experiences, children are often forming impressions of others, and that their school work requires them to express their ideas in writing. The researchers confirmed this argument by talking with teachers who agreed that this exercise is a fair and manageable task for children in middle childhood.

**Cognitive Differentiation: Coding and Index Construction.** To obtain an index of cognitive differentiation (i.e., the number of different interpersonal constructs contained in the descriptions), responses to the RCQ were scored according to procedures outlined by Crockett, Press, Delia, and Kenney (1974). According to Crockett et al. (1974), an interpersonal construct is defined as "a single, descriptive impression of another person," (p. 1) and is used by individuals to identify, interpret, evaluate, and anticipate others' thoughts and behaviors. Thus, "nice," "good at sports,"
and "sensitive" are examples of interpersonal constructs, whereas "I like her," or "we don't get along" are not considered to be interpersonal constructs. While the first set of descriptions pertain to the characteristics or qualities of other people, the latter set merely express the respondent's opinion regarding the relationship without focusing on others' inherent traits.

The principal researcher and an experienced coder participated in two training sessions. Prior to the first meeting, both coders familiarized themselves with the coding procedures for identifying interpersonal constructs outlined by Crockett et al. (1974). During the first session, the experienced coder reviewed the coding procedures and rules with the principal researcher; they then worked through a number of examples together and discussed any disagreements. During the second session, the principal researcher and the experienced coder worked through several more examples until they felt confident of their ability to accurately code the responses. Inter-coder reliability was then obtained based on their independent coding of approximately 20% (n = 30) of the children's responses. Any situations that were particularly difficult to code were separated from the rest and then discussed between the coders until a consensus was reached. Additional situations were then included in the sample in order to compensate for those that were held out. An acceptable level of inter-coder reliability—based on the coding that did not require any discussion—was reached (Krippendorff's alpha = .95).

Once the RCQs were coded, indices of cognitive differentiation were computed by summing across the total number of constructs contained in descriptions of the children's liked and disliked peers. Typically, in adult samples, constructs describing physical or concrete characteristics are not included in assessments of cognitive differentiation. However, research suggests that children's impressions are often dominated by these constructs (Applegate et al., 1992; Burleson, 1984b).
Although the children in this study were encouraged not to include descriptions of others' physical characteristics in their responses, many of their descriptions did, in fact, contain physical or concrete qualities. As a result, constructs referring to physical characteristics, behaviors, and social roles were counted in this project. The mean differentiation score for the children in this study was 9.96 with a standard deviation of 4.52, although scores ranged from 1 to 29.

Evidence for the reliability and validity of using the RCQ to assess cognitive differentiation is well documented (Burleson & Waltman, 1988; O'Keefe & Sypher, 1981). In fact, the RCQ has been shown to be a better measure of cognitive differentiation than other measures such as the Role Construct Repertory Test (O'Keefe & Sypher, 1981). The measure has demonstrated a test-retest reliability of .95 over four months with an adult sample (Crockett, 1965), and .51 with a child sample (Applegate et al., 1992). In addition, research has supported the predictive validity of using the RCQ. Children's cognitive differentiation scores have been found to predict their persuasive skills (Clark & Delia, 1977), referential skills (Delia et al., 1980), feeling-centered communication (Burleson, 1984b), and conflict management skills (Samter & Ely, 1985). Furthermore, this measure is not correlated with potentially confounding variables such as IQ scores, grade point average, narrative writing skill, writing speed, loquacity, and verbal fluency (Burleson, Applegate, & Neuwirth, 1981; Burleson, Waltman, & Samter, 1985; Sypher & Applegate, 1982).

Cognitive Abstractness: Coding and Index Construction. To obtain a score of cognitive abstractness, each construct was then coded according to a four-level hierarchy developed by Burleson (1984b). Relatively concrete systems refer to the physical, behavioral and role-based qualities of others. Examples of concrete constructs
are "tall," "good at sports," and "pretty." Relatively abstract systems, on the other hand, refer to others' attitudes, motivations, affect, and dispositions. Examples of these kinds of constructs are "sensitive," "shy," and "inconsiderate." Low scores indicate relatively concrete systems, while high scores represent relatively abstract systems.

The principal researcher and an experienced coder participated in three training sessions. Prior to the first meeting, both parties familiarized themselves with the coding hierarchy. To aid their scoring, the principal researcher developed a coding manual based on their interpretation of Burleson's coding hierarchy (see Appendix C). This manual more explicitly outlined the procedures and rules for coding abstractness. During the first session, both parties reasoned through a number of examples, discussing any disagreements or important issues associated with interpreting the hierarchy or coding the constructs. After this meeting, amendments to the coding manual were made. During the first half of the second meeting, the principal researcher and the experienced coder worked through several more examples until they felt reasonably confident in their ability to code. During the second half of this meeting, as well as the third session, both coders independently scored 20% (n = 30) of the children's responses. Any responses that were particularly difficult to code were discussed until a consensus was reached. Inter-rater reliability, as assessed by Krippendorf's alpha, was .90.

First, total abstractness scores for each subject were computed by summing across all of the coded constructs. An index of cognitive abstractness was then formed by dividing subjects' total abstractness scores by their cognitive differentiation scores. As Burleson (1984b) explains, this method of computing an abstractness index is preferable to other methods (e.g., using the frequency of abstract constructs, or the total abstractness score) because it is conceptually independent of cognitive differentiation.
scores. In this study, the mean abstractness score was 2.82 with a standard deviation of .47, although responses ranged from 1 to 4.

There is limited evidence for the reliability and validity of using the RCQ to assess cognitive abstractness because abstractness is not studied as much as cognitive differentiation. However, both abstractness and differentiation are elicited via the RCQ and measures of differentiation have been found to be valid and reliable. Thus, Burleson and Waltman (1988) explain that since abstractness is usually correlated with differentiation, it is likely that abstractness scores obtained from the RCQ also demonstrate an acceptable level of stability. There is some evidence that suggests that using the RCQ to measure abstractness is a reliable procedure over time: Applegate et al. (1992) reported a test-retest reliability of .71. There is also some evidence that children's cognitive abstractness assessed via the RCQ is conceptually related to relevant variables such as persuasive, comforting, and listener-adopted communication (Applegate, 1982; Applegate et al., 1992; Burleson, 1984b).

Indices of Motivation

Locus of Control. Locus of control was examined using an adapted version of the Nowicki-Strickland Internal-External Control Scale for Children (Nowicki & Strickland, 1973; see Appendix D). The original measure consists of 40 yes/no questions that ask children to indicate the degree to which (a) they are responsible for the outcomes they receive (e.g., "Are you the kind of person who believes that planning ahead makes things turn out better?" "Do you believe that most of the time parents listen to what their children have to say?"), and (b) whether they feel rewards and punishments are controlled by external forces or powerful others (e.g., "Are some kids
just born lucky?" "Do you believe that wishing can make good things happen?""). Scores range from 0 (internal) to 40 (external).

The adapted version is a shorter measure consisting of 19 items. Given the time constraints imposed by the schools, the shorter version was selected for use in the current project. Although most studies have used the longer version, the work that has been done with the shorter version of this measure indicates that it is both internally reliable (Cronbach's alpha = .64; Testiny et al., 1980) and demonstrates an acceptable test-retest reliability (r = .63; Superka & Harms, 1977). Furthermore, research has shown that the adapted version is associated with other measures of locus of control (Crandall, Crandall, & Katkovsky, 1965; Hallahan et al., 1978; Nowicki, 1981; Nowicki & Strickland, 1973) and is unrelated to IQ scores (Nowicki & Duke, 1983; Nowicki & Strickland, 1973) as well as social desirability (Crandall et al., 1965).

Two factor analytic procedures were used to examine the underlying structure of this measure. First, a principal components factor analysis with varimax rotation extracted seven factors with eigenvalues greater than 1; these factors explained 59% of the measure's variance. However, the items loading on each factor were not conceptually interpretable; thus a principal axis factor analysis with oblimin rotation was performed. This analysis extracted two factors with eigenvalues exceeding 1. However, these factors only explained 20% of the scale's variance.

Given these results (and the fact that past research has shown the scale to be uni-dimensional), all 19 items were used to construct the locus of control measure. This measure had an internal reliability, assessed via Cronbach's alpha, of .66. This estimate is similar to other levels of internal consistency using the same measure reported in past research. Children's external responses were given a score of "1", while internal responses were given a score of "2". A mean locus of control score was computed for
each child by summing across all of the items and dividing by 19. Thus, scores ranged from 1 to 2, with high scores indicating an internal tendency. The mean locus of control score for this sample was 1.64 with a standard deviation of .17.

**Emotional Empathy.** Bryant's (1982) Index of Empathy for Children and Adolescents (see Appendix E) was used to assess children's levels of emotional empathy. This measure is modeled after Mehrabian and Epstein's (1972) adult measure of empathy; thus, the items have been reworded so that they are appropriate and understandable to children. This scale was selected for both methodological and conceptual reasons. While other measures of children's empathy require slide presentations (Feshbach & Roe, 1968) or videotape equipment and hidden observers (Leiman, 1979), Bryant's scale is a simple paper-and-pencil measure. Furthermore, this scale measures empathy as a vicarious emotional response to others rather than as an accurate identification of others' emotional states. Thus, Bryant's scale is both methodologically simpler and conceptually consistent with the current project.

Bryant's (1982) measure consists of 22 statements that require a yes/no response. These statements are designed to tap the extent to which children vicariously experience the emotional states of others (e.g., "I get upset when I see a boy being hurt," "It makes me sad to see a girl who can't find anyone to play with," "Seeing a boy who is crying makes me feel like crying"). Previous research (Feshbach & Roe, 1968) has shown that children's empathic responses result from an interaction effect between the sex of the subject and the sex of the stimulus (e.g., boys are more empathic toward boys and girls are more empathic toward girls). Thus, consistent with prior research (Feshbach & Roe, 1968), statements indicating the sex of the stimulus were matched with identical items designating a stimulus of the opposite sex. For example, the...
statement "Boys who cry because they are happy are silly" was matched with an identical item referring to a female target ("Girls who cry because they are happy are silly"). Matching items in this way provided a means of identifying children who are empathic toward cross-sex, as well as same-sex, stimulus figures.

Bryant (1982) has found this measure to be internally consistent for both fourth and seventh graders (Cronbach's alphas = .68, .79, respectively). Test-retest reliability coefficients indicate an acceptable degree of stability over a short period of time (r = .81 for fourth graders; r = .83 for seventh graders). Bryant also demonstrated the convergent validity of the measure by observing a strong correlation between this scale and the Mehrabian and Epstein (1972) adult empathy measure. Moreover, nonsignificant correlations with reading-achievement scores, social desirability, and affective role-taking for both fourth- and seventh-grade populations support the discriminant validity of the empathy measure (Bryant, 1982). Bryant (1982) also observed that the index predicts aggression in males (i.e., more empathic males are less aggressive) and the physical closeness children allow a variety of peers (i.e., more empathic children allow greater physical intimacy with unpopular and "dumb" children).

Two factor analyses were performed to examine the underlying structure of the empathy measure. First, a principal components factor analysis with varimax rotation extracted seven factors with eigenvalues greater than 1; these factors explained 59% of the variance. As with the factor analysis performed on the locus of control measure, none of the items loading on any of the seven factors were conceptually understandable. Hence, a principal axis factor analysis with oblimin rotation was performed on this scale. This time, two factors were extracted with eigenvalues exceeding 1; however these factors only explained 20% of the measure's variance.
Given that previous research has interpreted this scale as unidimensional, all 22 items were used to construct a measure of empathy. Internal reliability, assessed via Cronbach's alpha, was .73. Subjects were given a score of "2" for each empathic response and a "1" for each non-empathic response. Mean empathy scores were computed by summing across all of the items and then dividing by 22. Thus, scores ranged from 1 to 2, with high scores indicating an empathic tendency. The mean empathy score for this sample was 1.61 with a standard deviation of .17.

**Self-efficacy.** Children's self-efficacy was assessed using 24 items drawn from a self-efficacy questionnaire developed by Perry et al. (1986; see Appendix F). This measure requires children to imagine themselves in various situations involving their peers. They are then asked to indicate the degree to which they feel capable of successfully performing a given behavior in those situations by selecting one of four responses (HARD!, hard, easy, EASY!). For example, children were asked to imagine the following scenario: "On the playground, another kid bumps into you." They were then asked whether "calling the kid bad names" would be "HARD! hard easy EASY!" These responses were then assigned a score of one through four respectively; thus, high scores indicate a greater degree of perceived self-efficacy than low scores.

Perry et al.'s (1986) questionnaire was originally designed to measure children's self-efficacy for four distinct behaviors: self-efficacy for aggression, self-efficacy for the inhibition of aggression, self-efficacy for prosocial behavior, and self-efficacy for verbal persuasion. However, items tapping self-efficacy for verbal persuasion were not included in the current project. While it is possible that mothers' disciplinary strategies encourage children to believe in their ability to persuade others, they are more likely to be associated with children's perceptions of their competence to...
behave either aggressively or prosocially. In other words, while it is unlikely that issues relating to the child's use of verbal persuasion strategies will be addressed in a disciplinary situation, it is reasonable to expect that evaluations of more global behaviors (e.g., aggressive or prosocial behaviors) will be featured in this context. For example, children are often disciplined for aggressive behavior and may be told to inhibit aggressive responses and enact prosocial behavior instead; however, it is rare that parents will reprimand their children for persuading peers. Thus, because no associations between discipline and self-efficacy for verbal persuasion were expected, these items were deleted from the questionnaire.

A principal components factor analysis with varimax rotation was conducted on the items. This analysis extracted six factors with eigenvalues exceeding 1; these factors accounted for 62% of the variance in the scale's correlation matrix. One of these factors clearly represented the items intended to load on a self-efficacy for aggression scale, while the remaining five factors seemed to represent a random classification of the other items. Thus, a principal axis factor analysis with oblimin rotation was conducted. This analysis extracted only three factors with eigenvalues exceeding 1 and accounted for 42% of the variance in the correlation matrix. As with the first solution, one of the factors clearly reflected a self-efficacy for aggression scale; however, the remaining two factors were uninterpretable.

Given that the factor analyses did not reveal three interpretable factors as expected, scales were constructed to reflect the measures used in previous research. Thus, one scale containing eight items was constructed for self-efficacy for aggression, one scale containing eight items was constructed for self-efficacy to inhibit aggression, and one scale containing eight items was constructed for self-efficacy for prosocial behavior. Mean self-efficacy scores for each scale were computed by summing across
the items and then dividing by 8. Thus, scores for each scale ranged from 1 to 4. The following mean and standard deviation self-efficacy scores were observed: 2.53 with a standard deviation of .79 for self-efficacy for aggression, 2.70 with a standard deviation of .65 for self-efficacy for the inhibition of aggression, and 3.11 with a standard deviation of .53 for self-efficacy for prosocial behavior. Internal reliabilities, assessed via Cronbach's alpha, were .88, .73, and .74, respectively.

Although not many studies have used this measure to examine self-efficacy, the work that has been conducted suggests these scales are internally consistent (Cronbach's alpha = .86, .73, and .67, respectively; Perry et al., 1986). Furthermore, self-efficacy for aggression and self-efficacy for the inhibition of aggression have been found to predict aggressive behavior. That is, children who feel more confident in their ability to behave aggressively and less able to inhibit aggressive responses have been found to engage in more hitting, pushing, and name-calling than children who do not feel confident in their ability to behave aggressively.

Loneliness. Children responded to a 24-item loneliness questionnaire developed by Asher et al. (1984; see Appendix G). This questionnaire asks children to indicate on a five-point Likert scale the degree to which each statement accurately describes their feelings. Response options include "always true," "true most of the time," "true sometimes," "hardly ever true," and "not true at all." High scores are indicative of greater feelings of loneliness.

Sixteen of the items ask children to judge their feelings of loneliness (e.g., "I have nobody to talk to," "I feel left out of things," "I feel alone"), to estimate their social competence (e.g., "I get along well with other children," "It's hard to make friends," "It's hard to get other kids to like me"), and to evaluate their peer status ("I
have lots of friends, "I am well-liked by the kids in my class," "I don't have any friends"). The remaining statements were "filler items" designed to help children feel more comfortable revealing their feelings (e.g., "I like music"). This instrument was selected because of evidence documenting its validity and reliability. For example, acceptable levels of internal consistency (Cronbach's alpha = .90) and internal reliability (split-half correlation between forms = .83; Spearman Brown reliability coefficient = .91; Guttman split-half reliability coefficient = .91) have been observed for this instrument. Furthermore, Asher et al. (1984) found this measure to be associated with children's sociometric status.

To construct an index of loneliness, a principal components factor analysis with varimax rotation was initially conducted. This analysis extracted seven factors with eigenvalues exceeding 1 and explained 63% of the variance. These factors did not reveal any conceptually understandable themes. Hence, a principal axis factor analysis with oblimin rotation was performed. This analysis yielded a three-factor solution, accounting for 37% of the variance. One factor clearly represented the 16 loneliness items, while the remaining two factors reflected a combination of the 8 filler items. Thus, the 16 items were combined to form an index of loneliness. The scales' internal consistency, assessed via Cronbach's alpha, was .88. Responses to this scale ranged from 1 to 5; the mean loneliness score was 1.99 with a standard deviation of .62.

Indices of Maternal Regulative Communication

Message Elicitation

Mothers responded to three hypothetical situations requiring them to indicate what they would say to their children in order to discipline them (see Appendix H).
More specifically, mothers were asked what they would say to their child if he or she refused to go to sleep at bedtime, if the child had taken flowers from a neighbor's garden without permission, and if the child refused to go to school on a day when he/she had no legitimate excuse. Previous research has typically used five situations to elicit maternal regulative responses (Applegate et al., 1985; 1992; Applegate & Delia, 1980). However, due to time constraints, this study used only three. These three scenarios were selected because they appeared to reflect situations that were realistic and common to mothers' experience.

Support for the validity of using hypothetical situations to assess disciplinary strategies has been demonstrated by several researchers. For example, Kochanska, Kuozynski, and Radke-Yarrow (1989) had mothers report the disciplinary strategies they would use in several hypothetical situations. Subsequent observation of these mothers in actual disciplinary situations revealed significant associations between their self-reported and actual behavior. Research by Applegate (1980) also indicates that day-care-instructors' responses to hypothetical situations are correlated with the strategies they use in everyday interactions with students. Furthermore, previous work has found the situations used in the current project to comprise an internally consistent index of regulative communication, with Cronbach's alpha estimates ranging from .85 to .90 (Applegate et al., 1985; 1992; Applegate & Delia, 1980) and to predict children's cognitive differentiation and abstractness, as well as their persuasive and comforting skills (Applegate et al., 1992; Applegate & Delia, 1980).

**Message Coding**

**Unitization.** Prior to content coding, responses to the hypothetical situations were unitized. In the current study, the message strategy was employed as the
basic unit of analysis. Consistent with past research, the message strategy is defined as "a connected set of specific, communicative behaviors that is produced and experienced as a single, coherent line of action and is aimed at attaining a group of complementary goals" (Samter, 1989; p. 77). Thus, message strategies are not rationalizations or explanations for behavior; rather, they are the actual messages that parents say they would use. Furthermore, message strategies can contain several components (e.g., words, sentences, phrases) that function together to express a single thought and accomplish an overall goal. The decision to use the message strategy as the unit of analysis is based on prior work grounded in the same theoretical orientation as the current study (Applegate et al., 1985; 1992).

To ensure proper unitization, the principal researcher was trained by an experienced coder in one session using a coding manual developed for this study (see Appendix I). This coding manual included a section outlining the rules and procedures for identifying message strategies. For example, coders were instructed to make sure that they were coding what respondents actually said rather than their reasons or justifications for behavior. This rule was especially important given that parents often provided their philosophies of discipline or relayed stories about discipline occurring in the past without specifying exactly what they would say to children to regulate their behavior. Thus, responses that contained rationalizations or opinions were considered to have no message strategies. After discussing the rules and procedures, coders then reasoned through a number of examples together until a consensus was reached for each case. Subsequently, they independently coded 20% (n = 30) of the responses. Interrater reliability was assessed via Guetzkow's U (u = .01). This analysis calculates the percentage of disagreement occurring among coders—thus, a small u is desired.
Substantive Coding. After unitization, maternal responses were then coded according to a six-level hierarchical system developed by Applegate et al. (1985; see Appendix J). This hierarchy has been used in previous research (Applegate et al., 1985; 1992; Delia & Applegate, 1990) and was selected for the current study because of its focus on the person-centered quality of regulative messages. More specifically, the system is designed to capture the extent to which mothers' regulate children's behavior by encouraging their reflection on relevant behaviors, feelings, and circumstances in the situation at hand.

The hierarchy contains three major levels reflecting the extent to which the child is encouraged to reflect on behavior and resulting consequences. Within each major division, there are two sub-levels which outline more subtle distinctions between messages. The six ascending levels in the hierarchy represent increasing degrees of reflection-enhancing communication. Thus, within the first major level, there is explicit or implicit discouragement of the child's reflection on behavior and consequences (e.g., "Go to bed right now"). Responses coded in the second major level implicitly encourage the child to reflect on behavior and consequences by either appealing to social norms or parent-created rules (e.g., "Stealing is wrong because it is against the law"). Finally, strategies scored in the third major level provide explicit encouragement of the child's reflection on behavior and consequences by showing the child these connections (e.g., "If you don't get enough sleep you'll feel tired tomorrow"), or prompting the child to make the connections for him or herself (e.g., "How do you think Mrs. Jones felt when she saw that her flowers were gone?"). Responses were first coded at one of the major divisions and then placed into the appropriate sub-levels.

The principal researcher participated in three training sessions designed to familiarize her with the coding scheme and its application. An experienced coder led the
training sessions. Prior to their first meeting, however, both the researcher and the experienced coder familiarized themselves with a coding manual developed for this study (see Appendix I). During the first session, the researcher and the experienced coder reasoned through a number of examples, discussing divergent interpretations until agreement was reached. Amendments to the coding manual were made based on certain important issues that evolved during this session. For example, rules were created that outlined the subtle differences between sub-levels so that coders could more easily differentiate between them.

During the second meeting, the researcher and the experienced coder worked through more examples until they felt reasonably confident with the coding system and its application. During the second half of this meeting and the entire third session, the researcher and experienced coder independently scored 20% of the maternal responses. Upon obtaining an acceptable level of agreement (alpha = .96), the principal researcher coded the remaining responses.

Index Construction

Past research has used mean responses to all of the situations to create an index of maternal communication. However, reliability analysis suggested that the three situations employed in the current study did not comprise an internally consistent scale (alpha = .37). Because a reliable index could not be obtained, mothers' responses to each situation were used in subsequent analyses. Possible reasons for why these situations did not comprise an internally reliable scale are suggested in Chapter Five.

Responses to all of the situations ranged from "1" to "6". High scores indicate a "reflection-enhancing" character (encouraging the child to reason about situations and choose behaviors that accommodate the perspectives of others), while low
scores suggest a less reflective style (threatening punishment or appealing to rules and/or status as a means of inducing compliance). The mean score for regulative communication in the television situation was 2.74, with a standard deviation of 1.33; the mean score for regulative communication in the flower situation was 2.90 with a standard deviation of 1.52; the mean score for regulative communication in the school situation score was 3.45, with a standard deviation of 1.07. Overall, mothers used the highest level strategies in the school situation, followed by the flower and television situations, respectively. Only six responses received a code of "0," indicating that no message strategies could be identified.

**Summary**

In sum, this study used seven measures designed to assess children's social cognition and motivation. Cognitive differentiation (i.e., the number of interpersonal constructs) and abstractness (i.e., the degree to which interpersonal constructs refer to others' psychological traits) served as indices of children's social cognition. Locus of control, empathy, self-efficacy for aggression, self-efficacy for the inhibition of aggression, and self-efficacy for prosocial behavior were the measures of motivation employed in the current study. One "outcome" variable, children's loneliness, was assessed. Finally, mothers' responses to each of the three situations designed to elicit regulative responses were included as separate indices of disciplinary skill. Table 1 provides the means, standard deviations, and the range of scores for all of these variables. The next chapter presents the results of subsequent analyses performed to examine the study's hypotheses and research questions.
Table 1. Means, Standard Deviations, and Range of Responses for Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Differentiation (CD)</td>
<td>9.96</td>
<td>4.52</td>
<td>1.00-29.00</td>
</tr>
<tr>
<td>Cognitive Abstractness (CA)</td>
<td>2.82</td>
<td>.47</td>
<td>1.00-3.80</td>
</tr>
<tr>
<td>Locus of Control (LOC)</td>
<td>1.64</td>
<td>.17</td>
<td>1.21-1.95</td>
</tr>
<tr>
<td>Empathy (EMP)</td>
<td>1.61</td>
<td>.17</td>
<td>1.05-1.95</td>
</tr>
<tr>
<td>Self-efficacy for aggression (AG)</td>
<td>2.53</td>
<td>.79</td>
<td>1.00-4.00</td>
</tr>
<tr>
<td>Self-efficacy for the inhibition of aggression (IAG)</td>
<td>2.70</td>
<td>.65</td>
<td>1.00-4.00</td>
</tr>
<tr>
<td>Self-efficacy for prosocial behavior (PS)</td>
<td>3.11</td>
<td>.53</td>
<td>1.00-4.00</td>
</tr>
<tr>
<td>Loneliness (LON)</td>
<td>1.99</td>
<td>.62</td>
<td>1.00-4.50</td>
</tr>
<tr>
<td>Maternal communication-TV situation (TV)</td>
<td>2.74</td>
<td>1.33</td>
<td>1.00-6.00</td>
</tr>
<tr>
<td>Maternal communication-flower situation (FLOW)</td>
<td>2.90</td>
<td>1.52</td>
<td>1.00-6.00</td>
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<tr>
<td>Maternal communication-school situation (SCH)</td>
<td>3.45</td>
<td>1.07</td>
<td>1.00-6.00</td>
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</table>
Chapter 4

RESULTS

The current project was designed to examine relationships between maternal regulative communication and children's social cognition, motivation, and loneliness. This chapter presents the results of analyses performed to test the four hypotheses and two research questions posed in the study. The chapter begins with a description of statistical procedures used to examine the potentially confounding effects of demographic variables on indices of maternal communication and indices of children's social cognition, motivation, and loneliness. Next, procedures employed to test the four hypotheses and two research questions are described and their results are presented.

Correlations and partial correlations (controlling for confounding effects) were used to examine the hypotheses positing relationships between maternal communication and children's social cognition and motivation. These analyses were also used to address the first research question, which sought to compare the strength of the relationship between maternal communication and children's social cognition with that between maternal communication and children's motivation. Hierarchical regressions and a Lisrel path analysis were used to examine the second research question, which asked if children's social cognition and motivation mediate the relationship between maternal communication and children's loneliness. These procedures were used under slightly different assumptions. The hierarchical regression was employed to test the mediating effect of children's social cognition and motivation, while the Lisrel path analysis was
used to detect an indirect effect. The chapter ends with a section overviewing some interesting (though non-hypothesized) relationships observed among children's social cognition, motivation, and loneliness.

**Analyses of Potentially Confounding Effects**

The initial analysis of this data focused on identifying any confounding variables that previous research has suggested may influence the nature of the results. Previous research has found that mothers' communication is influenced by their education and socioeconomic status (Applegate, 1992). In addition, family variables such as the number of children in a household and the birth-order of the target child have also been found to influence how mothers' communicate with their children (Applegate et al., 1985; 1992). Furthermore, research suggests that children's social cognition, motivation, and loneliness are affected by their sex and age (Applegate et al., 1992; Bryant, 1982; Perry et al., 1986). Moreover, youngsters in the current sample were drawn from what may represent different populations (e.g., a public school, a private school, and a religious school); thus, it is also possible that children's social cognition, motivation, and loneliness will vary as a function of the school children attend. As a first step in examining these potential confounds, zero-order correlations were computed among all of the variables in the study. These included: maternal communication, education, socioeconomic status, and children's social cognition, motivation, loneliness, sex, grade level, birth-order, school, and the number of children in the target's family. The results of this analysis appear in Table 2.
Table 2. Zero-order Correlations among Maternal Communication, Education, Socioeconomic Status, and Children's Social Cognition, Motivation, Loneliness, Sex, Grade Level, Birth-order, Number of Children in Family, and School

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+p < .10; *p < .05; **p < .01
Table 2. (Continued)

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*p < .10; *p < .05; **p < .01
Effects of Demographic Variables on Maternal Communication

Based on the zero-order correlation, a two-way analysis of variance was performed to test the effects of mothers' self-reported education level and socioeconomic status on each of the maternal communication situations. Significant main effects were observed for both education and socioeconomic status. Education had a significant effect on the regulative strategies mothers' used to discipline their children in the television situation \([F(5,126) = 3.72, p < .001]\). Thus, mothers who used higher level strategies had more formal education than mothers who used lower level regulative strategies. In addition, socioeconomic status was found to have a significant effect on mothers' regulative communication in the school situation \([F(2,135) = 4.73, p < .01]\). Thus, mothers who used more sophisticated regulative strategies came from higher socioeconomic groups than mothers who used less sophisticated strategies. No
significant interaction effects among these two variables were observed. Given these results, subsequent analyses held the effects of mothers' education level and socioeconomic status constant.

Family variables such as the number of children in a household and the birth-order of the target child have also been found to influence how mothers communicate with their children (Applegate et al., 1985; 1992). A two-way analysis of variance was performed to test the effects of the number of children in the family and the birth-order of the target child on maternal communication. No significant main or interaction effects were observed.

Research also indicates that maternal regulative communication may vary according to the sex and age of the target child (Applegate et al., 1992). Mothers have been found to use different disciplinary strategies with their sons than with their daughters and different strategies with older versus younger children. To examine whether maternal communication was affected by the sex and age of the target child, a two-way analysis of variance was performed. Thus, the influence of both the child's sex and grade level on maternal communication in the television, flower, and school situations was examined.

No significant main effects for gender were detected in any of the situations. However, two significant interaction effects did emerge. In the flower situation, mothers tended to use higher level strategies with their fourth- and sixth-grade girls, and their seventh-grade boys \( [F(3,118) = 4.60, p < .01] \). Similarly, in the school situation, mothers tended to use slightly higher level strategies with their fourth-grade girls and their seventh-grade boys \( [F(3,118) = 2.60, p < .06] \). These effects may be due to the relatively small number of subjects in each of the cells examined in the analysis.
Effects of Demographic Variables on Children's Social Cognition, Motivation, and Loneliness

To examine the possibility that the children's sex, age, and school had a significant influence on their social cognition, motivation, and loneliness, a series of three-way ANOVAs were conducted. For each dependent variable, the effects of sex, grade level, and school were examined. The results of these analyses are reported below.

The child's school did not have a significant effect on any of the variables. Furthermore, no significant effects were observed for cognitive abstractness, locus of control, or loneliness. However, the ANOVA for cognitive differentiation detected significant main effects for gender (F(1,131) = 8.00, p < .01) and grade level (F(1,131) = 4.88, p < .000). Girls were more differentiated than boys, and seventh graders were more differentiated than younger children. No significant interaction effects were observed for cognitive differentiation scores. For empathy, a significant main effect was observed for gender (F(1,149) = 25.07, p < .05). Girls in this sample were more empathic than boys.

Several significant effects were found for each of the self-efficacy scales. On self-efficacy for aggression, there was a significant effect for gender (F(1,149) = 17.06, p < .05), with boys reporting more confidence in their ability to enact aggressive behavior than girls. There was also a significant main effect for grade level (F(1,149) = 2.69, p < .05); seventh graders earned higher scores than fourth, fifth, or sixth graders. This suggests that older children felt more confident in their ability to behave aggressively than younger children. On self-efficacy for the inhibition of aggression, a significant main effect emerged for grade level (F(1,149) = 3.05, p < .05). Seventh grade children felt more confident in their ability to inhibit aggression than younger
Finally, the ANOVA for prosocial behavior detected significant main effects for gender \( F(1,149) = 6.21, p < .05 \) and grade level \( F(1,149) = 2.31, p < .05 \). Thus, girls earned higher self-efficacy scores for prosocial behavior than boys, and seventh graders reported more confidence in their ability to behavior prosocially than fourth, fifth, or sixth graders. Given the results of this analysis, all subsequent tests controlled for the influence of both the child's sex and grade level. Table 3 presents a breakdown of the observed means for the children according to their sex and grade level.

Table 3. Means for Children's Social Cognition, Motivation, and Loneliness According to the Children's Sex and Grade Level

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<tr>
<th></th>
<th>Girls</th>
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<td>1.64</td>
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<td>1.63</td>
<td>1.63</td>
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Examining Hypotheses 1 through 4: Relationships between Maternal Communication and Children's Social Cognition and Motivation

After exploring the effects of potentially confounding variables, the hypotheses and research questions posed in Chapter Two were examined. The initial set of hypotheses was designed to investigate relationships between maternal communication and children's social cognition and motivation. More specifically, Hypotheses 1 through 4 predicted that when compared to mothers who use relatively unsophisticated regulative strategies (i.e., who are not particularly reflection-enhancing
in their communication), those who use relatively sophisticated forms of communication will have children who are more cognitively differentiated (Hypothesis 1a) and abstract (Hypothesis 1b), who have internal locus of control orientations (Hypothesis 2), who earn higher empathy scores than other children (Hypothesis 3), who feel less confident in their abilities to behave aggressively (Hypothesis 4a), who are more confident in their ability to inhibit aggression (Hypothesis 4b), and who behave more prosocially than other children (Hypothesis 4c). These relationships were initially assessed through zero-order Pearson correlations. In addition, partial correlation analyses (with the effects of maternal education and socioeconomic status, and children's sex and grade held constant) were conducted.

Zero-order Correlations between Maternal Communication and Children's Social Cognition and Motivation

Table 4 summarizes the results of the zero-order correlation analyses. As Table 4 shows, only one significant association was observed between maternal communication and indices of children's social cognition and motivation. Specifically, mothers' communication in the television situation was found to be significantly correlated with children's locus of control orientations ($r = .21, p < .05$). This correlation suggests that mothers who used relatively sophisticated regulative strategies had children who were more likely to have internal locus of control orientations than mothers who did not use relatively sophisticated regulative strategies. Given that a significant relationship was observed in one of the communication situations, the zero-order correlations partially support Hypothesis 2; however, Hypotheses 1a, 1b, 3, 4a, 4b, and 4c were not supported by this analysis.
Table 4. Zero-order Correlations between Maternal Communication and Children's Social Cognition and Motivation

<table>
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<td>.07</td>
<td>.07</td>
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<td>-.00</td>
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*p < .05

Fourth-order Partial Correlations between Maternal Communication and Children's Social Cognition and Motivation

Given that maternal communication was influenced by mothers' education and socioeconomic status and that many of the children's measures were affected by sex and grade, partial correlations (controlling for the effects of these variables) were performed. The results of this analysis appear in Table 5.

As the results indicate, only one significant association was observed. Once again, maternal communication in the television situation was found to be significantly related to children's locus of control. However, the relationship became even stronger when the effects of education, socioeconomic status, sex, and grade level were held constant ($r = .23$, df = 107, $p < .01$). This indicates that the relationship between maternal communication in the television situation and children's locus of control is strong and remains significant even when the effects of other variables are held constant. Thus, a fourth-order partial correlation provides additional support for the hypothesis.
that mothers' who are more reflection-enhancing in their communication have children with internal locus of control orientations.

Table 5. Fourth-order Partial Correlations between Maternal Communication and Children's Social Cognition and Motivation (Controlling for Education, Socioeconomic Status, Sex, and Grade Level)

<table>
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+p < .10; *p < .05; **p < .01

As the results indicate, only one significant association was observed. Once again, maternal communication in the television situation was found to be significantly related to children's locus of control. However, the relationship became even stronger when the effects of education, socioeconomic status, sex, and grade level were held constant (r = .23, df = 107, p < .01). This indicates that the relationship between maternal communication in the television situation and children's locus of control is strong and remains significant even when the effects of other variables are held constant. Thus, a fourth-order partial correlation provides additional support for the hypothesis that mothers' who are more reflection-enhancing in their communication have children with internal locus of control orientations.
In addition, when the effects of potentially confounding variables were held constant, a number of marginally significant relationships between maternal communication and children's social cognition and motivation were found. Specifically, maternal communication in the school situation was found to be positively correlated with cognitive abstractness ($r = .16, p < .06$). Furthermore, mothers' communication in the flower situation was associated with children's cognitive differentiation ($r = .14, p < .08$) and empathy ($r = .15, p < .07$). Maternal communication in the television situation was also correlated with children's self-efficacy for the inhibition of aggression ($r = .14, p < .08$). These results suggest that mothers who use relatively sophisticated regulative strategies have children with relatively abstract and differentiated social cognitive structures, who are more empathic, and who feel confident in their ability to inhibit aggression. Thus, in contrast to the zero-order relationships, the partial correlations provide very marginal support for Hypotheses 1, 3, and 4b. The failure to find consistent and more robust associations between maternal communication and other indices of children's social cognition and motivation will be discussed in Chapter Five.

**Examining Research Questions 1 and 2**

Two research questions were posed in the current study. The first one asked whether mothers' regulative communication strategies were as strongly related to children's social cognitive abilities as they were to children's motivational traits. The second research question examined the extent to which individual differences in children's social cognition and motivation mediate the relationship between mothers' regulative strategies and children's loneliness. Results of the procedures used to address these research questions are reported below.
Comparing the relationship between maternal communication and children's social cognition with that between maternal communication and children's motivation is problematic given that discipline was significantly associated with only one of the children's measures: locus of control. Thus, one way to answer the first research question is to say that, for this sample, maternal communication had a stronger relationship with children's motivation than with their social cognition.

However, when marginally significant relationships are considered, a different answer to this research question may emerge. Results of the partial correlation analysis suggested that, in addition to its association with locus of control, maternal communication was marginally related to children's cognitive differentiation, cognitive abstractness, empathy, and self-efficacy for inhibiting aggression. To ascertain whether these relationships were significantly less strong than that observed between maternal communication and children's locus of control, r to z transformations were performed. The results suggest that there are no significant differences between the strength of the relationships between maternal communication and any of the children's measures. The .23 correlation between maternal communication and children's locus of control was not significantly different than that between maternal communication and children's cognitive differentiation (z comparison = .81, p > .05), cognitive abstractness (z comparison = .63, p > .05), or empathy (z comparison = .72, p > .05).

Thus, the r to z tests suggested that maternal regulative communication did not exert a significantly stronger influence on children's locus of control than it did on their cognitive differentiation, cognitive abstractness, empathy, or self-efficacy for the inhibition of aggression scores. From this perspective, then, it may be unfair to assert.
that the use of specific disciplinary strategies is more predictive of motivation than social cognition. Instead, it may be most appropriate to examine relationships between maternal communication and distinct measures rather than generalizing to a presumed class of variables.

**Research Question 2: Tests of the Indirect Effects Model**

The second research question asked to what extent do individual differences in children's social cognition and motivation mediate the relationship between mothers' reflection-enhancing communication strategies and children's loneliness. This question was designed to test an indirect effects model of maternal regulative communication. Two procedures, each based in slightly different assumptions, were employed to examine this model.

First, a hierarchical regression was used to determine if children's social cognition and motivation act as mediating variables in the relationship between maternal communication and children's loneliness. This procedure assumes that there is a significant relationship between maternal communication and children's loneliness that will decrease once the effects of children's social cognition and motivation are included in the equation. Second, a Lisrel path analysis was performed. Unlike the hierarchical regression, this analysis does not assume that there is a significant association between maternal communication and children's loneliness. Rather, Lisrel detects significant paths of influence among variables and assumes that significant indirect effects can exist even when direct relationships are not observed. Because of their distinct assumptions, hierarchical regression and Lisrel path analysis should yield different (although not contradictory) results. The results of these procedures are reported below.
The Hierarchical Approach to Assessing Indirect Effects. Hierarchical regression analysis is recommended by Biddle and Martin (1987) as a way of testing if the correct intervening variables have been selected and if the proper paths have been specified in a presumed model of mediation. This procedure has been employed in prior studies examining the mediating effects of children's social cognition on the relationship between maternal discipline and children's communication skills (see Applegate et al., 1992; Applegate & Delia, 1990).

In the hierarchical regression approach, two regression equations are built. In the first equation, mothers' communication is partialled from relationships among children's social cognition, motivation, and their feelings of loneliness. In the second equation, the influence of children's social cognition and motivation is removed from the relationship between maternal communication and children's loneliness. If the specified paths are correct, then the effects of maternal communication should significantly diminish when children's social cognition and motivation are held constant. That is, the relationship between maternal communication and children's loneliness should be reduced once the influence of social cognition and motivation is controlled. Conversely, controlling for the effects of maternal communication should not significantly diminish the magnitude of the associations among social cognition, motivation, and loneliness.

As noted above, this procedure is based on the assumption that all of the variables in the model are significantly inter-related. Thus, maternal communication should not only be related to children's social cognition and motivation, but also to their loneliness. Furthermore, children's social cognition and motivation should be significant predictors of loneliness. Hence, as a first step in assessing this model, inter-relationships among all of the variables in the study were examined via fourth-order partial correlations (the effects of mothers' education and socioeconomic status, and
children's sex and grade were controlled. The results of this analysis appear in Table 6. Several interesting patterns emerged among the children's measures that will be discussed later in the chapter. However, results from the partial correlation analysis did not support the necessary assumptions for testing mediation. As noted earlier, only one significant relationship was observed between maternal communication and children's motivation: the use of reflection-enhancing strategies in the television situation was significantly associated with children's locus of control (r = .22, p < .01). Even more importantly, however, maternal communication was not found to be related to children's loneliness.

Based on this analysis it is obvious that the hierarchical regression approach to assessing indirect effects was somewhat problematic for the current data set because (a) few significant relationships were observed between indices of maternal communication and indices of children's social cognition and motivation, and (b) no significant relationship was found between indices of maternal communication and children's loneliness. Thus, the patterns one would expect to emerge if social cognition and motivation functioned as mediating variables were unlikely to emerge here.

And, that is exactly what happened when the hierarchical regression equations were built. For both equations, the effects of education, socioeconomic status, sex, and grade level were entered on the first step to control for their confounding effects. These equations are presented in Table 7.
Table 6. Fourth-order Partial Correlations among Maternal Communication and Children's Social Cognition, Motivation, and Loneliness (Controlling for Education, Socioeconomic Status, Sex, and Grade Level)

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+p < .10; *p < .05; **p < .01; ***p < .001
Table 7. Hierarchical Regression Analyses Assessing the Mediation of Children's Social Cognition and Motivation on the Relationship between Maternal Regulative Communication and Children's Loneliness

### Equation 1 (Dependent Variable: LON)

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<thead>
<tr>
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<th>R2 Change</th>
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</table>

*p < .05; **p < .01; ***p < .001.

As Table 7 indicates, both regression equations were significant only after indices of social cognition and motivation were entered into the equation. In the initial equation, maternal communication was entered on the second step and yielded a non-significant regression equation \( F(2, 108) = 1.18, p < .32 \). The first two steps of this equation, then, only explained eight percent of the variance in loneliness. However, when children's social cognition and motivation were entered on the third step, the amount of explained variance increased to 30% (R2 change = .22***), and the regression equation became significant \( F(2, 108) = 2.77, p < .001 \). This suggests that children's social cognition and motivation predict loneliness when the effects of maternal communication are held constant. In the second regression equation, children's social cognition and motivation were entered on the second step and were found to be significant predictors of loneliness. The addition of this step rendered the regression equation significant \( F(2, 108) = 3.44, p < .001 \), explaining 28% of the variance in loneliness. However, the addition of maternal communication on the third
step only increased the amount of explained variance to 30% ($R^2$ change = .01); thus, maternal communication was not a significant addition to the equation ($p < .68$). This indicates that maternal communication does not have a significant relationship with loneliness even when the effects of children's social cognition and motivation are held constant. Overall, this set of equations suggests that (a) children's loneliness is best predicted by their social cognition and motivation, (b) maternal communication has little effect on the development of children's social cognition, motivation, or loneliness, and (c) children's social cognition and motivation cannot be considered to mediate the influence of maternal communication on children's loneliness.

Table 7 also indicates that locus of control was the strongest predictor of children's loneliness in the first set of regression equations. That is, locus of control maintained a significant relationship with loneliness ($\beta = -.46$, $p < .001$) in both equations. This suggests that children who have an internal locus of control orientation may be less lonely than externally oriented children. Given the significant association observed between locus of control and loneliness in the fourth-order partial correlation analysis reported earlier, this finding is not surprising. The fourth-order partial correlation analysis also indicated that maternal communication in the television situation was significantly related to children's locus of control. Given this pattern of findings, a second set of regression equations was built; this time, a model positing a path from maternal communication in the television situation to children's locus of control to children's loneliness was tested. The results of this hierarchical regression appear in Table 8.

As the results of this analysis indicate, both regression equations became significant only after locus of control was already entered into the equation. In the first equation, the addition of maternal communication on the second step did not yield a
Table 8. Hierarchical Regression Analyses Assessing the Mediation Effects of Children's Locus of Control on the Relationship between Maternal Communication (Television Situation) and Children's Loneliness

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<td>.20***</td>
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<table>
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*p < .05; **p < .01; ***p < .001.
significant equation \( F(2, 108) = 1.13, p < .35 \)--these variables only explained one percent of the variance in loneliness. However, when children's locus of control was entered on the third step, the regression equation became significant \( F(2, 108) = 6.05, p < .000 \), and the amount of variance explained increased from 5% to 25% (\( R^2 \) change = .20***). This suggests that locus of control is a significant predictor of loneliness when the effects of maternal communication are held constant. In the second equation, locus of control was entered on the second step and was found to be a significant predictor. The addition of this step rendered the regression equation significant \( F(2, 108) = 7.33, p < .000 \), explaining 25% of the variance in loneliness. However, the addition of maternal communication on the third step did not alter the amount if variance explained by the equation (\( R^2 \) change = .00). These findings indicate that loneliness is most directly influenced by locus of control. However, given that regulative communication in the television situation was never a significant predictor of loneliness, we cannot assert that children's locus of control acts as a mediating variable. Rather, we can only say that hierarchical regression analyses indicated that regulative communication in the television situation predicts locus of control, and that locus of control predicts loneliness.

**Lisrel Path Analysis.** Another procedure for examining models of indirect effects is Lisrel path analysis. This technique was used in the current project for two purposes: (a) to detect significant paths of influence among the variables in this study, and (b) to provide significance estimates of the magnitude of both direct and indirect effects. Unlike the hierarchical regression procedures used earlier, Lisrel path analysis does not assume that intervening variables mediate significant relationships among predictor and criterion variables. Rather, Lisrel path analysis illustrates direct and
indirect effects regardless of pre-existing conditions. Given these discrepant assumptions, it is likely that results rendered from each analysis may be inconsistent but not necessarily contradictory. That is, significant results from hierarchical regression would suggest that specified variables are important mediators of certain relationships, whereas findings rendered from Lisrel path analysis would only specify possible paths of influence. In fact, when these two procedures were used in the current study, discrepant, but not contradictory, results emerged.

Based on the results of the correlation and regression analyses, maternal communication in the television situation was the only exogenous variable included in the analysis. As in the first hierarchical regression equation, all of the children's social cognitive and motivational variables were used in constructing the model. The results of the path analysis are summarized in Table 9.

As Table 9 indicates, two significant direct effects were observed. In this case, regulative communication in the television situation predicted children's locus of control orientations (gamma = 2.48, p < .05) and loneliness (beta = -5.75, p < .05). This suggests that mothers who used more sophisticated regulative communication strategies had children with internal locus of control orientations and further, that children with internal locus of control orientations were less lonely than mothers who used less sophisticated strategies.
Table 9. Lisrel Path Analysis of the Indirect Influence of Maternal Communication on Children's Loneliness Via Children's Social Cognition and Motivation

<table>
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</table>

Chi-square = 0.00 (df = 0, p = 1.00, N = 124)
Model Goodness of Fit Index: 1.000
Total Coefficient of determination = .114

Procedures recommended by Sobel (1988) were used to test the significance of the indirect effect of maternal communication on children's loneliness. To determine the significance of an indirect effect, a confidence interval is computed. The effect is significant (p < .05) if zero does not fall within the computed interval. For this data, the confidence interval was -.10, 0. Thus, the indirect effect of maternal communication on loneliness through locus of control was not significant.

However, a significant indirect effect was found when a Lisrel path analysis was performed using only locus of control as the intervening variable. This post-hoc
analysis was performed to determine if removing the nonsignificant social cognitive and motivational variables included in the first analysis would increase the relationships among maternal communication, locus of control, and loneliness. In fact, when other variables were removed, the direct path from maternal communication in the television situation did increase (gamma = 2.57, p < .05), as did the path from locus of control to loneliness (β = -6.53, p < .05). The confidence level based on the indirect effect of maternal communication on loneliness through locus of control was -11, -01. Because zero does not fall within this interval, this effect can be considered significant. The goodness of fit index computed in both equations revealed a perfect match between the data and the model (1.000). However, this measure was computed based on zero degrees of freedom, and therefore, is not an accurate comparison.

In sum, Lisrel path analyses revealed two significant direct paths and one significant indirect path. In response to the second research question, then, Lisrel path analysis indicated that maternal communication indirectly affected children's loneliness by influencing their locus of control orientations. More specifically, mothers who employed relatively sophisticated regulative strategies had children with internal locus of control orientations, who, as a consequence of this orientation, were not lonely. Although this analysis does not suggest that children's locus of control mediates the relationship between maternal communication and children's loneliness, it does suggest that locus of control indirectly affects the relationship between maternal communication and children's loneliness. The discrepant findings yielded from the hierarchical regression and the Lisrel path analysis are discussed in Chapter Five.
As noted earlier, when examining the relationships among variables prior to testing for indirect effects, several patterns of statistically significant correlations were observed (a) between indices of social cognition and indices of motivation and, (b) among indices of social cognition, motivation, and loneliness. The following section reports these findings.

**Relationships between Children's Social Cognition and Motivation**

Zero-order correlations between indices of social cognition and motivation appear in Table 10. As this table illustrates, no significant relationship was observed between children's cognitive differentiation and abstractness scores. Thus, the number of children's interpersonal constructs did not indicate how abstract these constructs were. This finding contradicts previous research and suggests that measures of differentiation and abstractness may tap very different domains of social cognitive ability.

In contrast, all of the motivation variables had significant zero-order relationships with one another (see Table 10). Furthermore, most of these associations were moderate to strong, ranging from .24 to .69 and achieving significance at the .01 level. These correlations suggest that children with an internal locus of control orientation had high levels of empathy and felt confident in their ability to inhibit aggression and behave prosocially; these children also lacked confidence in their ability to behave aggressively.
Table 10. Zero-order Correlations between Children's Social Cognition and Motivation

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*p < .05; **p < .01

A number of significant relationships emerged between indices of children's social cognition and motivation. Cognitive differentiation was positively associated with empathy ($r = .23, p < .01$), self-efficacy for the inhibition of aggression ($r = .20, p < .05$), and self-efficacy for prosocial behavior ($r = .16, p < .05$). Thus, when compared to their less differentiated counterparts, children with more differentiated social cognitive structures tended to be more empathic, and to believe in their ability to inhibit aggression and enact prosocial behavior.

Given that previous analyses indicated children's sex and grade level significantly influenced their scores on many measures, second-order partial correlations were conducted to control for the effect of these variables. These results appear in Table 11.
As Table 11 demonstrates, in most cases, the second-order partial correlations either increased or did not affect the strength of the zero-order relationships. As in the zero-order correlation analysis, the social cognitive measures remained unrelated. Thus, contrary to previous research, cognitive differentiation was not significantly related to cognitive abstractness, even when the effects of sex and grade level were held constant.

In contrast, the second-order partial correlations increased all of the inter-relationships among the motivation variables. This suggests that the relationships among locus of control, empathy, self-efficacy for aggression, self-efficacy for inhibiting aggression, and self-efficacy for prosocial behavior are relatively strong and remain significant even when the effects of sex and grade are held constant.

### Table 11. Second-order Partial Correlations between Children's Social Cognition and Motivation (Controlling for Sex and Grade Level)

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*p < .05; **p < .01; ***p < .001*
Interestingly, relationships between indices of social cognition and motivation weakened when the effects of sex and grade level were held constant. The association between cognitive differentiation and empathy dropped from a zero-order correlation of .23 (p < .01) to a second-order partial correlation of .20 (p < .03). In addition, significant zero-order relationships observed between cognitive differentiation and self-efficacy for the inhibition of aggression (r = .20, p < .05) and prosocial behavior (r = .16, p < .05) became nonsignificant (r = .13, r = .05, respectively). Thus, when the effects of sex and grade level were held constant, children with more differentiated social cognitive systems remained more empathic, but did not exhibit distinct tendencies regarding prosocial behavior or the inhibition of aggression. This suggests that sex and grade level explained most of the shared variance between cognitive differentiation and self-efficacy for prosocial behavior and the inhibition of aggression.

**Relationships among Social Cognition, Motivation, and Loneliness**

As noted earlier, several significant relationships among children's social cognition, motivation, and loneliness scores were observed. The results of zero-order correlations among these variables are summarized in Table 12.

As Table 12 indicates, loneliness was significantly related to only one of the social cognition measures. A significant inverse correlation was found between cognitive differentiation and loneliness (r = -.16, p < .05). This suggests that children who possessed a greater number of interpersonal constructs experienced less loneliness than children who possessed fewer interpersonal constructs. No significant association between loneliness and cognitive abstractness was observed.
Table 12. Zero-order Correlations among Children's Social Cognition, Motivation, and Loneliness

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*p < .05; **p < .01

Loneliness also exhibited significant relationships with three of the four motivational tendencies examined in this study. Significant inverse associations were observed between locus of control and loneliness ($r = -.46, p < .01$), between empathy and loneliness ($r = -.20, p < .05$), between self-efficacy for the inhibition of aggression and loneliness ($r = -.21, p < .01$), and between self-efficacy for prosocial behavior and loneliness ($r = -.17, p < .05$). Loneliness was not significantly related to self-efficacy for aggression. These findings suggest that when compared to lonely children, those who were less lonely had internal locus of control orientations, were more empathic, and felt more confident in their abilities to inhibit aggression and enact prosocial behavior.
As in previous analyses, second-order partial correlations were also computed so that the confounding effects of sex and grade level could be examined. Table 13 presents the results of this analysis.

As is evident from Table 13, the relationship between loneliness and cognitive differentiation decreased when the effects of sex and grade level were controlled. In fact, the second-order partial correlation rendered this relationship nonsignificant ($r = -.07$, $p < .24$). This suggests that sex and grade level explained most of the shared variance between loneliness and cognitive differentiation. As with the zero-order correlation, loneliness was not significantly related to cognitive abstractness, even with potentially confounding effects held constant.

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Second-order partial correlations did not have uniform effects on the zero-order relationships between loneliness and indices of motivation. For example, holding
sex and grade level constant did not affect the strength of the relationship between loneliness and locus of control. This suggests that the association between loneliness and locus of control remains robust and unaffected by the influence of children's sex and grade. However, controlling for sex and grade level slightly decreased relationships between loneliness and self-efficacy for the inhibition of aggression (r = -.17, p < .05), and loneliness and self-efficacy for prosocial behavior (r = -.15, p < .07). In fact, the controls explained enough of the shared variance between loneliness and self-efficacy for prosocial behavior to render their second-order relationship marginally significant. In contrast, the second-order partial correlation increased the relationship between loneliness and empathy (r = -.23, p < .01). This indicates that this relationship is relatively strong and remains significant even when the effects of sex and grade are held constant. In sum, when the effects of sex and grade level were held constant, loneliness remained significantly associated with locus of control, empathy, and self-efficacy for the inhibition of aggression. Taken together, these results suggest that children with an internal locus of control, high levels of empathy, and confidence in their ability to inhibit aggression felt less lonely than children who had external orientations, low levels of empathy, and less confidence in their ability to inhibit aggression.

**Summary of Results**

Overall, the data provided relatively little support for most of the hypotheses and research questions posed in this study. Hypothesis 2, which suggested that mothers who use more reflection-enhancing communication would have children with internal locus of control orientations, was supported. However, the other hypotheses received only marginal support. Thus, in contrast to what was expected, mothers who were more reflection-enhancing in their disciplinary strategies did not have children with
more differentiated (Hypothesis 1a) and abstract social cognitive (Hypothesis 1b) systems; results also indicated, contrary to what was hypothesized, that children's level of empathy (Hypothesis 3), self-efficacy for aggression (Hypothesis 4a), self-efficacy for the inhibition of aggression (Hypothesis 4b) and self-efficacy for prosocial behavior (Hypothesis 4c) did not vary as a function of maternal communication.

In relation to the first research question, zero-order correlations revealed that maternal communication was related only to children's locus of control. Based on this analysis, then, it seems that regulative strategies may be more strongly related to children's motivations than to their social cognition. However, fourth-order partial correlations revealed a number of marginally significant relationships between maternal communication and children's cognitive differentiation, cognitive abstractness, empathy, and self-efficacy for the inhibition of aggression. R to z transformations indicated that the association between locus of control and maternal communication was not significantly stronger than any of these marginal relationships. Thus, from this perspective, we could conclude that regulative strategies are about as strongly related to children's motivations as they are to their levels of social cognitive development.

Analyses performed to address the second research question revealed that maternal communication (in the television situation) indirectly influences children's loneliness via their locus of control orientation. Given that maternal communication and children's loneliness were not significantly related, we cannot say that locus of control acts as a mediating variable. However, we can say that an indirect relationship exists between these variables; that is, maternal communication affects children's loneliness by directly influencing their locus of control orientations. Thus, the model of indirect effects was supported for these variables.
Finally, although they were not originally hypothesized, a number of interesting relationships among children's social cognition, motivation, and loneliness were observed. First, all of the motivation variables were inter-related, thus suggesting that children with internal locus of control orientations were also more empathic, felt more confident in their abilities to inhibit aggression and behave prosocially, and less confident in their ability to behave aggressively than children with external orientations. Second, children's empathy was also significantly related to their social cognition. In other words, children with more differentiated interpersonal construct systems exhibited a greater degree of empathy than children with less differentiated systems. Finally, many of the motivation variables were related to loneliness. In general, loneliness was found to vary as a function of locus of control, empathy, and self-efficacy for the inhibition of aggression. More detailed explanations of these results (as well as their implications) are discussed in the final chapter.
Chapter 5
DISCUSSION

This study examined four major hypotheses concerning the relationship between mothers' regulative communication and their children's social cognition and motivation. Hypotheses 1 through 4c predicted that mothers' reflection-enhancing communication would be positively associated with children's cognitive differentiation (Hypothesis 1a), cognitive abstractness (Hypothesis 1b), internal locus of control orientations (Hypothesis 2), empathy (Hypothesis 3), self-efficacy for the inhibition of aggression (Hypothesis 4b), self-efficacy for prosocial behavior (Hypothesis 4c), and negatively associated with their self-efficacy for aggression (Hypothesis 4a). These hypotheses were examined through zero-order and partial correlation analysis. The current study also tested an indirect effects model of socialization to determine if children's social cognition and motivation mediate the relationship between mothers' regulative communication and children's loneliness. Indirect effects were assessed via hierarchical regression and Lisrel path analyses. In all statistical tests, the effects of mothers' education and socioeconomic status, and children's sex and grade were held constant.

In general, the results of this study were weak. Support was found for the relationship between maternal communication and children's locus of control; however, the remaining analyses either did not yield any significant findings, or located only marginally significant results. This chapter begins with a discussion of the major
findings of the study and integrates them with existing literature. This section is followed by a discussion of why the majority of this study's expectations were not supported by offering both methodological and theoretical accounts. Next, the findings regarding non-hypothesized, but important relationships, are discussed. The last section discusses the limitations of this study and offers suggestions for future research.

**Significant Relationships Between Maternal Communication and Children's Social Cognition and Motivation**

This study found significant partial support for one hypothesis and marginal support for several others. Although these findings do not provide strong evidence for the expected relationships between maternal communication and children's social cognition and motivation, they do suggest that the use of relatively sophisticated regulative strategies may influence the extent to which children develop certain social cognitive abilities and motivational tendencies. These findings are discussed below.

**Maternal Communication and Children's Locus of Control**

The second hypothesis of this study stated that mothers who use more sophisticated regulative communication strategies will have children with internal locus of control orientations. This relationship was supported in one of the communication situations and hence, partial support for this hypothesis was found. In fact, this finding was the strongest one located in the current study. This suggests that mothers who use reflection-enhancing communication (as assessed in the television situation) have children who perceive themselves to be in control of determining outcomes and events.

Given that mothers' reflection-enhancing communication encourages children to consider themselves autonomous agents whose behavior affects others, it makes sense that this form of communication would foster the development of
children's internal locus of control orientations. That is, an internal locus of control orientation reflects a belief in one's ability to control and affect others and situations. Thus, if mothers enact disciplinary strategies that encourage children to reflect on their actions and accompanying consequences, children should develop a sense that they are active agents who play a role in determining the outcome of events.

This finding is consistent with previous work suggesting that parents play an antecedent role in the development of children's locus of control orientations. Several researchers have found consistent relationships between children's internal locus of control orientations and parents' attributes. For example, studies show that school-aged children with positive perceptions of parents' behaviors have internal orientations (Nowicki & Roundtree, 1971; Nowicki & Segal, 1973). More specifically, internal children perceived their parents to be trusting, nurturing, consistent in their behavior, and encouraging of their autonomy. Researchers explain that parents who consistently send their children messages indicating their trust, concern, and commitment to the child's independence will provide them with an environment that encourages them to experiment with behaviors and experience their resulting consequences. These experiences should lead children to understand that they have the potential to determine outcomes by enacting behavior. As a result, they should develop an internal locus of control orientation.

Other studies using an observational methodology found that parental behavior influences children's locus of control. For example, Gordon, Wichern, and Nowicki (1983) observed parents interacting with their second-grade children during a problem-solving activity. The researchers coded the frequency of parents' verbal and nonverbal behaviors and found that parents who were warmer, more nurturing, encouraged more independence, and used less physical punishment during the task had
children with internal orientations. The researchers suggest that parents who behave in this manner allow their children to explore more situations on their own and to experience the consequences of behavior first-hand, thereby encouraging the development of an internal locus of control.

Similarly, Loeb (1975) observed parents and their children during a problem-solving situation. Parents' communication was coded according to the frequencies with which they used orders, demands, or other attempts to control the children's behavior. Loeb's results indicated that parents who were more directive and controlling in their communication had children with more external orientations than children whose parents used suggestions instead. The researchers explained that parents who do not allow their children to make decisions and act independently foster in them the sense that outcomes are controlled by external forces. As a result, these children develop an external locus of control orientation.

Unlike the studies cited above, the current project is unique in that it attempts to capture the "skillfulness" of maternal discipline by focusing on specific, qualitative features of message strategies. That is, the aforementioned studies have examined either children's perceptions of their parents' behaviors or the frequency of specific actions in which parents engage. However, this study focuses on disciplinary skill as embodied in the reflection-enhancing quality of maternal communication; thus, it provides a unique approach to assessing discipline and its effects. Specifically, reflection-enhancing strategies are considered skilled forms of discipline because they remediate behavior while simultaneously achieving interpersonally-oriented goals (e.g., acknowledging and validating the child's agency, appealing to the child's perspective and feelings, encouraging the child to think about others' psychological states). While other studies have focused on just one aspect of discipline (e.g., how nurturing or
controlling parents are), this study examines if a variety of features are present in any given message. The finding that reflection-enhancing communication is linked with children's locus of control suggests that encouraging children to reflect on their autonomy may be an important dimension of messages that imparts lessons regarding the child's orientation toward the world. This finding, then, has important implications for research on parents' discipline in that it suggests that studying the skillfulness of messages may be a viable approach to understanding how particular dimensions of messages affect children.

**Marginal Relationships Between Maternal Communication and Children's Social Cognition and Motivation**

Several marginally significant fourth-order relationships between maternal communication and children's social cognition and motivation were observed. Because these relationships were weak, they must be interpreted with some caution. However, they do provide some very weak support for a number of the proposed hypotheses; therefore, they warrant discussion.

First, marginally significant relationships between maternal communication and both cognitive differentiation (as assessed in the flower situation) and abstractness (as assessed in the school situation) were detected. This suggests that mothers who use relatively sophisticated regulative strategies have children with more differentiated (i.e., a greater number) and abstract (i.e., referring to other's dispositions and psychological traits) systems of interpersonal constructs. These findings do provide some support for Hypotheses 1a and 1b and are consistent with previous research which has detected significant relationships (although much stronger) between maternal communication and children's abilities to construe the social world in relatively complex ways.
Previous work using different measures of social cognition has observed relationships between maternal communication and children's social cognition. For the most part, these studies have examined children's perspective-taking as an index of social cognition. This work suggests that mothers who are more inductive in their disciplinary style have children who are better able to take on another's perspective and understand that individual's thoughts and feelings (Bearison & Cassel, 1975; Hart et al., 1990; Putallaz, 1987). However, as noted in Chapter Two, perspective-taking may not be an appropriate measure of social cognition. Constructivists argue that perspective-taking is actually a social perception process that occurs through the application of interpersonal cognitive structures. Therefore, perspective-taking is presumed to be related to social cognition, but is not a precise measure of it. Instead, constructivists argue that cognitive complexity is a better measure of social cognition because it taps individuals' fundamental cognitive structures by actually counting and evaluating interpersonal constructs themselves and not the processes related to their application.

Studies employing measures consistent with this conceptualization of social cognition have found that mothers' regulative communication was linked with children's cognitive complexity; specifically, Applegate et al. (1992) found that the use of more reflection-enhancing strategies was associated with more differentiated and abstract systems of interpersonal constructs in children. Using the same sample, these results were replicated one year later. Thus, although the current study does not present strong support for the relationship between maternal communication and children's social cognition, it does provide some evidence that maternal communication can influence the development of children's social cognitive structures.

Given that "skillful" or reflection-enhancing messages are more person-centered than other strategies, it makes sense that mothers who use this form of
communication would have children with more differentiated and abstract social cognitive systems. Parents who use reflection-enhancing messages illustrate the salience of others' psychological perspectives in the social world. In other words, these strategies encourage children to evaluate situations according to the unique personalities and feelings of the parties involved; thus, youngsters learn that others are not merely defined in terms of their social roles and/or actions, but rather in terms of their distinct feelings, needs, and perspectives. Consistent exposure to reflection-enhancing messages should lead children to develop more complex conceptions of others and to have more differentiated and abstract interpersonal construct systems. In contrast, the child whose behavior is regulated by appeals to social roles and behavioral norms (i.e., via relatively non-reflection-enhancing disciplinary strategies) may develop a rather limited and concrete repertoire of interpersonal constructs. The marginal associations observed between maternal communication and children's cognitive differentiation and abstractness provide some support for this interpretation.

A marginally significant relationship between maternal communication (as assessed in the flower situation) and children's empathy also emerged via fourth-order partial correlation analysis. This finding suggests that mothers who use more sophisticated regulative strategies have children who are more empathic than children whose mothers use less sophisticated messages. Previous research has found associations between maternal tolerance and permissiveness (assessed via self-report measures) and children's empathy (Fay, 1970; Huckaby, 1971). However, these studies examined mothers' self-reported attitudes toward child-rearing, and suggest that mothers who believe it is important to be affectionate, nurturing, and permissive parents have more empathic children. The current study, then, provides some indication that communication accounts for the process by which these attitudes are transmitted to
children. Given that reflection-enhancing messages encourage children to consider others' feelings in selecting behavior, it makes sense that consistent exposure to this form of communication would lead children to develop empathic tendencies. That is, after being "trained" to consider others' affective states, children may begin to automatically evaluate others in terms of feelings and, therefore, develop a higher level of empathy. However, given that strong support for this relationship was not found, these conclusions are tentative and require further exploration.

In addition, a marginally significant fourth-order relationship was observed between maternal communication (as assessed in the television situation) and children's self-efficacy for the inhibition of aggression. Specifically, mothers who used relatively sophisticated regulative strategies had children who felt more confident in their ability to inhibit aggressive acts such as hitting, pushing, and name-calling. Previous work has found significant relationships between children's self-efficacy for inhibiting aggression and the degree of difficulty parents attribute to specific socialization tasks (Ladd & Price, 1986). Parents who admitted having difficulty promoting their children's cognitive and social competence (e.g., teaching the child how to succeed in school and how to make friends) had youngsters who felt less competent in their ability to behave in a socially competent way (including inhibiting aggression). However, the current study is the first to examine whether actual message strategies predict children's self-efficacy. And, the findings provide some tentative indication that they do. Results suggest that by encouraging children to reflect on the consequences of behavior for themselves and others, mothers teach their children that less injurious forms of behavior can be selected beyond what may initially be desirable. That is, reflection-enhancing messages encourage the child to consider how others' feelings will be affected by "inappropriate" behavior. In this way, mothers show their children that inappropriate forms of behavior
such as aggressive acts will hurt others, and that less harmful behaviors will yield more desirable results. Consistent exposure to these messages may teach children to consider a variety of solutions to situations under the assumption that non-aggressive forms of behavior will result in positive outcomes. This training may contribute to the child's developing confidence in his or her ability to inhibit or suppress aggressive responses to stressful situations. This study, then, extends prior work by providing some initial (albeit weak) support for the notion that the messages used to accomplish socialization tasks are related to children's perceptions of their ability to inhibit aggression.

Finally, like prior research, this study suggests that mothers' education and social class have an important influence on maternal communication. That is, mothers with more education and higher socioeconomic status used more sophisticated regulative communication strategies than mothers with less education and lower socioeconomic status. As Bernstein (1974) suggests, members of different social classes hold distinct conceptions of the world that are manifested in the "codes" or forms of communication they use. Specifically, members of upper socioeconomic groups believe that individuals are distinguished by their unique personalities and orientations—as a result, they feel "psychologically distant" or different from others. Because of their psychological distance, members of this group or subculture must use person-centered communication in order to make their unique perspectives understood. In contrast, members of lower socioeconomic groups believe that others are defined largely by the social roles or status positions they occupy; hence, a "psychologically closeness" is assumed. Bernstein argues that psychological closeness is manifested in the use of position-centered speech—a form of communication that does not require elaboration of one's feelings or perspective.
In line with this reasoning, previous research (Applegate et al., 1985; 1992) has found that the communication of mothers from different social classes tends to reflect different orientations toward the world—namely, that educated, higher socioeconomic status mothers have a more person-centered view of the world and use more reflection-enhancing disciplinary strategies than lower socioeconomic status mothers with less education. The current study, then, is consistent with this research and suggests that communication differences may, in part, reflect social class differences.

In sum, maternal communication was significantly related to children's locus of control orientations and marginally related to their cognitive differentiation, abstractness, empathy, and self-efficacy for the inhibition of aggression. It appears, then, that what mothers say to their children as they regulate their behavior may have important consequences for youngsters' social cognitive and motivational development. In the following section, the relative influence of maternal communication on both children's social cognition and motivation is compared.

**Comparing the Relationship between Maternal Communication and Children's Social Cognition and Maternal Communication and Children's Motivation: Addressing the First Research Question**

The first research question asked if mothers' reflection-enhancing communication strategies were as strongly related to children's social cognitive abilities as they were to their motivational traits. Given that maternal communication was not linked with most of the children's measures, this comparison is difficult to make. However, based on what was found, it is possible to draw some very tentative conclusions.
There are two ways to address this research question. First, given that a significant relationship was only found between maternal communication and children's locus of control, we can conclude that mothers are more likely to influence their children's motivation than their social cognition. However, $r$ to $z$ transformations suggest that marginally significant relationships between maternal communication and children's cognitive differentiation, cognitive abstractness, empathy, and self-efficacy for inhibiting aggression were about as strong as the relationship between maternal communication and children's locus of control. From this perspective, then, it is difficult to assert that one class of variables was more strongly related to maternal communication than the other.

What we can say—without reservation—is that the largest correlation in the study was observed between maternal communication and children's locus of control. In retrospect, this finding makes a great deal of sense. In addition to encouraging youngsters to consider others' feelings, reflection-enhancing strategies encourage the child to consider him or herself an active agent who is capable of influencing people and events. Similarly, locus of control reflects a generalized orientation toward the world concerning one's perceived ability to influence or control events. Thus, reflection-enhancing communication encourages children to consider their sense of agency, while locus of control reflects their actual perceptions of agency.

Perhaps the reason why maternal communication held its strongest relationship with children's locus of control is because reflection-enhancing messages place the most emphasis on encouraging the child's sense of autonomy. This emphasis, then, may serve as the primary goal pursued via reflection-enhancing messages. As O'Keefe and Delia (1982) suggest, reflection-enhancing messages are assumed to be more sophisticated because they accomplish multiple goals. For example, in addition to
pursuing a specific instrumental goal (e.g., remediating "bad" behavior), sophisticated disciplinary strategies have also been thought to pursue a variety of interpersonally-oriented goals (e.g., encouraging the child to think about the feelings and perspectives of others, saving the "face" of the child, protecting the parent-child relationship). The current data, however, suggest that a person-centered approach to discipline also pursues (and accomplishes) the goal of making the child feel like an autonomous agent who has the ability to affect the social world. In fact, it is quite possible that while reflection-enhancing communication does encourage children to consider others' feelings and thoughts, this consideration is secondary and may function as a means of getting the child to understand his or her ability to influence events. In other words, there may be a hierarchy of multiple goals of which imparting lessons about one's agency in the social world is the most important. The results of the present study provide some evidence for this interpretation.

Measures of social cognition, empathy, and self-efficacy for the inhibition of aggression all focus on children's conceptions and considerations of others' feelings and perspectives. Given that reflection-enhancing messages encourage children to consider others' when selecting behavior, youngsters who are exposed to them should develop sophisticated ways of viewing people and events. However, the magnitudes of the relationships observed between maternal communication and these variables were not very strong. Perhaps the magnitude of the relationship found between maternal communication and locus of control indicates that the most important message reflection-enhancing communication transmits concerns the child's ability to influence events and control outcomes. Future research should reconsider the nature of the hierarchy of goals contained in reflection-enhancing messages and determine which ones are best accomplished via this form of communication. For example, researchers could provide
mothers with a list of objectives (e.g., fostering the child's sense of autonomy, encouraging the child to think of others' feelings) and then ask them to rate the salience of each goal during a disciplinary interaction. In this way, researchers could gain a better understanding of which are the most important goals for parents during discipline and how they are reflected in communication.


The second research question asked if children's social cognition and motivation mediated the relationship between mothers' regulative communication and children's loneliness. Loneliness was introduced into this model for several reasons. First, very little is known about the correlates of children's loneliness; this study was designed to examine some of its possible antecedents. Second, previous studies of indirect effects have only examined objective outcomes (e.g., sociometric ratings, teacher ratings of social competence) and, consequently, very little is known about the impact of maternal communication on children's subjective social experiences.

Two procedures based in distinct assumptions were used to examine this model. Initially, hierarchical regression procedures were employed to examine the mediating effect of children's social cognition and motivation on the relationship between maternal communication and children's loneliness. Secondly, Lisrel path analysis was used to examine the possible indirect effect of maternal communication on children's loneliness via children's social cognition and motivation. Whereas the first procedure assumed that a significant relationship between maternal communication and children's loneliness would diminish once the effects of children's social cognition and
motivation were considered, the second analysis assumed only that a significant order of events might exist.

Lisrel path analysis revealed one significant indirect effect. According to this model, maternal communication had an indirect effect on children's loneliness by influencing their locus of control orientations. Specifically, mothers' use of relatively sophisticated regulative strategies indirectly influenced their children to feel less lonely by directly fostering the development of an internal orientation. This suggests that mothers have the potential to influence how lonely their children will be by first affecting their locus of control.

Although one significant indirect path was observed, it is important to remember that this analysis was performed only after significant indirect effects did not emerge from the initial analysis. Thus, a post-hoc analysis was performed in which the other social cognitive and motivational variables were removed. When these variables were removed, maternal communication did have a significant indirect effect on children's loneliness by influencing their locus of control. However, the post-hoc nature of this test suggests that other indices of social cognition and motivation may account for some of the shared variance between both maternal communication and locus of control and locus of control and loneliness. It also indicates that when these indices are included in the model, they reduce the relationship between maternal communication and loneliness. In sum, then, although a significant indirect effect was located, it may not reflect a realistic chain of events—that is, one devoid of other influences.

In addition, a hierarchical regression was performed to test the mediating impact of children's social cognition and motivation on the relationship between maternal communication and children's loneliness. This procedure assumes that
maternal communication has a significant relationship with children's loneliness, but that this relationship will diminish once children's social cognition and motivation were included in the equation. Obviously, the analysis did not yield significant results because the relationship between maternal communication and children's loneliness was not significant.

The indirect effects assessed via Lisrel path analysis are conceptually distinct from the mediating effects examined via hierarchical regression. Whereas Lisrel suggests a possible order of events, hierarchical regression suggests that significant relationships are shaped by intervening variables. The results of statistical tests examining the second research question, then, suggest that mothers have only the potential to influence their children's loneliness by first impacting on their locus of control. However, they do not indicate that mothers actually influence their children's loneliness via their social cognition and motivation. The discrepant findings yielded from Lisrel path analysis and hierarchical regression procedures thus indicate that one distinct interpretation is appropriate for this model: namely, that the role of children's social cognition and motivation is not one of mediation, but rather one of indirect influence.

The current study extends previous work on indirect effects by suggesting that maternal communication not only has an indirect relationship with objective measures of children's social satisfaction (e.g., sociometric ratings, teacher ratings of social competence), but that it also indirectly influences their subjective experience. Previous research has found that mothers who used inductive parenting styles (e.g., who were warm, nurturing, used polite requests and suggestions) had children with more sophisticated social cognitive abilities (Pettit et al., 1988; Putallaz, 1987), lower self-efficacy scores for aggression (Pettit et al., 1991) and who earned higher
sociometric ratings. This study, however, suggests that children's subjective experience of loneliness is also indirectly affected by maternal communication via their motivation. Taken together, these studies indicate that mothers have the potential to influence their children's actual social status as well as their perceived level of social satisfaction.

Furthermore, this study was the first to include locus of control in an indirect model of socialization. With a few exceptions, most studies of indirect effects have examined children's social cognition as an intermediate variable and have ignored children's motivational traits. The current project, however, suggests that parents have the potential to influence how lonely their children will feel by shaping their locus of control orientation. Although previous studies have primarily considered the indirect influence of parents on children via children's social cognition, this project indicates that there may be other important and influential variables.

This study also makes important contributions to the research on children's loneliness by pinpointing some of its possible antecedents. As noted earlier, the results suggested that mothers have the potential to influence how lonely their children will feel by impacting on their locus of control orientations via communication. Thus, although loneliness seems to be the direct result of the child's own orientation, the indirect effects model supported in this study suggests that parents can socialize their children into feeling less lonely by using reflection-enhancing communication.

This finding has important implications for intervention practices designed to prevent the development of children's loneliness. If maternal communication indirectly affects children's loneliness, then perhaps training methods can be used to teach mothers to discipline their children in a way that fosters internal locus of control orientations and, thereby, decreases the likelihood of their feeling lonely. Naturally, because communication strategies may be a reflection of one's social class heritage (as
noted earlier), training methods such as these would need to be sensitive to class
differences among targets so that any changes which result from intervention would not
hinder individuals' ability to function within their sub-culture. However, assuming that
training methods would not violate an individual's cultural norms, the present study
raises the possibility that mothers who exhibit less sophisticated regulative skill could be
identified and trained to adopt more reflection-enhancing techniques in an effort to
prevent their children from experiencing loneliness. Given that loneliness has been
found to predict a host of negative, long-term consequences such as depression,
alcoholism, and suicide (Jones et al., 1982; Peplau & Perlman, 1982), this finding is
particularly important and illustrates a possible point of intervention.

Summary

In sum, the results of the current study suggest that maternal communication
has a significant relationship with children's locus of control as well as a significant
indirect effect on children's loneliness via locus of control. Thus, it seems that mothers
have at least the potential to prevent their children from experiencing loneliness by using
reflection-enhancing messages to foster an internal locus of control orientation. In
addition, several marginally significant relationships between maternal communication
and children's social cognition, empathy, and self-efficacy for the inhibition of
aggression were observed. Because these relationships did not reach an acceptable level
of statistical significance, they must be interpreted with some caution; however, they do
provide some indication that mothers who use reflection-enhancing communication will
have children with more differentiated and abstract social cognitive systems, who are
more empathic, and who feel confident in their ability to inhibit aggression. The next
section discusses a variety of reasons why stronger and more consistent relationships among variables were not found.

**Accounting for Nonsignificant Findings**

The current study proposed that maternal communication would not only be associated with several measures of children's social cognition and motivation, but would also indirectly affect their loneliness. However, as noted above, the majority of the expectations regarding maternal communication either were not supported or received relatively weak support. Thus, subsequent analyses planned in anticipation of significant findings yielded null results as well. In the following section, both methodological and theoretical accounts are offered for the lack of significant findings.

**Methodological Accounts for Nonsignificant Findings**

There were a number of methodological problems associated with this study. While some of the problems were inherent to the particular measures used, others may reflect more general methodological concerns. First, in terms of the scenarios designed to elicit regulative communication, only the television situation produced messages that consistently shared significant relationships with other variables. This situation asked mothers what they would say to their child if they thought it was bedtime, but the child started to cry because he/she wanted to stay up and watch something on television. From the wording of the situation, it is clear that the child is violating a parent-created rule (bedtime) and that action on the mothers' part is necessary in order to deal with the violation. The other situations, however, do not contain a violation of a rule that is specifically created by the mother. These situations asked mothers to explain what they would say to their child if he or she (a) had taken flowers from a neighbor's garden and (b) was not sick but did not want to go to school.
Stealing and refusing to go to school are violations of general social standards; thus, they may not evoke the same kind of behavior from parents that violations of rules particular to the parent-child relationship do. As a result of its salience to the parent-child relationship, parents may have more clearly defined standards for reprimanding transgressions against their own rules than they do for reprimanding transgressions against more general, societal norms.

The personal nature of the violation depicted in the television situation may also explain why there was a considerable amount of variation in mothers' responses. That is, because bedtime rules and television viewing restrictions vary across parent-child dyads, parents' reactions in this context will most likely exhibit a range of variation as well. In fact, while mothers' responses to the flower and school situations tended to fall into the same category, responses to the television situation were evenly distributed among the four lower levels of the hierarchy. The variation in scores indicates that the television situation may be a better measure of regulative communication than either of the other two situations.

Although plausible, the situational effect described above is inconsistent with previous research. Past work has found that multiple responses to hypothetical situations comprise an internally consistent index of regulative communication; however, the three situations designed to elicit regulative communication in this study suffered from low reliability (Cronbach's alpha = .37). This suggests that responses to the hypothetical situations did not serve as multiple measures of the same construct. As a result, subsequent analyses compared maternal communication assessed in each situation with the various measures of children's social cognition and motivation. This method is problematic in that it essentially uses a single item as a predictor and assumes that the item is a valid assessment of the construct it is presumed to represent.
Perhaps one reason why indices of regulative communication used in previous work were more internally consistent than the one constructed in this study has to do with the number of items comprising the different measures. Whereas previous work has used five situations to elicit regulative messages, this project only used three situations. For example, in addition to the three situations used in this project, research by Applegate et al. (1985; 1992) also asked mothers to indicate what they would say to their child if he or she had stolen something from a store, or had hurt a playmate's feelings. Due to time constraints, the current study did not employ these situations. However, it is possible that more situations are needed to create an internally consistent measure. Moreover, it may be that the situations excluded from this study would have yielded a comparatively better measure of regulative communication than the ones selected.

Another explanation has to do with the way in which responses were elicited. In most previous research, responses to hypothetical situations have been tape recorded and then transcribed; this method has yielded consistently reliable indices of regulative communication, with Cronbach's alpha estimates ranging from .85 to .90. This study, however, asked mothers to write their responses to the various scenarios. It may be that spoken responses to hypothetical situations are a better reflection of actual communication than written ones. Thus, the reliability of the maternal communication index may have suffered because of the manner in which messages were elicited. Future research should compare written and oral responses to hypothetical situations to determine if both forms of message elicitation yield the same responses.

On a more general level, it may be that any response (either written or vocal) to hypothetical situations does not approximate actual behavior. In fact, very little work has examined the relationship between hypothetical situations and real-world behavior.
Although Applegate (1980) found significant associations between day-care teachers' responses to hypothetical situations and observations of their everyday communication with children, any conclusions drawn from his study must remain tentative until more research can support the validity of this approach. Thus, it may be that what people say they will do is different from what they actually do. If this is the case, then the hypothetical situations used in the current study may not have elicited the messages that children are actually exposed to and affected by.

This argument becomes even more salient when one considers that the context in which disciplinary messages occur may be difficult to replicate in hypothetical situations. Most likely, "real-world" situations requiring disciplinary action are very stressful and emotionally demanding. However, reactions to hypothetical situations are not confounded by emotions or "real-world" constraints. Although not directly related, some work suggests that the kinds of comforting behaviors individuals exhibit in real-world settings are affected by a number of factors including the extent of the target's need for help, the perceived cost of helping, and the mood and level of fatigue of the sender (Feinberg, 1977; Grodman, 1979). It is quite possible that these—and other—factors may affect regulative behavior as well. This suggests that the hypothetical situation may be unrealistic and reflect ideal, but not actual, communication strategies. In other words, although the hypothetical situation may tap the ability to produce relatively sophisticated messages, it may not be indicative of what mothers actually say in a regulative context when other factors may hinder their desire or willingness to demonstrate this skill. As a result, the data may not reflect the disciplinary messages that children are actually exposed to in their everyday experience.

In addition to the methodological problems associated with the measures of maternal communication, the measures of children's social cognition may have been
problematic as well. Previous research has used taped interviews with children to obtain their differentiation and abstractness scores; thus, it may be that children's written responses are not an accurate reflection of children's social cognition. Although Livesley and Bromley (1973) attest to the validity of using written responses to such tasks, it may be that in this sample, the children were not able to convey their impressions as thoroughly on paper as they would have been able to do verbally. Thus, while previous research has found strong relationships between mothers' reflection-enhancing communication and children's cognitive differentiation and abstractness using an orally administered version of the RCQ (Applegate et al., 1992; Applegate & Delia, 1990), it may be that children's written responses to this measure do not accurately reflect either the number or abstractness of their interpersonal constructs.

In sum, this study suffered from a number of methodological problems. In addition to problems regarding the specific measures used to assess maternal communication and children's social cognition, this study may have unjustifiably assumed that responses to hypothetical situations reflect real-world behavior. As a result, the indices of maternal communication used in the project may not represent the communication that mothers actually employ during their disciplinary interactions with children. These problems may be partly responsible for why anticipated relationships were not detected.

**Theoretical Accounts for Nonsignificant Findings**

Most likely, the methodological problems cited above do not entirely account for the lack of significant findings observed in the current project. There may also be a number of theoretical or conceptual reasons that might explain why maternal
communication was not significantly related to most measures of children's social
cognition and motivation. These explanations are outlined below.

First, it may be that other forms of maternal communication are more
closely connected to the social cognitive and motivational variables examined in this
study; in other words, the conceptual link between disciplinary strategies and some of
the children's variables assessed in this study may have been unwarranted.
Interestingly, in the indirect effects study on which this project was modeled, Applegate
et al. (1985; 1992) found positive associations between maternal comforting skill and
children's cognitive differentiation and abstractness scores. Although the authors also
observed a significant relationship between maternal regulative communication and
children's social cognition, their study suggests that comforting may have an equally as
strong (if not stronger) influence on children's social cognitive development.

Similarly, several studies have found significant relationships between other
forms of parental communication and children's empathy. For example, Fay (1970) and
Huckaby (1971) found that maternal affection, tolerance, and permissiveness was
positively associated with children's level of empathy. Other studies indicate that
parents who respond in an affectively positive manner (e.g., giving praise, showing
affection) have children with a more prosocial orientation toward their peers than
children whose parents respond more negatively (Baumrind, 1971; Bryant &
Crockenberg, 1980). Positive, nurturing behaviors such as these usually lend
themselves to situations in which the child needs to be reassured or comforted.
Although it was expected that reflection-enhancing messages would encourage the
development of children's empathic tendencies by encouraging them to make salient the
affective states of others, it may be that comforting communication is more directly
related to empathy than regulative communication is. In comforting situations, parents
explicitly address their children's feelings. Attention to their affective states, then, may teach children the value of feeling emotionally healthy and lead them to be more sensitive to others who are experiencing emotional distress. Regulative contexts, on the other hand, explicitly address the child's violation of a rule or norm; while parents may illustrate how important their rules are by encouraging children to consider the impact of behavior for others' feelings, this consideration may not be central to disciplinary contexts.

This explanation suggests that regulative situations may not elicit the kind of communication that is most relevant either to the child's developing sense of empathy or to his or her beliefs about the ability to behave prosocially. Although previous work has only examined children's self-efficacy in relation to parents' disciplinary styles (e.g., how coercive and intrusive they are), it could be that other forms of communication are important in shaping children's beliefs about their ability to behave aggressively as well. In sum, when compared to other types of communication (e.g., comforting), it is possible that regulative skill played a relatively insignificant role in the development of children's social cognition, empathy, and self-efficacy. Thus, future research should examine how a variety of parental communication skills shape the kinds of attitudes and beliefs children develop.

Alternatively, it may be that nonverbal communication is more directly related to the development of certain social cognitive and motivational traits than is verbal communication. In other words, it may be that what parents do is more important in shaping children's attitudes and behaviors than what they say. In fact, research suggests that observing a model yield to temptation and behave in a deviant manner tends to legitimize the behavior and undermine any pre-existing commitments to conforming behavior (Hoffman, 1970).
A number of observational studies support this claim and have found significant relationships between parents' nonverbal behaviors and children's traits. For example, Pettit et al. (1991) found that coercive and intrusive parents had children with higher scores for self-efficacy for aggression and lower scores for self-efficacy for prosocial behavior. In this study, coders watched parent-child interactions and categorized parents according to a host of verbal and nonverbal signals. Specifically, parents were rated for the extent to which they (a) participated in coercive and intrusive interactions with their children, and (b) engaged in "reflective listening," or showed sympathetic concern when the child was obviously frustrated. Results indicated not only that parental "coercion" and "sympathy" were reflected in both verbal and nonverbal behavior, but also that both verbal and nonverbal behavior predicted children's self-efficacy scores. Observational studies of the development of children's empathy have also found that parents' nonverbal displays of emotion are correlated with empathy in young children (Zahn-Waxler et al., 1979). Taken together, these studies indicate that nonverbal communication is an important correlate of children's social development. Future research should continue to examine parents' verbal and nonverbal behaviors in order to assess their relative impact on the development of children's traits.

Another possible explanation for the lack of expected relationships is that children participate in two distinct socialization processes—one occurring in the family and one occurring in the peer group. Youniss (1980) suggests that "...relations with adults and peers serve equally important but distinct functions in children's social development" (p. 67). It is possible that many attitudes and beliefs children develop are the result of interacting with peers rather than parents. In fact, Piaget (1965) argued that peer interactions may play a more important role than parent-child interactions in fostering a variety of children's traits such as role-taking ability and their conceptions of
morality. Hence, it may be that the variables assessed in this study are more susceptible to peer socialization influences than to maternal efforts.

In fact, the sample in the current project was composed of children in middle childhood—a developmental period in which the peer group is a particularly influential. Damon (1983) argues that at this age, children begin to see their peers as friends rather than merely playmates. As friendships develop, children start to identify more with their peer group and less with their parents. The peer group establishes its own norms for behavior and becomes a significant source of influence for children. Damon suggests that, as a result, adult-child interactions differ significantly from peer-peer interactions because the social relations existing between children serve different purposes and reflect different expectations than those between children and adults. Whereas children's friendships emerge out of shared needs for companionship and amusement, parent-child relations are structured around the child's need for protection and instruction. From this perspective, then, it could be that peers socialize children to think and behave in very different ways than parents do.

Similarly, Kagan (1971) claims that parents have their strongest influence on children younger than six, and that afterwards "interactions with peers and siblings become critical factors in molding [their] personality" (p. 140). He explains that during middle childhood, children begin to evaluate themselves in comparison to their peers, labeling themselves as "incompetent" or "unworthy" if their talents are not commensurate with others. During this period, then, peer acceptance becomes a particularly salient issue for the child, thereby prompting him or her to conform to peer standards in order to gain acceptance. According to Kagan, children specifically seek out acceptance from their peers rather than their parents, believing that peers will provide relatively more honest evaluations. Thus, the peer group is very important during
middle childhood, leading children to imitate the behavior of more popular children in order to gain more power for themselves. As Kagan suggests "the peer group exerts major control over the child because it represents important resources that the preadolescent requires" (p. 142).

Obviously, the distinction between the socializing influence of parents versus peers has important implications for the current study. Damon and Kagan both contend that children learn a different set of attitudes and skills from peers than they do from parents, and that by middle childhood, the influence of peers may be stronger than that of parents. Hence, the lessons taught by the peer group regarding the social world may not only be particularly salient to the group of youngsters sampled in this study, but may also be qualitatively different than the rules their mothers endorse. Because of the influence of peer socialization, relationships between maternal communication and children's social cognition and motivation may not have been particularly strong for this group of children.

Finally, a more radical explanation for the current results comes from one facet of the small group literature which suggests that communication simply may not be an important predictor of behavior. In a seminal article, Hewes (1986) criticized small group research for seeking to identify how communication influences group decision-making without first determining if communication has an impact at all. Of particular relevance to the current study is his claim that "input" variables (e.g., abilities of interactants, personalities) are more important predictors of outcomes than is communication. According to Hewes, there exists a substantial body of research suggesting that communication has little impact on group decision-making, and that the pre-existing traits and abilities of participants are more important predictors of the decisions groups make than the communication strategies they use to accomplish this
goal (see Lorge & Solomon, 1955; McPhee & Seibold, 1981; Taylor, 1954). For example, several studies of group performance tasks have found that input variables such as individual abilities in completing a task predicted performance as accurately as training methods designed to improve communication skills among group members (Davis, 1969; Davis & Restle, 1963). In other words, input variables were just as useful in predicting outcomes as was the interaction among groups members. Thus, it could be that the process of interaction is less important in determining certain competencies than are individuals' pre-existing traits and abilities.

Hewes suggests that any inquiries concerning the relationship between interactions and outcomes need to include measures of potentially influential "noninteractive" or "input" variables and control for them. Interestingly, in the current study, the sex and grade level of children were found to be important noninteractive variables that influenced their social cognitive and motivational tendencies. In fact, these variables had to be partialled out in statistical tests to examine whether maternal communication had any additional effect on social cognition and motivation. Interestingly, removing the influence of sex and grade level from the relationships between children's loneliness and their cognitive differentiation, self-efficacy for inhibiting aggression, and self-efficacy for prosocial behavior rendered their statistically significant zero-order relationships nonsignificant. In some cases, then, noninteractive variables such as sex and grade level were found to be more important influences on children's social cognition, motivation, and loneliness than was the "interactive" variable of maternal communication.

If we extend Hewes' claims, it might be argued that children's social cognition and motivation are also input or noninteractive variables which result from pre-wired tendencies rather than socialization. Although the current project assumed that
parents influence the development of children's social cognitive and motivational traits via communication, it could be that these tendencies are biologically determined (like sex and age); hence, they may not be as susceptible to the influence of maternal communication as was hypothesized.

In fact, researchers have long been debating the relative influence of biological traits in comparison to socialization practices on the development of children's traits (Damón, 1983). Although researchers seem to agree that development does not hinge upon either nature (inborn biological capacities) or nurture (the social environment), the central issue has become one of determining the relative contributions of each. Some researchers adhere to a "biological-maturation" perspective (Cole & Cole, 1989) and claim that the influence of socialization on children's development is presumed to be secondary to pre-wired behavioral tendencies. According to this perspective, we develop "endogenously," or from the inside, due to our biological endowment. Developmental changes, then, are presumed to result from maturation when biologically determined patterns of change occur. Interestingly, a good deal of research supports this claim. For example, studies have shown that temperament and intelligence are both largely inherited (Plomin & DeFries, 1985). Other works suggests that a number of basic intellectual abilities are present in embryonic form, and that the development of these competencies depends not on interaction but on genetics (Baillargeon, 1987). While socialization practices may exaggerate or temper these natural tendencies, their impact is believed to be relatively weak (Cole & Cole, 1989). Thus, it may be that children's genetic endowment determines how and when they develop certain personality traits such as those targeted for study in the current project. If this is the case, then pre-determined biological factors may be more important than maternal communication in shaping the development of children's social cognition and
motivation. To use Hewes' terms, it may be that pre-existing input variables are more important predictors of the outcomes children experience than is communication.

In sum, a number of theoretical or conceptual accounts may explain why expected relationships between maternal communication and children's social cognition and motivation did not emerge. First, it may be that disciplinary contexts do not elicit the kind of messages from parents that are most likely to foster their children's social cognitive and motivational development. Secondly, given that this sample was composed of youngsters in middle childhood, it may be that the influence of the peer group is more important than parents in shaping children's beliefs, attitudes, and behavior. Finally, as some researchers have suggested, it may be that communication is just not as important as certain biologically determined traits in the development of social cognitive abilities and motivational tendencies.

Although relationships among children's social cognition, motivation, and loneliness were not specifically hypothesized in the current study, a number of interesting findings regarding these variables did emerge. These relationships suggest a number of possibilities that future research should explore. These findings, as well as possible explanations for them, are discussed in the following section.

**Relationships between Children's Social Cognition and Motivation**

A number of interesting relationships among children's social cognition and motivation were observed. Although no relationships emerged between the two indices of social cognitive ability, all of the motivational tendencies were inter-related. In addition, one significant relationship between children's social cognition and their motivation was found. Each of these general patterns is discussed below.
Contrary to previous research, children's cognitive differentiation was not related to their cognitive abstractness. As noted earlier, this finding (or lack thereof) may be due to the study's methodological divergence from previous work. Other studies have found significant relationships between cognitive differentiation and abstractness using orally administered versions of the RCQ with samples of first and third graders (Applegate et al., 1985; 1992) and first through twelfth graders (Burleson, 1984b). Thus, perhaps the written version of the task was not an appropriate measure of social cognition because it discouraged children from generating an exhaustive list of their interpersonal constructs.

Alternatively, it may be that more abstract systems of interpersonal constructs do not necessarily coincide with a greater number of interpersonal constructs for children of this age group. Given that physical characteristics and behaviors were included in children's cognitive differentiation scores, it is possible that some children had very large repertoires of concrete interpersonal constructs. Although adults typically have more abstract construct systems, children's conceptions of others may largely be dominated by concrete considerations. Children from this sample tended to have relatively concrete constructs and evaluated peers according to their social roles and demographic characteristics. Prior research (Barenboim, 1981) suggests that children have very few abstract constructs prior to late childhood or early adolescence. Because this sample was comprised of youngsters in middle childhood, abstractness may not have been a very good indicator of social cognitive ability. In other words, the ability to generate and report constructs may say very little about the children's capacity to think abstractly. This may be one reason why significant relationships between abstractness and differentiation (as well as other traits) were not located.
Interestingly, all of the motivation variables were related to one another. Given that locus of control, empathy, and self-efficacy were all presumed to reflect various dimensions of motivation, it makes sense that they were inter-related. The statistical confirmation of this assumption suggests that these measures are, in fact, valid indicators of motivation. Thus, the child who had an internal locus of control was also more empathic, felt more confident in his or her ability to inhibit aggression and behave prosocially, and felt less confident in his or her ability to enact aggression. Overall, then, it seems that children can be characterized by a general prosocial orientation that incorporates a number of different motivational tendencies. Future research should look at whether this constellation of motivation variables increases the ability to predict subsequent behavior that lead to outcomes such as peer acceptance, rejection, and loneliness.

Regarding the interaction between social cognition and motivation, children who were cognitively differentiated were also found to be more empathic than their less differentiated counterparts. Given that children with differentiated construct systems are able to consider others along many dimensions (including others' feelings), it makes sense that high differentiation scores were associated with greater empathy. That is, if others' feelings and psychological traits are salient to children in their descriptions of others, they will most likely be more aware of another's distress and, therefore, experience greater empathy toward them. It is surprising that cognitive abstractness was not related to empathy given that abstract constructs reflect an awareness of psychological traits and emotional dispositions. However, as noted earlier, perhaps children of this age group simply do not have very abstract interpersonal construct systems.
It is important to note that the child's sex and age had important influences on many of their social cognitive and motivational tendencies. When compared to boys, girls were more cognitively differentiated, more empathic, and felt more confident in their ability to inhibit aggression and behave prosocially; on the other hand, boys felt more confident in their ability to behave aggressively than girls did. These findings are consistent with previous research. A good deal of research suggests that females are generally more empathic than males during childhood and throughout adolescence (Adams, Schvaneveldt, & Jenson, 1979; Bryant, 1982; Hoffman, 1977; Mehrabian & Epstein, 1972). The current study also replicates previous work which has found that boys feel more confident in their ability to enact aggression than girls do (Perry et al., 1986). Interestingly, there is also a large body of literature that suggests that boys are, in fact, more aggressive than girls in their actual behaviors (Feshbach, 1975; Maccoby & Jacklin, 1983). Taken together, these studies suggest that boys not only feel confident enacting aggressive behavior, but also behave more aggressively than girls.

Finally, this study also indicates that girls are more differentiated than boys. Previous work has found the same sex differences among adults' cognitive differentiation scores. The current project, then, suggests that differences in males' and females' social cognitive ability may begin in middle childhood.

In sum, many of the traits measured in this study were influenced by the child's sex. From the biological maturation perspective outlined earlier, it may be that sex differences account for a variety of abilities and personality traits children exhibit regardless of the type of socialization they receive. That is, perhaps females are genetically more prone toward developing more complex conceptions of the social world and experiencing greater levels of empathy and more confidence in their ability to inhibit aggression and behave prosocially. In contrast, males may be genetically more prone to
aggression than females. From this perspective, it may be that the influence of socialization is minimal when compared to what our genetic make-up dictates.

Alternatively, it could be that girls are subject to different socialization practices than boys. That is, perhaps girls receive different messages than boys—namely, ones which encourage them to be concerned with others' feelings. Although the current data did not indicate any main effects of gender of maternal communication, previous work has found that parents communicate differently with their daughters than they do with their sons. Parents not only communicate more with their daughters, but also encourage them to express their feelings and emotions more than sons (Tannen, 1990). It is also possible that the peer group is influential in shaping children's traits. Hence, the girls in this sample may receive different messages from their peer group than boys regarding the salience of others' perspectives and feelings. In sum, because girls may be held to different standards than boys, it is possible that they are subject to unique socialization practices occurring in both the family and the peer group.

Although it was expected that fourth- through seventh-grade children would comprise a developmentally consistent cohort, this study suggests that important age-related changes in social cognition and motivation occur during this time. First, older children were more cognitively differentiated than younger children. This finding is consistent with previous research which has shown that children's interpersonal constructs systems become more differentiated over time (Barenboim, 1977; Livesley & Bromley, 1973; Scarlett, Press, & Crockett, 1971). Thus, it seems that children's social cognitive systems may be become more complex as a function of their maturation. Second, this data suggests that older children felt more confident in both their ability to behave aggressively and prosocially. Although this finding seems contradictory, it suggests that as children mature, they generally become more confident in their potential
to enact certain behaviors. That is, regardless of the nature of the action, children may simply become increasingly more confident in their ability to behave as they gain more and more experience as members of the social world.

These age-related findings suggest that important changes may not only occur at each stage of children's development, but also may occur within stages. Most research examines developmental changes in children by comparing vastly different cohorts. Thus, studies compare differences between children in early childhood and late childhood, or between children in middle childhood and adolescence. However, the current study suggests that changes occur within these stages as well. That is, seventh graders in this study had different traits than children who were just one year younger than them. Future research should continue to investigate children's development as it occurs within major stages so that a complete model of changes in children's social cognition and motivation can be advanced.

To summarize, most of the children's social cognitive and motivational tendencies were associated with one another. Although children's social cognitive abilities were not inter-correlated, their motivational tendencies were. In addition, children's cognitive differentiation was related to their level of empathy. Taken together, these results suggest that positive, pro-social orientations tend to be associated with specific cluster of traits in children. Additional research is needed, however, to uncover more about the nature of these relationships and their implications for the outcomes children experience. The following section outlines their implications for one outcome--loneliness. Findings regarding the observed relationships among children's social cognition, motivation, and loneliness are discussed next.
Relationships among Children's Social Cognition, Motivation, and Loneliness

Relationships among children's social cognition, motivation, and loneliness were examined for a number of reasons. First, relatively little is known about children's loneliness and its antecedent conditions. Given that previous studies indicate approximately 8 to 10% of children under the age of 11 are lonely (Peplau & Perlman, 1982), there is a need to learn more about this condition, especially as it occurs in children. Second, most previous work has considered how children's social cognitive and motivational tendencies influence objective measures of social standing such as sociometric ratings and teacher ratings of social competence. The current study incorporated a measure of children's loneliness to examine whether these variables predict a subjectively-experienced outcome as well.

Overall, results indicated that children's loneliness was associated with their locus of control, empathy, and self-efficacy for the inhibition of aggression. Specifically, when compared to their lonely counterparts, children who were not lonely had internal locus of control orientations, felt more confidence in their ability to inhibit aggression, and had higher levels of empathy. Thus, loneliness seems to be more strongly related to children's motivations than to their social cognitive abilities. Moreover, there appears to be a constellation of motivational variables that predicts loneliness.

Locus of control and loneliness exhibited the strongest association of any of the children's variables examined in the study. Perhaps individuals who believe they have control over influencing events and other people feel greater confidence in their ability to make friends. This confidence may motivate them to seek out friends, thereby
rendering them less lonely. Consistent with this line of research, research has shown that internals typically are more interested in having friends (Hjelle, 1975), have better social skills (Deysach et al., 1975), are considered more attractive by peers (Cash & Begley, 1976; Nowicki & Blumberg, 1975), and earn higher sociometric ratings (Nowicki, 1975) than individuals with external orientations. Thus, locus of control appears to be linked with both objective measures of social status and subjective measures of social satisfaction among children.

The finding that internality was related to loneliness is consistent with previous research conducted with adolescents (Moore & Schultz, 1983), college students (Jones et al., 1981; Solano, 1989) and the elderly (Schultz & Moore, 1986). Hence, the current study extends previous work with older populations by suggesting that locus of control orientations are also associated with children's loneliness. This finding is important because it indicates that some of the same variables that predict adult loneliness also predict children's loneliness. This suggests that locus of control and loneliness maintain a strong and consistent relationship with one another that may begin in childhood and continue throughout adolescence and adulthood. Given the host of negative, long-term consequences associated with loneliness, it is important that we trace its etiology so that a destructive chain of events does not occur. Thus, identifying the age at which loneliness first occurs and isolating the variables that are consistently related to its development can aid researchers in developing more useful intervention programs.

Children's loneliness was also found to be predicted by empathy and self-efficacy for the inhibition of aggression. Youngsters who were more empathic and who felt confident in their ability to inhibit aggression felt less lonely than children who had lower levels of empathy and were less confident in their ability to inhibit aggression.
Although previous research has not examined these inter-relationships before, it makes sense that empathy and self-efficacy scores were related to loneliness. For example, it may be that in the process of empathizing with others, children feel more connected to their peers because they share similar emotions; experiencing this connection may, in turn, foster a sense of satisfaction with social relationships. Alternatively, children who are more empathic may actually show more concern and sensitivity toward others and, therefore, be more popular. In fact, research suggests that empathic children earn higher sociometric ratings from peers than non-empathic children (Aronfreed, 1970; Bryant, 1982).

The same set of arguments can be made for self-efficacy as well. That is, children who believe they can inhibit aggression may be more competent social actors than children who do not believe they can control their aggression. In fact, Perry et al. (1986) found that children who were confident in their ability to inhibit aggressive acts behaved more competently and earned higher sociometric ratings than children who were not as confident regarding this ability. A growing body of evidence thus suggests that children who are empathic and who feel confident in their ability to inhibit aggression may be judged more favorably by their peers and thus experience less loneliness.

While it was expected that social cognition would also be significantly associated with loneliness, this relationship did not emerge. Neither cognitive differentiation nor abstractness was found to predict loneliness. Some researchers argue that social cognition imparts the ability to behave favorably (Marsh et al., 1981; Staub, 1974). However, the current study suggests that ability (in this case, cognitive differentiation and abstractness) is not a crucial predictor of outcomes such as loneliness and that motivational traits (empathy and self-efficacy for the inhibition of aggression)
are more relevant. Perhaps, then, children's ability to consider others in a sophisticated way does not guarantee that favorable behavior will be enacted. Future research should continue to explore the relative influence of "ability" and "motivation" in predicting outcomes so that a complete and consistent model can be advanced.

In sum, then, the present study found that motivational indices tapping children's perceptions of themselves (locus of control) and feelings toward others (empathy and self-efficacy for the inhibition of aggression) were significant predictors of loneliness. Specifically, children with internal orientations, higher levels of empathy, and more confidence in their ability to inhibit aggression felt less lonely than children who exhibited the opposite pattern of motivational tendencies. Future research should continue to explore the relationship between children's motivations and their subjective experience of the social world.

**Limitations of the Current Study and Suggestions for Future Research**

As noted earlier, this study suffered from a number of methodological problems that may have hindered the ability to detect significant results. In addition to these limitations, the current project was also constrained by a number of other factors. First, the size of the sample was relatively small and therefore reduced the power to detect significant results. For the most part, the length of time required to undertake this project caused a relatively high attrition rate among participants. Children were given surveys on a number of different days during the school week. Given that the administration of the surveys required so many days of attendance, children had a greater chance of being absent when surveys were given. In fact, a number of children were not able to complete all five measures. These absences reduced the total sample
size of 155 mother-child dyads to 124. If possible, future research should avoid procedures which require children to complete surveys over several days.

Second, the self-report nature of the children's measures may have provided somewhat biased data. Using questionnaires to assess attitudes and beliefs is always problematic in that researchers must assume respondents are reporting their true feelings and not answering in a socially desirable manner. It is possible that children completing these surveys responded in a way they thought would be acceptable rather than as they truly felt. This possibility is particularly relevant to the loneliness measure in which children must evaluate their social status and skills. Due to the sensitive nature of these questions, it is possible that children reported feeling less lonely than they actually are. Furthermore, although children were asked to answer honestly and were assured that they would not be graded on their answers, it is possible that they regarded the questionnaire as a test. If this is the case, then children may have distorted their answers in order to respond in a way they believed was "correct."

The self-report nature of mothers' responses may have been problematic for similar reasons. It is possible that mothers responded to the situations in a way they thought was appropriate, regardless of what they actually do in real-world regulative contexts. If possible, future research should supplement self-reported disciplinary strategies with observations of real-world behavior. Although it is likely that parents will try to behave in a socially desirable way when they are observed, perhaps this approach may be a more representative of actual behavior than written responses to hypothetical situations.

Third, this study did not include any measure of fathers' communication. However, fathers are often the primary disciplinarians in families (Cole & Cole, 1989); thus, their communication may have more impact on the development of children's
social cognition and motivation than mothers' communication. Previous research has shown that fathers may play a more important role in their sons' socio-moral development than mothers do (Feshbach, 1978). For example, Feshbach (1975) found that critical and restrictive fathers had sons who were more likely to cheat, were more aggressive, and less generous and daughters who were more likely to cheat and have difficulty resisting temptation than children whose fathers were nurturing and accepting. Although maternal styles were also found to influence girls' socio-moral development, they did not affect boys' traits. Thus, it could be that fathers' regulative communication is more strongly related to the variables measured in this study than mothers' communication. As Feshbach suggests, future research should explore the socialization practices of both mothers and fathers to gain a complete understanding of children's development.

Finally, this study is limited in that it examined only one piece of a larger model. The complete model upon which the project was based suggests that maternal communication influences children's social cognition and motivation which, in turn, affects communicative development and subsequent outcomes. Because the current study did not obtain measures of children's communication skills and objective reports of their social satisfaction, it remains an incomplete depiction of events. Future research should obtain data pertaining to all of the links in this model to empirically replicate and examine the complete theoretical structure.

**Conclusion**

This study suggests that the way in which mothers communicate with their children may have important consequences for children's social cognitive and motivational development. In particular, mothers who regulate their children's behavior
by using reflection-enhancing communication are more likely to have children with an internal locus of control orientation. Furthermore, children with internal locus of control orientations are less likely to experience loneliness. Thus, mothers also may have the potential to influence how socially satisfied their children feel.

Overall, the results of this study were weak; therefore, interpretations and generalizations of the reported findings should be made with caution. With these qualifications in mind, however, this study has important implications for the literature on parenting and socialization. First, it does seem that parents play a significant role in their children’s social development. Not only do parents influence how their children think about the social world, but they also influence which motivations will be most salient to them. Furthermore, given that children’s motivation may be an important predictor of how lonely they feel, it is possible that mothers play an indirect, but important role in their children’s level of perceived social satisfaction. Thus, mothers may be responsible for equipping their children with the proper tools for establishing a satisfying social life.

This study also highlights the influence of certain message features contained in mothers’ communication on children’s developing conception of the social world. While reflection-enhancing communication transmits overt messages pertaining to the regulation of children’s behavior, it also provides children with a certain scheme or logic for viewing and understanding the social world. Examining message features, then, may be a viable approach to understanding stylistic differences in parenting and may explain why children whose parents communicate in qualitatively different ways exhibit very different traits.

Although most conceptions of socialization center around mothers preparing their children to behave in the social world, this study suggests that mothers also train
their children how to think about the social world. In particular, it seems that children who are socialized within a person-centered orientation experience more positive outcomes than children who are socialized within a position-centered approach. Thus, it may be that children determine their own outcomes by selecting certain behaviors, but certainly mothers are responsible for conditioning children and motivating them to choose those behaviors that will yield greater rewards.

Disciplinary interactions are important building blocks for children in establishing their own conceptions and expectations of relationships beyond this context. If communication has important consequences for children's outcomes, then parents have the power to amend what may be dysfunctional strategies and make more positive contributions to their children's developing orientations toward the social world. By talking with their children, parents not only send messages in order to achieve identifiable goals, but also prepare their children to live in the social world. Although communication functions to accomplish immediate tasks such as regulating behavior, the lessons learned from these messages have long-term effects. Thus, the cumulative influence of parental discipline imparts lessons to children that will last them a lifetime.
REFERENCES


Nowicki, S. (1981). *A short form of the preschool and primary Nowicki-Strickland Internal-External Control Scale*. Unpublished manuscript, Emory University, Atlanta, GA.


Samter, W. (1989, December). *Communication skills predictive of interpersonal acceptance among college students in a group living situation: A sociometric study*. Unpublished manuscript, Purdue University, West Lafayette, IN.


Samter, W., Burleson, B. R., & Basden, L. (1985). *Effects of comforting strategy type, sex, and cognitive complexity on impressions of a speaker*. Unpublished manuscript, Purdue University, West Lafayette, IN.


Appendix A

INFORMED CONSENT FOR MOTHERS AND CHILDREN

Dear Parent,

As a parent, you have your own unique way of talking to your child. Research suggests that the way that parents communicate with their children has important consequences for their social development. As a graduate fellow at the University of Delaware's Communication Department, I am hoping to investigate this relationship for my Master's thesis.

In order to complete my thesis, I am asking for both your and your child's cooperation in completing a number of different surveys. The form that you complete will ask you to describe what you would say to your child in order to discipline him or her in three hypothetical situations. It should take you about fifteen to twenty minutes to complete. In addition, your child will complete five different surveys during school over a one-week period. Your child will be asked the degree to which he or she agrees or disagrees with a variety of statements designed to measure (a) the degree to which he or she feels responsible for controlling certain events, (b) the degree to which he or she experiences the emotional states of others, (c) his or her perceptions of his or her ability to perform certain behaviors, (d) the degree to which he or she feels lonely, and (e) his or her feelings about relationships. Each survey should take the children about fifteen to twenty minutes to complete.

Because previous research has mostly examined responses from mothers, I am interested primarily in responses from female care-takers (e.g., mothers, step-mothers, grandmothers) if applicable. However, if you are male and function as the your child's primary care-taker (e.g., father, step-father, grandfather), then your responses are also welcomed.

Please be aware that the surveys you and your child will complete have been used in past research, and that there are no apparent risks to either you or your child if you choose to participate in this study. In addition, you may be assured that both your and your child's responses will remain confidential.

Once this information is gathered, I will then be able to assess the relationship between parents' communication style and their children's attitudes and beliefs about the social world. This information may be very useful to parents hoping to improve their communication with their children by illustrating the effectiveness of certain styles over others. It is my hope that parents will take what is learned from this project and apply it to their own interactions with their children so that more satisfying parent-child relationships can be developed.

You and your child's participation in this project would be of great value. We believe this is a very important study for both parents and children, and your contribution would allow us to fulfill our goals in learning more about the influence of
mothers' communication on their children. If you would like, I would be happy to share the results of this study with you. If you have any questions about the nature of this project, please feel free to contact either me (302) 456-3693 or my advisor, Dr. Wendy Samter (302) 831-8041. Please be aware that participation in this project is voluntary, and that you may refuse or discontinue participation at any time without any penalty to either you or your child. If you do not wish to have you and your child participate in this project, please sign below in the space provided, and then return this letter to your child's teacher within one week. An extra consent form is provided for your records. If you would like to participate, please fill out the attached questionnaire and then return it to your child's teacher within one week. Thank you very much for your time and consideration!

Sincerely yours,

Amy Nathanson
Master's candidate
Department of Communication
University of Delaware

I do NOT give my consent for both my and my child's participation in this project.

Signature..............................................................................................................

Date......................................................................................................................

Name (Print)........................................................................................................
Informed Consent for Children

I am interested in learning more about you and how you think. Each day this week, I will read you some questions about how you feel. There are no right or wrong answers to the questions—I just want you to know how you feel about different things. Each survey should take about fifteen or twenty minutes for you to fill out. If you have any questions about how to fill out the forms, you can ask me. If you don't feel like finishing the surveys, you can stop answering the questions. At the end of the week, I would like to spend some time talking to you. If you would like to answer my questions and if it's okay for me to talk to you, please write your name on the line below. I want you to have a copy of this too, so please write your name on the form on the next page too. If you don't want to participate, that's okay too.

Thanks a lot for your help!

I'd like to fill out the surveys and talk to the researcher:

Name...........................................................................................................................................
Appendix B

ROLE CATEGORY QUESTIONNAIRE FOR CHILDREN

I'd like to know how you think about other people. First I'd like you to think about someone your age who you really like and who you think is a good friend. Make sure that you are thinking about somebody you know, and not somebody you have seen on TV or read about. I want you to think about this person for a couple of minutes and then I'm going to ask you to write about this person on the lines at the bottom of this page. I want you to tell me what they are like, how they act, and how they treat you and other people. Really try and think hard about this person and then tell me about them.

I want you to describe the person as carefully as you can. I don't want you to tell me how tall they are, or whether they are fat or thin, whether they have brown eyes or blue eyes, dark hair or fair hair. I don't want you to tell me what sort of clothes they wear. Instead, I want you to describe what sort of person they are. I want you to tell me what you think about them and what they are like.

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

180
Now I'd like you to think about someone your age who you don't like as much. Make sure that you are thinking about somebody you know, and not somebody you have seen on TV or read about. I want you to think about this person for a couple of minutes and then I'm going to ask you to write about this person on the lines at the bottom of this page. I want you to tell me what they are like, how they act, and how they treat you and other people. Really try and think hard about this person and then tell me about them.

I want you to describe the person as carefully as you can. I don't want you to tell me how tall they are, or whether they are fat or thin, whether they have brown eyes or blue eyes, dark hair or fair hair. I don't want you to tell me what sort of clothes they wear. Instead, I want you to describe what sort of person they are. I want you to tell me what you think about them and what they are like.
LEVEL 2: (A) SOCIAL ROLE, DEMOGRAPHIC, AND BEHAVIORAL CONSTRUCTS.

Such constructs refer to specific, concrete aspects of the other's social status, demographic characteristics, and actions:

"He's very popular" (social status)
"She's my best friend" (social status)
"People like him" (social status)
"He's in the fourth grade" (demographics)
"She goes to this school" (demographics)
"He calls me names" (specific action)
"He laughs at anything" (specific action)
"He talks about me behind my back" (specific action)

(B) SPECIFIC INTERESTS AND ABILITIES

Such constructs refer to specific, concrete aspects of the other's interests, preferences, and abilities:

"He likes to play sports" (specific interest)
"She's good at math" (specific ability)

LEVEL 3: (A) GLOBAL EVALUATION.

Such constructs express a general affective evaluation of the other, or a statement of the other's general abilities or interests:

"She's a real bitch" (affective evaluation)
"He's a good person" (affective evaluation)
"He's rude, and a show-off" (affective evaluation)
"She's really nice" (affective evaluation)

"She's really intelligent" (statement of general ability)

"He tries, but he always blows it" (statement of general ability)

"He tries to be funny" (reflects a general interest in being funny, NOT a specific behavior)

(B) GENERAL INTEREST, ATTITUDE, AND ABILITY CONSTRUCTS (SPECIFIC TO ONE RELATIONSHIP AND SITUATION).

Such constructs refer to general abilities or psychological characteristics of the other relevant in a specific context or relationship:

"He's nice to me" (a characteristic that is specific to a certain relationship)

"He treats me like he treats everyone" (a characteristic that is specific to a certain relationship, not a specific behavior)

"She makes me feel better" (a general ability that is specific to a certain relationship)

LEVEL 4: ABSTRACT, PSYCHOLOGICALLY CENTERED CONSTRUCTS.

Such constructs refer to general traits, dispositions, and motivations that have implications for the other's conduct and character across a range of situations and relationship.
(A) CONSTRUCTS THAT RECOGNIZE THE FLEXIBILITY OF BEHAVIOR:

These constructs recognize that one's demeanor may change according to the situation:

"He's shy with girls" (reflects an awareness that this characteristic fluctuates according to the situation)

"Sometimes she's rude, but not usually"

(B) CONSTRUCTS THAT DESCRIBE GENERAL CHARACTERISTICS (ACROSS ALL RELATIONSHIPS AND SITUATIONS)

These constructs classify others in terms of how they act in general, rather than describing how they interact in a specific context or relationship:

"He's kind and gentle to others" (reflects an awareness that this disposition endures across all relationships, rather than being specific to one relationship [e.g., "he's kind to me"])

"She treats others with respect"
Appendix D
THE NOWICKI-STRICKLAND INTERNAL-EXTERNAL CONTROL SCALE FOR CHILDREN

1. Are some kids just born lucky? yes no
2. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? yes no
3. Do you feel that most of the time parents listen to what their children have to say? yes no
4. Do you believe that wishing can make good things happen? yes no
5. Do you feel that it's nearly impossible to change your parent's mind about anything? yes no
6. Do you feel that when you do something wrong there's very little you can do to make it right? yes no
7. Do you believe that most kids are just born good at sports? yes no
8. Are most of the other kids your age stronger than you are? yes no
9. Do you feel that one of the best ways to handle most problems is just not to think about them? yes no
10. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?

11. Have you felt that when people were mean to you it was usually for no reason at all?

12. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?

13. Most of the time do you find it useless to try to get your own way at home?

14. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?

15. Do you usually feel that you have little to say about what you get to eat at home?

16. Do you feel that when someone doesn't like you there's little you can do about it?

17. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?

18. Are you the kind of person who believes that planning ahead makes things turn out better?
19. Most of the time, do you feel that you have little to say about what your family decides to do?

*Affirmative responses to starred items indicate external responses
Appendix E

INDEX OF EMPATHY FOR CHILDREN AND ADOLESCENTS

1. It makes me sad to see a girl who can't find anyone to play with.  yes  no
2. People who kiss and hug in public are silly. yes  no
3. Boys who cry because they are happy are silly. yes  no
4. I really like to watch people open presents, even when I don't get a present myself. yes  no
5. Seeing a boy who is crying makes me feel like crying. yes  no
6. I get upset when I see a girl being hurt. yes  no
7. Even when I don't know why someone is laughing, I laugh too. yes  no
8. Sometimes I cry when I watch TV. yes  no
9. Girls who cry because they are happy are silly. yes  no
10. It's hard for me to see why someone else gets upset. yes  no
11. I get upset when I see an animal being hurt. yes  no
12. It makes me sad to see a boy who can't find anyone to play with. yes  no
13. Some songs make me so sad I feel like crying. yes  no
14. I get upset when I see a boy being hurt. yes  no

*15. Grown-ups sometimes cry even when they have nothing to be sad about. yes  no

*16. It's silly to treat dogs and cats as though they have feelings like people. yes  no

*17. I get mad when I see a classmate pretending to need help from the teacher all the time. yes  no

*18. Kids who have not friends probably don't want any. yes  no

19. Seeing a girl who is crying makes me feel like crying. yes  no

*20. I think it's funny that some people cry during a sad movie or while reading a sad book. yes  no

*21. I am able to eat all my cookies even when I see someone looking at me wanting one. yes  no

*22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules. yes  no

*Items for which response order is reversed in scoring
Appendix F

SELF-EFFICACY SCALE FOR CHILDREN

1. On the playground, another kid bumps into you. Calling the kid bad names is ________ for you.

   HARD!    hard    easy    EASY!

2. A kid gets in your way when you're in a hurry to get all your stuff together and leave at the end of school. Shoving the kid out of the way is ________ for you.

   HARD!    hard    easy    EASY!

3. A new kid comes to school and doesn't have any friends yet. Talking to the new kid so that the kid doesn't feel lonely is ________ for you.

   HARD!    hard    easy    EASY!
4. In class a kid is passing out birthday party invitations and you are not invited. You really feel like yelling something mean at the kid, but you decide not to. Not yelling at the kid is ____________ for you.

HARD! hard easy EASY!

5. The class is working on large posters and you really want to use the big paint brush for your poster, but another kid takes the big brush just as you reach for it. You want to grab it away but decide not to. Not grabbing the brush is ____________ for you.

HARD! hard easy EASY!

6. You see a bicycle coming towards a little kid. It looks like it might knock the little kid down. Running over and helping the kid get out of the way is ____________ for you.

HARD! hard easy EASY!
7. A group of kids want to play a game that takes five players. They need you to play it. It's a game you hate to play, but you decide to go ahead and play it with them anyway. Playing that game with them is __________ for you.

HARD!    hard    easy    EASY!

8. A kid is playing with a game that you want to play with. You ask the kid to give you the game but the kid says "no." Swearing at the kid is __________ for you.

HARD!    hard    easy    EASY!

9. Some friends are over and it's time for your favorite TV program to start. Everybody wants to watch something different. You talk about it and then you agree to let them pick the program. Telling your friends that you will let them choose the program is __________ for you.

HARD!    hard    easy    EASY!
10. While playing soccer a kid prevents you from making a goal. You really want to get the kid back by pushing the kid hard but you decide not to. Not pushing the kid back is ________ for you.

HARD! hard easy EASY!

11. Some kids get mad and start fighting on the playground. You are caught in the middle of it. Fighting is ________ for you.

HARD! hard easy EASY!

12. During recess some of your friends are teasing another kid. You feel like joining in the teasing with your friends, but decide not to. Not helping your friends tease the kid is ________ for you.

HARD! hard easy EASY!

13. On your way home from school a kid grabs your notebook and throws it in the dirt. You really feel like shoving the kid into a mud puddle nearby but decide not to. Not shoving the kid into the mud puddle is ________ for you.

HARD! hard easy EASY!
14. The neighborhood kids are playing a game that you don't like to play. You suggest a different game, but the kids say "no." Laughing and yelling at the kids so that they have trouble playing the game is___________ for you.

    HARD! hard easy EASY!

15. A retarded kid who goes to your school comes up to you on the playground and asks you how to kick the soccer ball. You'd really rather be playing soccer with your friends. Showing the kid how to kick the soccer ball is___________ for you.

    HARD! hard easy EASY!

16. Your class is playing a game on the playground but one of the kids is not as good as the rest at the game. It takes some of the fun out of it. You feel like teasing the kid and calling the kid names, but decide not to. Not calling the kid names is ________________ for you.

    HARD! hard easy EASY!
17. A kid comes to school with a new haircut and all the class laughs at the kid. You feel like laughing too but you can tell that the kid feels bad. Saying something nice to the kid to make the kid feel better is for you.

    HARD!    hard    easy    EASY!

18. At the end of recess you run to the drinking fountain to get a drink of water. Another kid is also running to the drinking fountain. Pushing the other kid so that you can get there first is __________ for you.

    HARD!    hard    easy    EASY!

19. While playing soccer, one of your teammates is not paying attention and lets the ball get stolen away by the other team. Shouting at your teammate and calling your teammate a crummy player is __________ for you.

    HARD!    hard    easy    EASY!
20. A kid comes to school one day with a broken arm. Because of the broken arm this kid is having a hard time carrying stuff. Going over and helping this kid is __________ for you.

HARD! hard easy EASY!

21. At recess you and your friends are playing baseball. You and another kid both want to play the same position. You decide to let the other kid play the position. Telling the other kid it's O.K. to play that position is _______ for you.

HARD! hard easy EASY!

22. Getting on the bus for a field trip a kid bumps into you. Kicking the kid is __________ for you.

HARD! hard easy EASY!

23. One of the little neighborhood kids keeps tagging along while you are outside playing with your friends. You feel like hurting the kid's feelings to make the kid go away but decide not to. Not teasing the kid is for you.

HARD! hard easy EASY!
24. In the cafeteria a kid knocks your milk all over and really makes a mess. You really want to get the kid back by knocking the kid's drink all over, but decide not to do it. Not knocking over the kid's drink is __________ for you.

HARD! hard easy EASY!

*Items #1,2,8,11,14,18,19, and 22 tap self-efficacy for aggression
*Items #4,5,10, 12, 13, 16, 23, and 24 tap self-efficacy for the inhibition of aggression
*Items #3,6,7,9,15,17,20, and 21 tap self-efficacy for prosocial behavior
Appendix G

LONELINESS QUESTIONNAIRE FOR CHILDREN

1. It's easy for me to make new friends at school.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

2. I like to read.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

*3. I have nobody to talk to.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

4. I'm good at working with other children.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>
5. I watch TV a lot.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

6. It’s hard for me to make friends.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

7. I like school.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

8. I have lots of friends.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

9. I feel alone.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>
10. I can find a friend when I need one.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

11. I play sports a lot.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

12. It's hard to get other kids to like me.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

13. I like science.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |
14. I don't have anyone to play with.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

15. I like music.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

16. I get along with other kids.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

17. I feel left out of things.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

18. There's nobody I can go to when I need help.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>
19. I like to paint and draw.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

*20. I don't get along with other children.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

*21. I'm lonely.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |

22. I am well-liked by the kids in my class.

| Always true | True most of the time | True sometimes | Hardly ever true | Not true at all |
23. I like playing board games a lot.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

*24. I don't have any friends.

<table>
<thead>
<tr>
<th>Always</th>
<th>True most</th>
<th>True</th>
<th>Hardly ever</th>
<th>Not true</th>
</tr>
</thead>
<tbody>
<tr>
<td>true</td>
<td>of the time</td>
<td>sometimes</td>
<td>true</td>
<td>at all</td>
</tr>
</tbody>
</table>

*Items for which response order is reversed in scoring

Items 2, 5, 7, 11, 13, 15, 19, and 23 are classified as filler items.
Appendix H

QUESTIONNAIRE FOR MOTHERS

We are interested in what mothers might say to their children in various kinds of situations. On the following pages are several common kinds of situations you might face in dealing with your child. We would like for you to really try to put yourself in these situations, and then write down what you think you would actually say to your child in the situation.

We are primarily interested in what you would say to your child in each of these situations. So don't just write about what you would be thinking of feeling, try to write down what you would actually say to your child.

Of course, there are no right or wrong answers to any of these situations. We are just interested in finding out what you would say. Your answers will be kept totally confidential.

THANK YOU FOR YOUR COOPERATION!

205
Suppose that you thought it was time for your child to go to bed, but he/she started to cry because he/she wanted to watch something on TV. What would you say to your child?
What would you say to your child if he/she brought you a bunch of flowers but you found out that he/she had gotten them from a neighbor's garden?
Imagine that one day your child says that he/she doesn't want to go to school but he/she's not sick or anything but just doesn't want to go to school. What would you say to your child?
Demographics

What was your age as of your last birthday?________

Are you:________Male  __________Female

What is your relationship with the child who is completing the surveys in school?

________Mother  __________Father

________Step-mother  __________Step-father

________Grandmother  __________Grandfather

________Aunt  __________Uncle

________Other (please specify)

How much formal education have you received?

_____No formal education  ______Some college or technical degree

_____Up to 8th grade  ______Bachelor's degree

_____Some high school  ______Some graduate school

_____High school diploma  ______Graduate degree

Please note your current marital status:

_____Single  ______Divorced or separated

_____Married  ______Widowed

Are you currently employed on a full or part-time basis?

_____Yes  _______No
Do you consider yourself:

- Lower class
- Lower-middle class
- Upper-middle class
- Upper class

How many children do you have? ________

What are the ages of the children? ________

How would you classify the child completing the surveys during school?

- Oldest child
- Middle child
- Youngest child
strategies according to the perspective of the child and others are considered to use more reflection-enhancing communication than mothers who do not. A system for coding messages in this manner is presented below.

The Unit of Analysis

For this study, the unit of analysis is the message strategy used for each situation. Each sentence of a response will be treated as one element of an overall strategy, and not as distinct strategies. It is important, then, to code each response according to your overall impression.

Some responses may contain more than one message strategy. If this is the case, then the response would have as many units of analysis as the number of message strategies in the response. The criteria for determining a distinct message strategy is based on three important elements. First, a message strategy is a connected set of specific, communicative behaviors. Thus, message strategies are not rationalizations for or explanations of behavior; rather, they are the actual messages that the parents communicate. For example, compare the following two responses:

"I would tell her that she shouldn't have taken the flowers and that she needs to apologize."

"I think it is important that children learn not to take things that aren't there. I believe that rules like these are very important."

The first response is an example of a message strategy because it reveals specifically what the parent would actually say to the child. However, the second response is not a message strategy because it does not contain any specific, communicative behaviors; instead, it is merely an explanation of the parent's feelings. Because it does not reveal what the parent would actually say the child, it is not classified as a message strategy.
Secondly, a message strategy is produced and experienced as a single, complete line of action. Thus, the components of a message strategy (e.g., sentences, words, phrases) function together to produce a complete message. This second criterion, then, specifies that message strategies may contain several sentences, phrases, etc., but that it is important to determine the overall effect of these components to an overriding action. That is, individuals typically use several sentences to express a complete thought; thus, these sentences function together to produce a message. Thus, it is important to get an overall feeling of what action the parent is trying to communicate and then compose a unit of analysis based on the sentences, words, phrases, etc. that are used to complete that thought. Consider the following example:

"If it is a week-night, I'd tell him he had to go to bed because he needed his rest for school. I'd tell him that was the rule. If it was on the week-end, I'd let him stay up and half hour longer because he didn't have to get up early the next day."

This response contains two message strategies because two distinct lines of action are communicated depending on the day of the week. The first two sentences of the message comprise the first message strategy. These sentences function together to produce a complete line of action—that is, enforcing rules and demanding that the child go to bed. However, the third sentence of the response is a distinct message strategy because a different action is taken—that is, what the parent would actually say to the child has changed. Thus, this response contains two units of analysis.

Third, a message strategy is aimed at attaining a group of complementary goals. Thus, it is important to determine what the overriding goals of a parent's response are and then separate distinct goals into different units of analysis. Thus, if several sentences of a response work toward reaching the same goal, then these sentences would comprise one message strategy. However, if you are able to locate
multiple goals in a given response, then you would break the response down according to these goals and code them as distinct units of analysis. Consider the following example:

"If she wasn't sick, then I'd tell her that she had to go to school. I'd tell her about all the things she would miss during the day, and how she'd fall behind in her work. But if she really put up a fuss, then I'd ask her what was wrong, if she having problems in school, whether she was afraid because she had a test that day. We'd try to work on the problem together."

The first two sentences of this response comprise one message strategy or unit of analysis. That is, these two sentences are both aimed at attaining one goal: getting the child to go to school. However, the third sentence of the response would be coded as a distinct strategy because it is aimed at reaching a different goal: to discover what the child's specific problem may be. Thus, because two distinct goals are expressed in this response, they would be coded as two message strategies (the fourth sentence of the response is not a message strategy because it is an explanation of behavior rather than the actual, communicative behavior).

Thus, for the purposes of this study, the unit of analysis is the message strategy. If, based on the three aforementioned criteria, several message strategies are contained in a single response, then the message will contain as many units of analysis as there are message strategies. However, it is also important to realize that some of the message strategies comprising a response may not be geared toward discipline. In these cases, the response is broken down into distinct units of analyses; however, only the units that address discipline are coded. Consider the example used above:
"If it is a week-night, I'd tell him he had to go to bed because he needed his rest for school. I'd tell him that was the rule. If it was on the week-end, I'd let him stay up and half hour longer because he didn't have to get up early the next day."

As explained above, this response contains two units of analysis. However, because only the first unit contains a disciplinary message, it is the only unit that would be coded. While the second unit does in fact comprise a message strategy, it is not geared toward disciplining and, thus, it is not coded.

The Hierarchy

An overview

The system for coding disciplinary messages consists of three major divisions representing the degree to which the speaker explicitly recognizes the listener as a responsible and autonomous agent by encouraging him/her to reflect on and reason about the nature and consequences of his/her actions for the him/herself and others. Messages scored at the first major division do not address the child as an independent agent and do not encourage the child to reflect on his/her behavior and the consequences associated with it. At the second major division, messages implicitly encourage the child to consider him or herself an autonomous agent and reflect on his/her behavior in terms of the violation of certain rules. Finally, messages scored at the third major division explicitly encourage the child to consider him/herself to be an independent agent by encouraging the modification of behavior in terms of the consequences of his/her behavior.

Each of these major divisions is further divided into sub-levels. In major division one, level one messages explicitly discourage the child's self-definition as an independent agent and reflection on the consequences of behavior by appealing to
threats, demands, and other strategies which do not offer any reason for the proposed modification of behavior. At level two, messages implicitly discourage the child's self-definition as an independent agent by offering rules assumed by the parent to provide sufficient justification for the modification of behavior. At major division two, both level three and level four messages implicitly encourage the child's self-definition as an independent agent; however, these levels are distinguished according to reasons they provide for the modification of behavior. At level three, the child is provided with minimal justifications for rules in terms of societal expectations and roles, while at level four, parent-controlled rules are offered as explanations for modification. At major division three, both levels five and six explicitly encourage the child's self-definition as an independent agent by encouraging him/her to reason through the consequences of behavior; however, these levels are distinguished according to the extent to which the parent encourages the child to consider these contingencies independently. Thus, at level five, the parent describes the potential consequences associated with certain behaviors and encourages the child to consider them as reasons for why his/her behavior should be modified. At level six, however, the parent encourages the child to independently generate a list of consequences associated with certain behaviors as well as helping the child to understand how these associations are relevant to his/her modification of behavior.

Why high level messages are more sophisticated

Messages scores at higher levels in the hierarchy are considered to be more sophisticated. For one thing, these messages accomplish more goals than those scored at lower levels. That is, these messages not only attempt to modify the child's behavior but they also encourage the child to view him/herself as an independent agent whose behavior has important consequences for others. These messages, then, not only reflect
a desire to have the child act a certain way, but also encourage the child to reason through the consequences of behavior and understand why certain actions are desired by considering needs, wants, and responsibilities. Lower level messages, on the other hand, do not promote the development of the child's understanding of him/herself as an independent agent and only accomplish the goal of modifying behavior. Thus, higher level messages and more complex and hence, more sophisticated.

The Hierarchy

0. No Response
Speaker cannot think of anything he or she might say in response to the situation.

1. Discouragement of Reflection
   1. Explicit discouragement of the child's self-definition as a responsible and autonomous agent relying on threats, simple commands, physical punishment, and other tactics failing to provide any reason for modification of behavior other than avoidance of punitive sanction.
      A. "I'd tell him to take it back to the store and ground him."
      B. "Jackie, go to bed. If she didn't go I'd just take her by the hand and put her there."

   2. Implicit discouragement of the child's self definition as a responsible and autonomous agent by forwarding and demanding acceptance of rules assumed by the parent to be self-evident, necessary, and sufficient reasons for modification of behavior.
      A. "Taking people's things without asking is wrong. Now go apologize for taking the flower."
B. "All children must go to school and you are no exception."

II. Implicit Encouragement of Reflection

3. Implicit encouragement of the self-definition as a responsible and autonomous agent by providing an emergent opportunity for social reasoning through offering minimal, preemptive justifications for rules to modify the child's behavior.
   
   A. "As a child you have to go to school. It's your job like I have to do my job. Now get the clothes on or you'll be late."
   
   B. "Stealing is wrong. It's against the law and you can end up in jail if you keep doing it."

4.1. Implicit encouragement of the child's self-definition as a responsible and autonomous agent by requiring the child to deal with parent-controlled concessions, contingent rewards, or sanctions as reasons for modification of behavior.

   A. "They usually say they're sick and I'd tell him if he was sick he didn't have to go to school but he would stay in bed all day with no friends and no going outside so he could get better. Then I'd ask him if he still wanted to stay home."

   B. "I know you want to stay up but it's a school night. You go to bed and maybe you can stay up for a special show on the weekend."

4.2. Implicit encouragement of the child's self-definition as a responsible and autonomous agent by asking the child questions in an attempt to get at the root of the problem.
A. "Why don't you want to go to school? Did something bad happen yesterday? Is there a test you don't want to take? Did one of the other kids tease you or make you feel bad?"

III. Explicit Encouragement of Reflection

5. Explicit encouragement of the child's self-definition as a responsible and autonomous agent by (1) encouraging the child to think about parent-articulated general causes or consequences of his or her behavior, and (2) viewing these typical causes of consequences of his or her behavior as reasons for the modification of behavior.

A. "When people hurt us we want to call them names. It doesn't do any good though. Next time why don't you tell them you're angry at what they did. Then maybe they won't do it again. If they do, then just don't play with them. Just calling someone a name doesn't make you feel better or your friend."

B. "When people work hard to have things (flowers) they usually want to keep them to appreciate them. Mrs. Jones might have given you a flower if you'd asked, but taking things from people without asking upsets them a lot."

6. Explicit encouragement of the child's self-definition as a responsible and autonomous agent by (1) encouraging the child to articulate in his or her own terms the causes and consequences of his behavior, (2) helping the child to articulate how these causes and consequences (a) are relevant to a broader context involving past or future experiences of the child, or (b) impact on the perspectives of other people salient to the child, and (3) teaching the child to view these factors as reasons for the modification of behavior.
A. "First, I'd get him to tell me why he called his friend a name like that. You know, talk about why he felt that way. He'd had names thrown at him, in fact not long ago. I'd ask him how he felt when it happened and tell him his friends felt the same way. If he wants to have his friend to play with at school he probably should apologize and tell his friend why he did it. Otherwise he might lose his friend. Is that what he wants?"

B. "If that [refusing to attend school] happened now, she's practicing for the Christmas play, so I'd say she'd miss seeing her friends [in the play] and exchanging Christmas cards. Jackie [a friend] won't get a card from you and she'll be sad. I think she'd react to that. Her friends are important to her."

How to code messages

You may find that some responses to the hypothetical situations contain strategies which represent different levels of the hierarchy. Thus, you may be unsure where to place certain responses given that some may contain elements of a number of levels. However, we are interested in the overall focus of these responses rather than distinct elements. Thus, rather than looking for responses that identically match the hierarchy levels, try to examine how the distinct components function together to create an overall strategy.

Step 1:

Read the entire message. Decide in what major division the message belongs.

Step 2:

After the major division has been identified, place the message into its appropriate sub-level within that division.
Example: TV Situation:
"I'd tell her that she couldn't stay up later because she had to get her rest so she could concentrate the next day."

Major Division Coding
Here, the parent presents the child with a rule and a reason for why the rule holds. Thus, it would be coded at major level 2.

Sub-level Coding
The decision that has to be made at major level 2 is whether the rule is subject to debate and if the justification for the rule is based on a parent created contingency or on more general rules of logic. In this case, the parent presents the child with a rule that will hold for all occasions--thus, it is inflexible. Furthermore, the parent's explanation that rest is important for concentration is simply a logical conclusion that pertains to everyone and is therefore not at all personal to this parent-child relationship. Because the parent presents an inflexible rule that would hold for any child, this strategy would be coded at sub-level 3.

Example: Flower situation:
"How do you think Mrs. Jones felt when she saw that her flowers were gone? When you take other people's things, they may get upset."

Major Division Coding
In this message, no commands or rules are presented. Thus, it would be placed in major division level 3.
Sub-level Coding

In this example, the parents show the child the consequences of her behavior for others. While the parent may have tried to get the child to articulate on her own the consequences of her behavior, the parent did end up explicitly demonstrating this for the child. Furthermore, the parents showed the consequences of her child's behavior for others in general, and did not personalize this by getting the child to see how her behavior may affect people who are important to her. Because the parent showed the child the consequences of her behavior, and failed to personalize this message, it would be coded at sub-level 5.

Example: School situation:

"School is important. So get dressed and go."

Major Division Coding

In this example, the parent makes a simple statement of a rule without providing any justification for why the rule is important. Thus, it would be coded at major division level 1.

Sub-level Coding

Here, the parent does not simply command the child to go to school. Rather, the parent appeals to a statement of an inflexible rule without providing any reason for why the rule is important. Thus, it would be coded at sub-level 2.

Remember that we are not interested in coding the individual sentences that comprise a message. Instead, we must focus on the overall effect the combination of these sentences produce. When a single strategy is composed of elements that reflect
different levels in the hierarchy, it is your job to determine the overall effect these elements combine to achieve. Thus, you must focus on the key actions being performed in the message. As a coder, then, you may have to make some important interpretive decisions— that is, to identify what level of the hierarchy best reflects the predominant focus of the message.

Conclusion

The process of coding regulative messages involves two basic steps. First, you must decide in which of the three major divisions a message belongs. Then, you need to place the message into its proper level within that division.

At each step, remember that it is the predominant focus of a message that should be coded and not its individual components.
Appendix J
CODING SYSTEM TO SCORE MOTHERS' REGULATIVE MESSAGES

Regulative Strategies
Mothers' regulative strategies will be scored for the extent to which they promote the development of the child as a responsible and autonomous agent by encouraging the child to modify his or her behavior through reflecting on and reasoning through the nature and consequences of the sanctionable behavior for him or herself and other parties.

I. Discouragement of Reflection
1. Explicit discouragement of the child's self-definition as a responsible and autonomous agent relying on threats, simple commands, physical punishment, and other tactics failing to provide any reason for modification of behavior other than avoidance of punitive sanction.

   A. "I'd tell him to take it back to the store and ground him."

   B. "Jackie, go to bed. If she didn't go I'd just take her by the hand and put her there."

2. Implicit discouragement of the child's self definition as a responsible and autonomous agent by forwarding and demanding acceptance of rules assumed by the parent to be self-evident, necessary, and sufficient reasons for modification of behavior.
A. "Taking people's things without asking is wrong. Now go apologize for taking the flower."
B. "All children must go to school and you are no exception."

II. Implicit Encouragement of Reflection

3. Implicit encouragement of the self-definition as a responsible and autonomous agent by providing an emergent opportunity for social reasoning through offering minimal, preemptive justifications for rules to modify the child's behavior.
   A. "As a child you have to go to school. It's your job like I have to do my job. Now get the clothes on or you'll be late."
   B. "Stealing is wrong. It's against the law and you can end up in jail if you keep doing it."

4. Implicit encouragement of the child's self-definition as a responsible and autonomous agent by requiring the child to deal with parent-controlled concessions, contingent rewards, or sanctions as reasons for modification of behavior.
   A. "They usually say they're sick and I'd tell him if he was sick he didn't have to go to school but he would stay in bed all day with no friends and no going outside so he could get better. Then I'd ask him if he still wanted to stay home."
   B. "I know you want to stay up but it's a school night. You go to bed and maybe you can stay up for a special show on the weekend."

III. Explicit Encouragement of Reflection

5. Explicit encouragement of the child's self-definition as a responsible and autonomous agent by (1) encouraging the child to think about parent-articulated general
causes or consequences of his or her behavior, and (2) viewing these typical causes of consequences of his or her behavior as reasons for the modification of behavior.

A. "When people hurt us we want to call them names. It doesn't do any good though. Next time why don't you tell them you're angry at what they did. Then maybe they won't do it again. If they do, then just don't play with them. Just calling someone a name doesn't make you feel better or your friend."

B. "When people work hard to have things (flowers) they usually want to keep them to appreciate them. Mrs. Jones might have given you a flower if you'd asked, but taking things from people without asking upsets them a lot."

6. Explicit encouragement of the child's self-definition as a responsible and autonomous agent by (1) encouraging the child to articulate in his or her own terms the causes and consequences of his behavior, (2) helping the child to articulate how these causes and consequences (a) are relevant to a broader context involving past or future experiences of the child, or (b) impact on the perspectives of other people salient to the child, and (3) teaching the child to view these factors as reasons for the modification of behavior.

A. "First, I'd get him to tell me why he called his friend a name like that. You know, talk about why he felt that way. He'd had names thrown at him, in fact not long ago. I'd ask him how he felt when it happened and tell him his friends felt the same way. If he wants to have his friend to play with at school he probably should apologize and tell his friend why he did it. Otherwise he might lose his friend. Is that what he wants?"
B. "If that [refusing to attend school] happened now, she's practicing for the Christmas play, so I'd say she'd miss seeing her friends [in the play] and exchanging Christmas cards. Jackie [a friend] won't get a card from you and she'll be sad. I think she'd react to that. Her friends are important to her."