

AN ABSTRACT OF THE THESIS OF

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Relationships between moral judgment and cognitive reasoning among 102 six-, nine-, and twelve-year-old boys and girls from predominantly middle class backgrounds were studied. Findings obtained supported Gutkin's (1972) formulation of a four stage approach toward describing the transitional shift in children's moral judgments from heteronomous to autonomous thought. However, results also indicated that this transitional shift may be influenced by the various types of damage/consequences story themes used to assess the levels of moral judgment. Children displayed higher levels of moral judgment on story themes pertaining to physical damage/consequences, followed by property and psychological damage/consequences, respectively. Findings associated with the relationships between moral judgment and cognitive reasoning were significant, but varied. When considering the overall correlations associated with this relationship for the total sample, and for the different sexes, Piaget's theoretical proposition that a child's moral judgments are a reflection of his/her cognitive reasoning was supported. Noticeable sex, age, and story theme differences in these correlations did occur, and were discussed on the basis of previous research.

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## TABLE OF CONTENTS

Introduction .....	1
Stages of Moral Judgment .....	2
Moral Judgment and Cognitive Reasoning .....	6
Purposes of Study .....	8
Method .....	9
Subjects .....	9
Moral Judgment Instrument .....	9
Cognitive Reasoning Instrument .....	12
Procedures .....	13
Results .....	13
Discussion .....	17
References .....	23
Tables .....	27
Apendix A .....	32

## MORAL JUDGMENT AND COGNITIVE REASONING AMONG YOUNG CHILDREN

### Introduction

Over the life span an individual experiences a number of cognitive changes, one of which involves morality. This process through which an individual qualitatively changes his/her attentional focus toward behavior on the basis of some value orientation is collectively known as moral development. Generally, theoretical positions and research investigations on moral development have centered upon three major areas. One of these areas involves the actual sampling of children's behavior, such as resistance to temptation (Burton, Maccoby, and Allinsmith, 1961; Grinder, 1962). To measure this aspect of moral development, a child is often placed in a room with attractive toys, and asked not to play with them. The experimenter then leaves the room and observes the child's behavior through a one-way vision mirror, recording the degree to which the child resists playing with the attractive toys.

A second area of moral development has to do with a child's feelings about moral transgressions (Allinsmith, 1960). Guilt and shame are the feelings often studied in this area. To determine a child's guilt intensity, the child is often asked to complete a story in which the main character has transgressed a rule. The child's story content provides the data upon which decisions regarding the intensity of a child's guilt is assessed.

Finally, the third area of moral development has to do with a child's judgments about behavior (Piaget, 1932; Kohlberg, 1958). To

study a child's level of moral judgment, two stories are often presented to a child. One of these stories depicts a person having good intentions but incurring high damage/consequences; while the other involves a person with bad intentions who incurs only slight or low damage/consequences. The child is asked to judge which of these story characters displayed the behavior that was "naughtier". It is in this latter area of moral development that this research project will focus.

#### Stages of Moral Judgment

Piaget (1932) postulated a two-stage theory in explaining the developmental aspects of moral judgment among young children. In the earlier level, labeled heteronomous thought, the child is confronted with numerous rules provided to him by his parents and the society at large. These rules are viewed by the young child as inflexible in their interpretations, requiring unilateral respect from the child. During this level, which occurs until about eight or nine years of age, the child focuses upon the consequences of a behavior in judging its morality. As the child matures and continues to experience the world about him/her, however, s/he becomes capable of accepting alternative and amended rules. The previous inflexible rules are no longer viewed as unchangeable, and the child begins to judge the morality of a behavior on the basis of its intentions. This second level of moral judgment has been labeled as autonomous thought.

To assess a child's ability to distinguish between consequences and intentions in making moral judgments, Piaget read children pairs of stories portraying characters displaying various behaviors, after which the children were asked to judge which of the characters was the "naughtier". For example, in one story of each pair, the main character with good intentions (i.e., helping mother with cleaning) accidentally breaks a large number of cups (high damage/consequences); while in the other story of this pair, the character with bad intentions (i.e., taking a cookie without permission) breaks just one cup (low damage/consequences). Results obtained indicated that children below eight years of age judged the "naughtiness" of the character's behavior on the basis of its consequences rather than intentions. After eight years of age, however, the children shifted the basis upon which they made their moral judgments to the intentions of the character's behavior.

More recently, however, additions have been made to Piaget's standard story pair arrangements of good intentions with high damage/consequences and bad intentions with low damage/consequences (Armsby, 1971; Berg-Cross, 1975; Gutkin, 1972; Hewitt, 1975; King, 1971; McKechnie, 1971; Rule & Duker, 1973). These additions included story pair arrangements consisting of characters displaying good intentions with low damage/consequences, bad intentions with high damage/consequences, intentions constant with varied consequences, and consequences constant with varied intentions. (Refer to Table 1 for a complete schemata of intention by consequence story pair variations.)

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insert Table 1 about here

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The results of Gutkin's (1972) pilot work indicated that there were no differences between story pairs in which intentions were held constant (i.e., both good versus both bad) while consequences varied. Likewise, there were no differences between story pairs in which consequences were held constant (i.e., both high versus both low) while intentions varied. Gutkin (1972) further found that children gave as many intention-based judgments to Piaget's standard story pair format as they did to its reciprocal (i.e., good intentions with low damage/consequences versus bad intentions with high damage/consequences). In his follow-up research Gutkin (1972) only incorporated three of the six possible story variations to economize on administration. By using these variations, a more sensitive inquiry into the transitional period of the child's shift from heteronomous to autonomous thought has become possible. Through the use of these story pair arrangements, Gutkin (1972) formalized two inner levels of the child's movement from heteronomous to autonomous thought. More specifically, these inner levels represented a more refined assessment of the child's shift from consequences to intentions in making his/her moral judgments. During the first inner level, the child focuses primarily upon consequences with some intention-based responses; while in the second inner level, the child focuses primarily on intentions with some consequence-based judgments. With the addition of these two inner levels, therefore, four developmental levels in moral judgment become evident. They include:

- Level I    Consequence-Based Responses
- Level II   Consequence with some Intention-Based Responses
- Level III   Intention with some Consequence-Based Responses
- Level IV   Intention-Based Responses

As expected, Gutkin also found that increase in age was positively related to a child's progression through these four levels of moral judgment.

Aside from defining in more detail the levels of moral judgment, additional research consideration has been given to the effects of story content on these levels (Armsby, 1971; Hebble, 1971; Jensen & Hughston, 1973; McKechnie, 1975). Findings indicate that if the antecedents and consequences of the behavior of the story characters were more clearly specified, a child may display higher levels of moral judgment at an earlier age (Armsby, 1971). In a study by Hebble (1971), first- to sixth-grade children were asked to rate the "naughtiness" of characters of seven different stories. Five of these stories involved consequences related to property damage, while the remaining two involved consequences related to physical (bodily) and psychological damage, respectively. Although Hebble noted that the response patterns of the children to these last two stories were observably different from stories dealing with property damage, no significant main or interaction effects were found. These results may be due to the limited number of stories involving physical (n=1) and psychological (n=1) damage that were presented to the children. In a related study, however, McKechnie (1975) found that six-, nine-, and twelve-year-olds gave higher levels of moral judgments to stories involving aggression, and lower levels of moral judgments to stories

involving stealing. On the basis of these previous findings we would expect the developmental nature of children's moral judgments to progress from physical, property to psychological damage/consequence themes, respectively. The fact that in McKechnie's (1975) study six-, nine-, and twelve-year-old children gave higher level moral judgments to stories involving aggression rather than stealing suggests that physical damage/consequence story themes are more significant to younger children than property damage/consequence story themes. With respect to the psychological damage/consequence story themes, due to their abstractness, we would expect children to have more difficulty in making higher level moral judgments related to them.

#### Moral Judgment and Cognitive Reasoning

According to Piaget (1932) observed changes in moral judgments are a reflection of changes in the child's reasoning abilities. Cognitive reasoning reflects a child's intelligence, which is assessed through a large array of Piagetian problem solving tasks. For example, one task commonly used involves a child's ability to judge beakers of water having different diameters and heights. Accomplishment of this task provides the researcher with information regarding the child's ability to conserve liquid, which is not achieved until about six to eight years of age. Few investigations relating cognitive reasoning to moral judgments have used Piagetian tasks to assess the child's cognitive reasoning (Lee, 1971; Tomlinson-Keasey & Keasey, 1974). Most studies have employed standard I.Q. measures to determine a

child's level of cognitive reasoning (Schleifer & Douglas, 1973; Whiteman & Kosier, 1964; Boehm, 1962). The serious error encountered in using this type of test to assess children's intellectual abilities, however, is in the fact that standard I.Q. tests measure achievement rather than reasoning ability. To arrive at a more accurate understanding of the relationship between moral judgment and cognitive reasoning, therefore, appropriate instruments to measure these variables must be used.

Presently, there are no studies available relating moral judgment, as measured by Gutkin's (1972) extended-Piagetian-story-pairs and cognitive reasoning, as measured by Piagetian problem solving tasks. A few studies are available, however, which center upon developmental relationships between cognitive reasoning, as measured by Piagetian tasks, and moral development, as defined by Kohlberg (1958, 1963). For example, Lee (1971) attempted to study this developmental relationship among boys, five to seventeen years of age. The boys in this study were classified into one of three levels of cognitive thought, as determined by six Piagetian tasks. Modified Kohlberg dilemmas were used to assess the boys' level of moral development. Although, as Keasey (1975) points out, the positive correlations between these cognitive and moral indices were substantial, the correlations were clearly confounded by the age variable. Controlling for the age variable, Lee (1971) found that the overall positive correlation was lowered from the original .49 to .33. Following Lee's investigation, Tomlinson-Keasey & Keasey (1974)

controlled for age and sex influences in relating children's performances on three Piagetian tasks, reflecting Piaget's level of formal thought, and six modified-Kohlberg dilemmas. Strong positive correlations were found between these cognitive and moral indices (i.e., .60 for 12-year-olds and .58 for 19-year-olds). As indicated previously, however, while the above studies employed Piagetian tasks to determine the subjects' level of cognitive reasoning, Gutkin's (1972) extended Piagetian story-pairs were not used to assess the subjects' level of moral judgment. Undertaking such a study might provide us with a more accurate test of Piaget's theory regarding the relationship between moral judgment and cognitive reasoning.

Aside from the variable of age, another variable which may be important in understanding the relationship between moral judgments and cognitive reasoning is sex. The few studies investigating sex differences reported no sex differences (Bandura and McDonald, 1963; Hebble, 1971; Gutkin, 1972; Berg-Cross, 1975). However, there is an alarming number of studies in which the analysis of sex differences in moral judgment has been neglected. In a review of the literature by Maccoby and Jacklin (1974) involving concept mastery and reasoning, very few studies have found consistent cognitive differences between males and females in the earlier ages.

### Purposes of Study

The purposes of the present study include investigations as to whether (1) there are the transitional levels of moral judgment, as identified by Gutkin (1972), among children six-, nine-, and twelve

years of age, (2) there are sex, age, and story theme differences in moral judgments among these children, and (3) there is a relationship between moral judgment and cognitive reasoning taking into account the variables of sex, age, and story theme.

## METHOD

### Subjects

The sample consisted of 102 six (R = 5 years, 9 months to 6 years, 3 months), nine- (R = 8 years, 7 months to 9 years, 5 months), and twelve- (R = 11 years, 8 months to 12 years, 4 months) year-old boys and girls, with an equal number of boys and girls represented at each age level. The nine- and twelve-year-old children were from two different schools in a city of 80,000 people. One school represented children from predominantly lower-middle to middle socioeconomic backgrounds, while the other school represented children from primarily middle to upper-middle socioeconomic backgrounds. The six-year-old children were from predominantly middle socioeconomic backgrounds. Socioeconomic characteristics were derived from reports by respective school teachers and principals. Ninety-nine of the children were of the Caucasian race, and three of the children were Mexican-American.

### Instruments

Moral Judgement: The moral judgment instrument used in this study consisted of 18 story pairs. These story pairs were composed

by the author, using intention by damage/consequence variations that have been previously outlined by Gutkin (1972) and using as a model, story pair variations previously used by Keasey (1973). These stories are presented in Appendix A. In addition to the intention by damage/consequence variations, story pairs also cover the three damage/consequence themes (i.e., property, physical, and psychological) discussed earlier (see Table 1). Within each theme all intention by damage consequence variations are used with the exception of Type F. The reason for not including this particular variation was because of the lack of meaningful information that would be generated due to the demand characteristics bedded within this variation. An additional Type A story pair was used in place of the Type F.

The children were only read nine of the 18 story pairs with three of the nine from each theme. The purpose in doing this was to minimize the possibility of fatigue a child was likely to experience. The children were read one Type A story pair, one Type B or C story pair and one Type D or E story pair. This could be done since in a pilot study no significant difference was found in responses given between Type B and Type C ( $t = 1.492$ , 10 df, NS) and between Type D and Type E ( $t = .5096$ , 10 df, NS) story pairs. This finding was further supported by the pilot work of Gutkin (1972), in which he compared like-story pair variations and found no significant differences.

Scoring procedures for children's responses to the moral judgment story pairs included giving a score of one to intention based judgments in story pairs in which intentions and damage/consequences

both varied (i.e., Type A) and when intentions varied and damage/consequences were held constant (i.e., Type B or Type C). A score of one was also given to intention-based judgments when intentions were held constant and damage/consequences were varied (i.e., Type D or Type E). In this latter treatment, the child received a score of one when s/he judged the intentions as being equal and did not regard the damage/consequences as a judgment criterion. Following each judgment a child made, an explanation of the judgment was asked for. The scoring procedure for the explanation was the same as that used in evaluating the child's earlier judgment. This scoring procedure was adopted from previous research (Gutkin, 1972 and Bandura & McDonald, 1963).

The sum of the points a child received on all moral judgment story pairs across the three themes was used as the child's total moral judgment score. The range of the total possible scores was from 0-18. In addition, moral judgment subscores could be obtained for each child according to story theme (i.e., property, physical, or psychological) by summing the point scores each child received on story pairs associated with each theme. The range of scores associated with each theme was from 0 to 6. Furthermore, a child's total moral score could be assigned to the following quartiles which represent the level of moral judgment in which a particular child falls.

Stage I.....	0 - 4 points
Stage II.....	5 - 9 points
Stage III....	10 - 14 points
Stage IV.....	15 - 18 points

The characteristics of the children at these different levels were briefly described in the "Introduction" section of this paper.

Cognitive Reasoning. A total of ten different Piagetian tasks, representing three different levels of thought were used to assess each child's level of cognitive reasoning. These tasks were as follows: seriation, conservation of mass, conservation of number, conservation of liquid, class inclusion of geometric objects, classification, class inclusion of animals, conservation of the horizontal plane, displacement, and the period of the pendulum. The design of these various cognitive tasks has been described in detail by Piaget and Inhelder (1956, 1958, and 1967). The scoring protocols for the conservation of liquid, mass, and number tasks, along with the class inclusion and seriation tasks were adopted from Dimitovsky and Almy (1975) and Berzonsky (1971). The period of the pendulum and the displacement tasks were scored according to Kuhn et al. (1977), Berzonsky (1971), and Keating (1975). Finally, the scoring of the conservation of the horizontal plane was derived from Thomas and Jamison (1975). Most tasks were scored on the basis of one point for the correct response plus one point for a proper explanation. However, two tasks (i.e., displacement, and the period of the pendulum) were scored on the basis of explanations alone. For example, in the period of the pendulum task, the child was required to give explanations to those factors which contribute to making the pendulum swing faster. A sum of the point scores a child received on all ten tasks was used as an index to the child's level of cognitive reasoning. The range of possible scores was from 0 to 27.

## Procedures

The ten cognitive tasks were administered before the moral judgment story pairs. Each child was then read three story pairs for each of the three themes. The order of presentation for the themes was counterbalanced within each age by sex group. Within each theme the child was first read a Type A story pair followed by either a Type B or Type C and a Type D or Type E story pair. The following procedures were used in presenting the moral judgment story pairs to the child. Before administering the moral judgment story pairs the child was instructed to listen carefully to the two short stories, and after the presentation of the two stories, to tell the experimenter who the naughtier child in the two stories was, or if they were the same. Once the two stories were read, the experimenter again asked the child to tell him who the naughtier child was or if they were the same. Each child was asked to explain what "naughty" meant to insure that his/her responses were based on correct definitions. Clarifications were made regarding the term "naughtier" and the content of the story pairs whenever they were necessary. The total testing time for the administration of the ten cognitive tasks and moral judgment story pairs ranged from approximately 15 to 25 minutes.

## RESULTS

The scores on moral judgment and cognitive reasoning yielded by the children in this study were analyzed using three different

statistics. The chi-square statistic was used to determine whether there were the four levels of moral judgment, identified by Gutkin (1972), among children six-, nine-, and twelve-years of age. An analysis of variance was also conducted to assess sex, age, and theme effects and their interactions on the moral judgment scores of the children across the three themes. Finally, Pearson Product-Moment Correlation Coefficients were used to assess the degree of relationships that exists between a child's cognitive reasoning and his/her total moral judgment and theme scores taking into account sex and age. The  $p < .05$  was used as the lowest allowable level of significance for all statistical analyses undertaken.

Results obtained from a chi-square analysis of the data, to determine whether Gutkin's (1972) four levels of moral judgment more precisely explains the transitional periods in the shift of moral judgments from heteronomous to autonomous thought among children six-, nine-, and twelve years of age is presented in Table 2.

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insert Table 2 about here

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Findings indicate that there is a significant age difference ( $\chi^2 = 36.450, 6, p < .0000$ ). Generally speaking, the older the child, the more likely that such a child will be at a higher level of moral judgment. This age difference is also found among both boys ( $\chi^2 = 16.477, 6, p < .01$ ) and girls ( $\chi^2 = 26.752, 6, p < .0002$ ), although this difference is greater for girls than for boys. However, overall and

within each age group, there are no significant sex differences in the levels of moral judgment at which children are.

A summary of a 2(sex) X 3(age) X 3(theme) analysis of variance applied to the children's moral judgment scores is presented in Table 3.

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insert Table 3 about here

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The results indicate that there is a significant age effect ( $F = 43.206, 2, p < .001$ ). Mean values associated with the age variable in Table 4 indicate consistent increases in total moral judgment scores with age. In addition, a significant main theme effect was obtained ( $F = 28.403, 2, p < .001$ ). Mean values associated with the theme variable indicate that children yielded the highest moral judgment scores on story pairs portraying the physical theme and the lowest moral judgment

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insert Table 4 about here

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scores on the psychological theme. It is further noted that mean values for the property theme are approximately equal to those obtained for the physical theme. There were no main sex effects or interactions.

The Pearson Product-Moment correlation coefficients computed for the relationships between moral judgment and cognitive reasoning

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insert Table 5 about here

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scores by sex, age, and theme are presented in Table 5. The findings regarding the overall correlation coefficients associated with the relationships between all moral judgment scores and cognitive reasoning for the total sample, as well as for the different sexes are positively and substantially significant. However, females appear to have a noticeably larger correlation coefficient for the property theme, and slightly larger coefficient for the physical theme. Males, on the other hand, have a slightly larger coefficient for the psychological theme. In addition, some interesting patterns of relationships become more evident when age, sex, and theme variables are studied more closely. These are summarized below.

The number of significant positive correlation coefficients expressing the relationships between all moral judgment scores and cognitive reasoning decreases with age. This decrease is more noticeable among females than males. In addition, the magnitude for these coefficients for total moral judgment scores and for the property theme decreases with age, with significant positive correlations at the six-year-old level, and no significant correlations at the twelve-year-old level. In fact, the correlation coefficient for twelve-year-old males on the property theme, though not significant, is negative. This is in contrast to the coefficients obtained for the physical theme, which indicate significant and substantial positive correlation coefficients at the nine-year-old level. A majority of the coefficients obtained on the psychological theme are non-significant, with the exception of the significant positive coefficient among the six-year-old males, whose scores probably contribute most

to the significant coefficients found among six-year-olds. In addition, the magnitude for the positive correlation on the psychological theme increases with age, except for the males at the six-year-old level, until it reaches significance at the twelve-year-old level for all children at this age, but not for males and females separately.

## DISCUSSION

Results of the present study support Gutkin's (1972) formulation of a four-level approach toward understanding more effectively the transitional shift in moral judgment from heteronomous to autonomous thought. Both chi-square analysis and the analysis of variance of children's moral judgment scores provided substantial support for such a formulation. However, results obtained also indicated that an understanding of this transitional shift in moral judgment may be influenced by the story content (theme) involving different types of damage/consequences. In the present study, children displayed higher levels of moral judgment (e.g., more intention-based judgments on themes pertaining to physical damage/consequences, followed by property and psychological damage/consequences, respectively. This is consistent with expectations based on previous research which indicated that children would display higher levels of moral judgments on themes pertaining to physical damage/consequences, followed by property and psychological damage/consequences, respectively (Armsby, 1971; Hebble, 1971; McKechnie, 1975). It should be noted, however, that in this study, the mean moral judgment scores of children on

property and physical damage/consequence themes were not as great as their mean differences from scores obtained on the psychological damage/consequence theme.

An explanation for the earlier intentional focus on situations involving physical damage may be due to the greater significance such an experience may have on a child's life. For example, the socialization practices (e.g., physical punishment) used by parents in controlling their child's behavior (Mowrer, 1960), if a child purposely hits his/her sibling may be more severely enforced than when property damage has occurred by accident. In such a situation, learning with respect to physical damage would occur more rapidly than property damage. In reference to the moral judgment scores of children on the psychological damage/consequence theme, children at all age levels had a low number of intention based responses. This may be due to the abstractness of the theme's content and the lack of overt visible damage/consequences present within them. Making intention-based moral judgments in situations involving psychological damage/consequences, therefore, may be an ability that a child develops at age levels older than the present sample.

Findings regarding the relationship between moral judgment and cognitive reasoning were interesting and varied. When considering the overall correlations associated with this relationship for the total sample as well as for the different sexes, Piaget's (1932) theoretical proposition that children's moral judgments are a reflection of a child's cognitive reasoning is supported. Noticeable sex,

age, and theme differences in these correlations, however, do occur and must be taken into account.

Female total moral judgment scores pertaining to property and physical themes were found to be more highly positively correlated with their cognitive reasoning than males, while male total moral judgment scores pertaining to psychological theme were more highly and positively correlated with their cognitive reasoning than females. This sex difference in the relationship between moral judgment and cognitive reasoning may be due to the differential socialization experiences males and females encounter in their interactions with their parents.

For example, during the middle childhood years, females are less likely to be reinforced by parents for displaying aggressive behavior (whether positive or negative) than males (Sears, Maccoby, and Lewin, 1957). The ignoring of such behaviors by parents among females, may lead them to learn not to focus their attention on property and physical damage/consequences in making moral judgments, but on their intentions. Males, on the other hand, may be more often reprimanded (Minton et. al., 1971; Serbin et. al., 1973) or even punished for aggressive behaviors than females, particularly of the negative kind (e.g., hitting and punching), with such value statements as "bad" or a "bully" (Bee et. al., 1969; Davis, 1967; Hoffman, 1975), thus learn to focus their attention on the intentions of characters found in stories associated with the psychological theme. If these propositions are true, then we would expect female moral judgments pertaining

to the property and physical themes to be more positively correlated with their cognitive reasoning than males. On the other hand, we would also expect that male moral judgment scores pertaining to the psychological theme to be more positively correlated with their cognitive reasoning than females. The following discussion, however, is pure conjecture. A future study focused upon understanding the relationship between parental influences and children's moral judgments might help to verify the propositions discussed above.

Another noticeable finding regarding the relationship between moral judgment and cognitive reasoning has to do with the decrease in the number of significant positive correlations with age. Such a decrease would be expected on the basis that as children grow older, moral judgments may be made on the basis of factors other than cognition (i.e., significant others, societal laws, institutional regulations) (Freud, 1933; Bandura, 1963). The fact that this relationship between moral judgment and cognitive reasoning was less apparent for females than males at later ages may also suggest that moral judgments of females may be more influenced by factors other than cognition at an earlier age than boys. Support for this proposition can be obtained from research on child rearing practices which suggest that females are often socialized (earlier) to be more conforming than males (Baumrind & Black, 1967).

Still another interesting finding regarding the relationship between moral judgment and cognitive reasoning has to do with the significance and magnitude of correlations associated with various

themes and age levels. At six years of age, moral judgment scores of males and females pertaining to the property theme were positively and significantly correlated with cognitive reasoning. In addition, at nine years of age, moral judgment scores of males and females pertaining to the physical theme were positively and significantly correlated with cognitive reasoning. In addition, at twelve years of age, moral judgment scores of males and females on the psychological theme were positively, though not significantly, correlated with cognitive reasoning. The magnitude of the correlations associated with the psychological theme for the twelve-year-olds are greater than at any other age level, with the exception of six year old males. On the basis of previous research regarding the developmental nature of children's moral judgments associated with various story themes (Armsby, 1971; Hebble, 1971; McKechnie, 1975) and cognitive reasoning (Piaget, 1932), we would not have predicted this pattern to occur. That is, since the developmental sequence of intention based moral judgments related to various themes appear to progress, beginning with the physical theme, followed by the property and psychological themes, respectively, and the fact that cognitive reasoning is a reflection of moral judgment, which increases with age, we would have expected cognitive reasoning among six-year-olds to be positively correlated with moral judgment scores on themes associated with physical damage/consequences, among nine-year-olds to be positively correlated with moral judgments on themes associated with property damage/consequences and among twelve-year-olds to be positively correlated with moral

judgment on themes associated with psychological damage/consequences. As indicated previously, however, this pattern did not occur. More research is needed to further delineate the developmental nature of moral judgments among young children associated with the various themes and its relationships to cognitive reasoning.

Finally, the finding that a majority of the correlation coefficients expressing the relationship between moral judgments scores of children associated with the psychological theme and cognitive reasoning were not significant suggest that making intention-based moral judgments associated with the psychological damage/consequence theme may require cognitive abilities among children beyond the ages used in this study. The significant positive correlation at the twelve-year-old level, for all children at this age, provides some support for this proposition. A second study using children 15 years of age may help to clarify this issue.

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Table 1\* Different Types of Story Pair Variations

	Type A		Type B		Type C	
	Story 1	Story 2	Story 1	Story 2	Story 1	Story 2
Damage/Consequence.....	High	Low	Low	Low	High	High
Intention.....	Good	Bad	Good	Bad	Good	Bad

  

	Type D		Type E		Type F	
	Story 1	Story 2	Story 1	Story 2	Story 1	Story 2
Damage/Consequence.....	High	Low	High	Low	Low	High
Intention.....	Good	Good	Bad	Bad	Good	Bad

\*Adopted from Gutkin, 1972

Table 2 Chi Square Analysis of Moral Judgment Levels by Age and Sex

		Levels of Moral Judgment					
		I	II	III	IV		
6 year olds							
males	6	7	3	1			
females	10	6	0	1			
total	16	13	3	2			
9 year olds							
males	7	3	3	4			
females	4	4	8	1			
total	11	7	11	5			
12 year olds							
males	0	3	9	5			
females	0	2	10	5			
total	0	5	19	10			
total males	13	13	15	10			
total females	14	12	18	7			

4.077

5.034

16.477\*\*

26.763\*\*\*\*

36.450\*\*\*\*

.253

.879

\*p .05; \*\*p .01; \*\*\*p .005; \*\*\*\*p .001

Table 3 Analysis of Variance Applied to the  
Moral Judgment Scores of Children by  
Sex, Age, and Story Theme

<u>Sources</u>	<u>MS</u>	<u>df</u>	<u>F</u>
Sex (G)	0	1	0
Age (A)	151.186	2	43.206****
Theme (T)	99.480	2	28.430****
G x A	4.542	2	1.298
G x T	7.539	2	2.155
A x T	2.382	4	.681
G x A x T	2.877	4	.822
Residual	3.499	288	

\*\*\*\*p .001

Table 4 Means and Standard Deviations Associated with Cognitive Reasoning and Moral Judgment Scores for the Total Sample and Different Sex and Age Groupings

Sample		Cognitive	Moral Judgment Scores			
			Total	Prop-erty	Phys-ical	Psycho-logical
Total	$\bar{X}$	15.75	8.82	3.30	3.70	1.82
	SD	5.63	5.37	2.28	2.22	1.82
Males	$\bar{X}$	16.65	8.82	3.30	3.61	2.00
	SD	5.34	5.07	2.28	2.25	1.64
Females	$\bar{X}$	14.84	8.80	3.39	3.78	1.65
	SD	5.82	5.72	2.36	2.22	1.99
6 year olds						
Total	$\bar{X}$	9.23	5.41	2.00	2.47	.94
	SD	2.38	4.47	2.13	1.85	1.32
Males	$\bar{X}$	10.35	6.35	2.53	2.71	1.12
	SD	1.93	4.50	2.15	1.96	1.64
Females	$\bar{X}$	8.29	4.47	1.47	2.24	.76
	SD	2.39	4.40	2.03	2.03	1.98
9 year olds						
Total	$\bar{X}$	17.21	8.38	3.06	3.44	1.88
	SD	3.22	5.69	2.32	2.44	2.07
Males	$\bar{X}$	17.88	7.90	2.71	3.29	1.94
	SD	3.00	5.65	2.54	2.62	1.75
Females	$\bar{X}$	16.53	8.82	3.41	3.59	1.82
	SD	3.37	5.87	2.09	2.32	2.40
12 year olds						
Total	$\bar{X}$	20.71	12.70	4.85	5.18	2.65
	SD	3.32	2.96	1.28	1.38	1.61
Males	$\bar{X}$	21.71	12.18	4.41	4.82	2.94
	SD	2.37	2.98	1.37	1.59	1.30
Females	$\bar{X}$	19.71	13.18	5.29	5.53	2.35
	SD	3.89	2.94	1.05	1.07	1.87

Table 5 Pearson Product Moment Correlation Coefficients Expressing the Relationships Between Moral Judgment and Cognitive Reasoning for Sample Total and Age and Sex Groupings

Sample		Moral Judgment Scores			
		Total	Property	Physical	Psychological
Total	r=	.62****	.53****	.57****	.47****
Males	r=	.58****	.38***	.54****	.53****
Females	r=	.66****	.68****	.62****	.41****
6 year olds					
Total	r=	.57****	.62*	.43*	.31*
Males	r=	.58***	.52*	.44*	.46*
Females	r=	.51*	.65***	.40	.14
9 year olds					
Total	r=	.43***	.31*	.50****	.25
Males	r=	.55**	.39	.63***	.26
Females	r=	.39	.33	.42*	.25
12 year olds					
Total	r=	.17	-.20	.13	.36*
Males	r=	.18	-.38	.40*	.34
Females	r=	.28	.09	.12	.32

\*p .05

\*\*p .01

\*\*\*p .005

\*\*\*\*p .001

## APPENDIX A

## Property Damage/Consequence Story Pairs

- GI-HD Matt/Judy is helping his/her brother/sister build a house with blocks. When the house was finished Matt/Judy tripped over the house while getting up. The house broke all apart.
- BI-LD Scott/Kathy was mad at his/her brother/sister, so while his/her brother/sister wasn't looking s/he knocked the roof off the house his/her brother/sister built on the floor. The roof broke.
- GI-HD Gary/Mary was helping his/her mother put groceries away from shopping. When s/he opened the refrigerator door, five bottles of soda pop fell out and all broke.
- BI-HD Paul/Ann went into the refrigerator after being told by his/her mother not to because it was too close to dinner time. When s/he reached for something in the frig, s/he knocked five bottles of soda pop on the floor and they all broke.
- GI-LD John/Nancy was helping clean the garage by sweeping the floor. While s/he was sweeping, the broom hit against the window and broke it.
- BI-LD Sam/Linda was told to clean his/her bedroom. S/he got mad because s/he didn't want to clean it, so s/he threw the broom at a window and broke it.
- GI-LD Harold/Janet was doing his/her homework and then got up to get a book. When s/he was getting up the chair fell over and knocked a glass of milk on the floor. The milk spilled on the floor.
- GI-HD Bruce/Lori was studying in the kitchen. While s/he was reaching for more paper to write on s/he bumped the toaster which fell on the floor and broke.
- BI-LD Ray/Barbara was playing in his/her room and decided to break something. So, s/he gets some scissors and makes a scratch on the mirror.
- BI-HD Mark/Betty was in his/her room playing when s/he decides to see if s/he can break something. So s/he takes a shoe and hits the mirror and breaks it.
- GI-HD Carl/Jane was helping his/her mother set the table for lunch. While s/he was carrying six plates to the table s/he slipped and dropped the plates. All six plates broke.
- BI-LD Mike'Sue decided to take some of the icecream his/her mother was saving for company. While s/he was getting a dish to put the icecream in, it slipped out of his/her hand and fell on the floor. The one dish broke.

## Physical (Body) Damage/Consequence Story Pairs

- GI-HD Bob/Connie was walking from one room to another carrying some books for the teacher, and doesn't see his/her brother/sister coming the other way and bumps into him/her. The brother/sister falls down and breaks his/her arm.
- BI-HD Jack/Carol sees a boy/girl coming down the hall at school and decides to trip him/her and sticks out his/her foot. The boy/girl falls down and scratches his/her arm.
- GI-HD Steve/Vickie and another boy/girl are playing together. Steve/Vickie gave the boy/girl one of his/her toys to play with. When s/he gave the toy to him/her it cut his/her hand and s/he had to go to a doctor.
- BI-HD Eric/Lois sees a boy/girl playing in one of the rooms at school. Eric/Lois wants him/her to give him/her one of his/her toys, and then hits the boy/girl with a toy and gives him a cut on the hand and the boy/girl has to see a doctor.
- GI-LD Peter/Julie was helping his/her brother/sister pick up books from the tables at the library. While Peter/Julie was carrying some books, one of the books fell off and hit his/her brother's/sister's foot and gave him/her a bruise.
- BI-LD Dave/Joyce wanted to be mean and pushed a chair in front of his/her brother/sister as s/he was walking into the classroom. The chair hit his/her brother's/sister's foot and gave him/her a bruise.
- GI-HD Dick/Karen was teaching a friend how to skate. While skating together, Dick/Karen lost his/her balance and bumped into his/her friend. The friend fell. Because of the fall, the friend broke a bone in his/her leg.
- GI-LD Bill/Cindy was helping a friend learn how to skate. While they were skating the friend tripped on Bill's/Cindy's skate and fell. The fall gave the friend a hurt leg.
- BI-LD Fred's/Kim's father told him/her to clean the garage. Fred/Kim didn't want to and got mad and pushed his/her brother/sister. The brother/sister got a small bruise.
- BI-HD Roger's/Emily's father told him/her to clean the basement. Roger/Emily didn't want to and got mad and hit his/her brother/sister and gave him/her a large bruise on the arm.
- GI-HD Doug/Sally is showing his father how to build a bird house out of wood. While the father was holding the board, Doug/Sally began to hammer the nails in the wood. The hammer slipped off the nail and hit the father's hand. The father's hand gets a broken bone.
- BI-LD Ed/Jill sees his/her father building something with wood and a hammer. Ed/Jill walks over to the father and hits him on the hand with the hammer, giving the father a cut on the hand.

## Psychological Damage/Consequence Story Pairs

- GI-HD While Jim/Diane was playing outside with his/her brother/sister, s/he tells his/her brother/sister that nobody in school likes him/her.
- BI-LD Jeff/Debbie wanted to make fun of his/her brother/sister who was playing outside, so s/he tells the boy/girl that s/he runs funny.
- GI-HD George/Rose likes to help the teacher after school by cleaning the blackboards, but today, the teacher said s/he could not help because the teacher had to leave early. George/Rose then tells the teacher that s/he doesn't like him/her and that s/he never wants to see the teacher again.
- BI-HD Chuck/Sharon was mad at his/her teacher because s/he didn't want to do his/her homework, so Chuck/Sharon tells the teacher that s/he doesn't want to see him/her again and that s/he doesn't like the teacher.
- GI-LD Roy/Amy is teaching his/her brother/sister how to read a story. While they are reading the story, Roy/Amy tells his/her brother/sister that s/he is a slow learner and is not very smart.
- BI-LD Brian/Beth is showing his/her brother/sister how to take a piece of cake without being caught. While they are taking the piece of cake, Brian/Beth tells his/her brother/sister that s/he learns slow and is not very smart.
- GI-LD Keith/Joan is playing a card game with a boy/girl. While they are playing, Keith/Joan tells the boy/girl that s/he doesn't like the color of the boy's/girl's shirt.
- GI-HD Kirk/Shirley is playing a card game with a boy/girl. In the middle of the game, Kirk/Shirley tells the boy/girl that s/he doesn't like him as a friend.
- BI-LD Ron/Kate doesn't want to play with the neighbor boy/girl anymore because s/he is a better player. So to get even with him/her, Ron/Kate tells that boy/girl that s/he is a cheater even though it was not true.
- BI-HD Joe/Sheila is mad at the neighbor boy/girl and doesn't want anyone to play with him/her so s/he tells all the other kids that the boy/girl is a cheater even though it wasn't true.
- GI-HD Ken/Pam is helping his/her father build a table for the kitchen. While they are working together, Ken/Pam tells his father that he is a bad father and that s/he did not love his/her father.
- BI-LD Ben/Lucy wants to play a bad joke on his/her father, so s/he tells his/her father that he doesn't listen and that the father is lazy.