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The development of children's cognitive and affective role-taking abilities in relation to aggressive behavior in the classroom

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Iowa State University

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The development of children's cognitive and affective role-taking abilities in relation to aggressive behavior in the classroom

by

Bruce Michael Gilberg

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of The Requirements for the Degree of DOCTOR OF PHILOSOPHY

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INTRODUCTION

Violence continues to be a major problem which takes diverse forms at all levels of society. Arguments have been made that aggression is an important component of self-defeating behaviors such as academic failure, alcoholism, and suicide. Physical abuse of a child, sibling, or spouse is not an uncommon problem-solving device for families in conflict. Criminal acts in the community and international war remain serious threats to optimal human development. Thus, the control and modification of aggression pose a fundamental developmental problem for the individual child or family as well as creating a central issue facing the extended social system.

At a descriptive level, aggression may be applied to any action inflicting harm on another person. This injury may be physical or psychological, but the term violence is typically confined to those aggressive cases involving physical harm. The definition of aggression as a psychological construct must include distinctions between accidental and intentional acts. Feshbach (1970) depicts unintentional aggression as:

injurious effects that are incidental consequences of the child's behavior and are irrelevant to the child's response (p. 161)

Intentional aggression, on the other hand, suggests that the motivation component of behavior is an essential part of the aggression. According to Sears, Maccoby, and Lewin (1957), this class of motivated aggressive acts can be divided into instrumental aggression (directed
toward the achievement of nonaggressive goals), and hostile aggression or aggressive drive (directed toward injury to another person).

A further refinement of the definition of aggression requires that a distinction be made between aggressive and assertive behavior. Assertiveness describes a behavioral pattern of active coping with the environment. Further it includes persistence in trying to satisfy one's own needs even when there is opposition to the goal. The distinguishing characteristic of aggressive behavior is its painful and destructive consequences. Assertive behaviors are generally viewed as positive, adaptive efforts, where aggressive behaviors are viewed as negative, often maladaptive, and subject to punishment.

Man's inhumanity to man has stimulated theories and research by social scientists who have investigated the origin and development of aggression with considerable attention given to children. A number of theories of aggression have focused on the influence of an instinctive, destructive drive. Cultural mores and socialization experiences represent the core of other theories. While psychoanalytic instinct theories in general have not been supported, there is some evidence that the biological state of anger or rage is associated with an aggressive drive (Feshbach, 1970). On the other hand, research based on social learning theory has established substantial evidence for environmental factors contributing to acquisition of aggressive behaviors (Bandura & Walters, 1963).

Recently, cognitive developmental theory has been applied to issues of socialization (Shantz, 1975). There may be a meaningful link between cognitive maturity and aggressive behavior. That is,
there appears a potential to contribute to an understanding and prediction of aggressive behavior by investigating the distinct cognitive operations children apply to defining situational and personal variables when in social conflict. A goal of research in this area is to investigate the proposition that in addition to psychoanalytic and social learning theories, cognitive-developmental principles may contribute to a valid interpretation of children's aggressive behavior.

Statement of Problem

Evidence in social cognitive theory and related research suggests the need for a clearer account of the relationship between the cognitive ability to role-take as defined by social cognitive theorists (Flavell, 1968; Selman & Byrne, 1974), and a child's level of aggressive behavior in conflict situations. The purpose of the present investigation is to study the relationship between cognitive and/or affective role-taking and children's aggressive behavior at different ages.

Role-taking is defined as a group of cognitive processes by which one person comes to know and understand another person (Kohlberg, 1969). More specifically, role-taking refers to the ability to decenter or extend one's attention to more than a single aspect of a situation. The result is the ability to take the position of another person and thereby infer his perspective (Shantz, 1975). A child develops a set of cognitive dispositions and abilities to
observe and make inferences about the intentions, attitudes, emotions, ideas, purposes, traits, thoughts, perceptions, and memories of another person (Flavell, 1968).

Affective role-taking represents the ability to take the position of another person and make an inference concerning his feelings. Cognitive role-taking depicts the capacity to take the position of another person and make an inference about his thinking. Thus, affective and cognitive role-taking describe similar inferential activities applied to two different content areas.

Measures of intelligence have been related to level of egocentrism, or the lack of role-taking (Lempers, Note 1). However, the extent of the relationship has varied with type of role-taking and testing procedure. Cognitive role-taking (Chandler, 1973), and affective role-taking (Deutsch, 1974) as defined in the present study have previously been found significantly independent of general intelligence.

The elementary school classroom represents an environment where peer relationships are encouraged as a basis for development of optimal social skills. However, there are occasions where children rely on physical aggression to resolve their disagreements. The present study examines the relationship between a child's role-taking competence and his level of physical aggression in the classroom.

An aggressor's intentions and the consequences of the act (Rule & Duker, 1973; Rule, Nesdale, & McAra, 1974), such as a victim's feelings (Feshbach & Feshbach, 1969), are significant bits of
information a child considers when observing or learning about an aggressive transaction. Cognitive and affective role-taking may be two forms of perspective taking that define the quality of information available to the child, and therefore define the degree of influence these cues have on learning and subsequent performance of aggression. That is, cognitive role-taking, defined as the ability to decenter where understanding another person's thoughts is required, may be a skill applied when an aggressor's intentions are a central issue. Affective role-taking, defined as the ability to decenter where knowledge concerning another person's feelings is required, may be applied when the feelings of a victim of an aggressive act are of relevance to understanding a given situation. Ability to engage in cognitive role-taking when attending to an aggressor's intentions, suggests that the child has the potential to avoid taking in the aggressor's motives as his own. He does not merely "imitate" or understand the aggressive intentions as being the same as his own. Affective role-taking, even if the child first identifies with the aggressor's feelings, suggests that the ability to decenter permits an awareness of the victim's feelings as well. The child can attend to more than one source of feelings when observing the encounter.

Demonstrating role-taking competencies as an observer suggests the child has a capacity to role-take when in an actual aggression provoking situation. The child who can role-take has the capacity to differentiate between previously observed reasons for aggressive behavior, and personal reasons for acting in a manner appropriate to the immediate situation. The child also can differentiate between
his immediate feelings, and the feelings of the prospective recipient of aggression. The ability to decenter from one's own feelings and thoughts when within a conflict situation also opens the door to feedback concerning inappropriate behavior, and therefore allows the child to have the potential to see a need to make behavioral modifications.

In summary, cognitive and affective role-taking effectively applied where there is information available concerning the aggressor's intentions and victim's feelings suggest a capacity to consider social norms when observing aggressive behavior or when in a conflict situation. The result is a tendency toward inhibition of aggressive behavior.

The present investigation explores the possibility of an age-developmental trend in the cognitive and affective role-taking abilities of children in elementary schools serving middle class families. Social cognitive theory (Selman & Byrne, 1974; Flavell, 1968) and research (Chandler & Greenspan, 1972; Greenspan, Barehboim & Chandler, 1976) offer some evidence for hypothesizing that social role-taking skill might improve considerably between first and third grade. Therefore, there is reason to believe the ability to apply cognitive and affective role-taking skills when observing aggressive interactions will improve between these ages. Sampling from a middle class school district provides the opportunity to control for level of social and emotional development related to family and educational experiences to a greater extent than in previous studies (Chandler, Note 2, 1973).
Practical Implications of the Investigation

The present study provides data concerning how well and when aggressive and nonaggressive children apply cognitive and affective role-taking skills in situations where there is information available that facilitates inhibition of aggressive behavior. It is expected that results will offer suggestions as to what types and when role-taking abilities serve as the focus of a screening instrument. An indication that a child has difficulty understanding another person's feelings or thoughts during social conflicts may offer guidance to teachers and counselors who are interested in developing remedial and/or preventive training programs. Role-taking is a cognitive skill applied where there is social interaction. Supervised experiences which require the application of role-taking may stimulate both cognitive and social development.

Hypotheses

The expansion of screening and intervention programs that focus on cognitive development as an essential ingredient for the child's social and emotional growth is dependent on additional research. The present investigation is based on the premise that role-taking ability may significantly influence the child's capacity to come to terms with social conflict. Therefore, the following hypotheses are tested to further delineate the relationship between role-taking ability and aggressive behavior.
1. There is no difference between first- and third-grade children's performance on tests of cognitive and affective role-taking.

2. There is no relationship between role-taking scores and first-grade children's performance on the Ames Indicator of Developmental Skills, or third-grade children's performance on the Stanford Achievement Test.

3. There is no relationship between cognitive role-taking scores and ratings of classroom aggression for first- or third-grade children.

4. There is no relationship between affective role-taking scores and ratings of classroom aggression for first- or third-grade children.

5. There is no difference in the degree cognitive and affective role-taking scores related to ratings of classroom aggression for first- or third-grade children.
REVIEW OF LITERATURE

The limitations of psychoanalytic and social learning theories have contributed to an interest in the cognitive-developmental interpretation of aggression. Therefore, it is appropriate to review the literature that contributes to describing a relationship between social cognition and aggression. It is also appropriate to review the empirical data that offers support to the cognitive-developmental viewpoint.

Theoretical Perspective

Freud (1930) suggested a self-destructive, death instinct as the basis for a child's aggressive behavior. Contemporary psychoanalytic theorists reject this concept (Blanck & Blanck, 1975), but support the notion that there are both instinctual and reactive sources of aggression. There exist destructive aggressive impulses, but they may be modified through processes of neutralization and sublimation. Neutralized energy is directed toward active problem solving, and other self-preservative tendencies during the course of normal development. Manifestations of this aggressive drive are exemplified by the infant's rage reactions, and the young child's oral and anal activities. Reactive aggressive behaviors are in evidence where a child is confronted by a frustrating situation.

There are learning theorists (Dollard, Doob, Miller, Mower, & Sears, 1939) who argue in favor of a frustration produced drive rather than an instinctual drive in an effort to clarify and
operationalize the frustration-aggression model. The focus is on factors including: the degree and type of frustration, the role of punishment as an inhibitory or excitatory variable, the expression of displaced aggression, and the possibility of aggression in some forms serving as a cathartic experience. Yet within this framework, little consideration is given to the acquisition of motivation to behave aggressively as a function of socialization experiences.

Learning processes take on a more important role when aggression is defined as an instrumental or operant response. Parameters such as reinforcement, generalization, discrimination, and extinction are more clearly related to the maintenance or modification of aggressive behavior after it occurs (Feshbach, 1970). Principles of observational learning (Bandura & Walters, 1963) are applied to explain the initial occurrence of an aggressive act. The role of reward, whether administered to a model or an observing child is to influence the observer's performance of an imitative response, but the acquisition of this response depends primarily upon sensory contiguity. Not only does exposure to an aggressive model instigate learning new aggressive acts, observation of aggression may serve to disinhibit aggressive behaviors already part of the child's repertoire.

The trend has been to de-emphasize the importance of frustration as an antecedent of aggressive behavior, and rely on social learning principles rather than an aggressive drive construct to account for aggressive behavior (Feshbach, 1970). There is also a growing interest in cognitive-developmental theory (Shantz, 1975) which represents the foundation for research considering how children's
cognitive ability influences their understanding of social events that provoke aggression, and how level of information processing is related to aggressive behavior. Principles of social cognitive development are an extension of Piaget's (1970) study of children's comprehension of the nonsocial, physical world.

According to Piaget (1970), the child becomes knowledgable about his world as a function of continuous adaptive interaction between the child and his surrounds. A two-way exchange involves the complementary cognitive processes of assimilation and accommodation. Assimilation refers to the child acting upon the environment by exercising already constructed cognitive structures or schemes. Accommodation represents the child's modification of structures to meet environmental constraints. When assimilation outweighs accommodation, thought evolves in an egocentric or subjective, illusory way. The child remains centered on his own actions, and his own point of view. Where accommodation prevails over assimilation to the point that the forms and movements of objects of persons are continually reproduced, there is imitation. A relative balance between assimilatory and accommodative thinking produces intelligent behavior.

Equilibration or self-regulation is the process of moving toward equilibrium, and it is equilibration that serves to integrate maturational and environmental factors that contribute to development. The development of cognitive processes proceeds through an invariant, age-related stage sequence. Each stage of development is an advance from the last one, built upon it by reorganizing it, and adapting more closely to reality.
The gradual emerging of equilibrium between assimilatory and accommodative processes at the concrete operational period permits decenteration; the ability to simultaneously compare several dimensions of a situation. The capacity to decenter as a basis for social role-taking is a key principle in social cognitive theory.

While there is no single theory of social cognition, models of interpersonal inference formulated by Selman (1971) and Flavell (1968) are exemplary. Selman (1974) suggests that the development of social role-taking ability within all interpersonal contexts follows the same age-related pattern as described in Piaget's (1970) cognitive-developmental stage theory and Kohlberg's (1969) theory of moral development. The concern is not with content, not with accuracy of perception of other or behavioral choice, but with the form in which conception of others emerge. Thus, Selman (1974) constructs a series of four role-taking levels. Each level is characterized by the developmental principles of differentiation (distinguishing perspectives), and integration (relating perspectives). The general outline of the model depicts the child younger than six years of age as incapable of making a distinction between a personal interpretation of social action and the thoughts and feelings of another person. The young child does not relate or coordinate various perspectives. During middle childhood (from 6- to 10-years) the child acquires the ability to make inferences about the thoughts and feelings of other people. The child begins to reflect on his own behavior and motivations as seen from another's perspective. By the age of 12 the child demonstrates the ability to differentiate between his perspective and the "generalized other." The child also
discovers an ability to simultaneously consider his own point of view, and another person's perspective. In addition, the child can view himself and another person from the vantage point of a third party.

Flavell (1968) presents a model of interpersonal inference based on an information processing approach. The approach describes the way cognitive skills sequentially depict how the child at a given age obtains and uses information about his social world. The four psychological events in social role-taking are labeled "existence," "need," "inference" and "application." The child first becomes aware that "inner psychological entities" exist. The realization that the situation requires inferential activity concerning one or more of the covert psychological processes follows. The child's inference is represented by the mental activities that are directed toward creating and maintaining a picture of another person's subjective experience. Finally, there is the application of inference; the child's subsequent behavior.

Flavell (1968) begins to construct a developmental model for the existence component as it applies to inference making related to visual acts. The child is first aware only of an object's whereabouts, but gradually becomes aware that another person also can maintain visual contact with the object. The child eventually is capable of a literal and precise type reproduction of another's retinal image. Each level reflects a more abstract, internal-percept oriented versus external-object oriented form of knowledge. The higher the level,
the more clearly and unambiguously one can deal with inferences about percepts rather than objects.

Whereas Selman (1974) concentrates on how concepts are organized, Flavell (1968) focuses on how that organization is utilized in thought and action. Enright (Note 3) suggests the two models may be combined to represent a more dynamic view of social role-taking. Thus, at each level of Selman's (1971) model, Flavell's (1968) sequence of information processing is presented. Each time a shift in structural level of interpersonal concepts occurs, the manifestation of the existence, need, inference, and application sequence appears qualitatively different. This qualitative change in all the steps in the information processing sequence conceptually follows the same pattern as represented by Flavell's (1968) developmental account of the existence component.

Enright's (Note 3) primary interest is in the link between level of inference ability and moral behavior (application). To clarify the relationship, Enright (Note 3) asserts not only does an individual make interpersonal inferences based on underlying cognitive structure when a "need" is present, but also the inference is put into practice only when there is a "need" or reason to do so. Enright (Note 3) refers to Hoffman's (1972) developmental theory of altruistic motivation which describes the need to react helpfully in a conflict situation as a person's "empathy" interacting with his cognitive sense of another person. Hoffman (1972) defines an empathic response to another's distress as an "involuntary, at times forceful experiencing of another's emotional state" (p. 613). Unpleasant affect accompanying
one's own painful experiences is evoked by another person's distress cues which resemble the stimuli associated with the observer's own experiences. For young children, this affective reaction represents the primary reason to act. But, when empathic distress is coordinated with role-taking, the child begins to acquire a sense of another's feelings and thoughts in their own right. A cognitive ability to differentiate self from other replaces a tendency to equate the child's own perceptions with the status of the real world. The child is now capable of defining need to act based on his own immediate affective reaction, and some knowledge about the other person's life. Hoffman (1972) labels the coordination of empathic distress and role-taking, sympathetic distress. While both empathic and sympathetic distress predispose the individual to act, only in the latter does the child see himself acting on the other's behalf.

According to Hoffman (1972), the child who imitates an aggressive model is behaving hedonistically as a result of immature empathic responses (a self-centered affective need) to aggression rather than a more sophisticated response involving role-taking. Hartup (1970) does not consider the affective need component. Instead, the aggressive child is egocentric (lacking in decentering skill) in his thinking, and therefore less conforming or responsive to peer influence. The child who is egocentric tends to be immune to social norms; norms providing feedback concerning the child's behavior and depicting alternatives.
Empirical Support for Psychoanalytic and Social Learning Theories

Given the variance in theoretical analyses of aggression, it is not surprising to find the development of a wide range of research interests and problems. Psychoanalytic theory has primarily found its support in clinical case study rather than in empirical research. Quality of empirical investigation has suffered since it appears exceedingly difficult to operationalize constructs such as the death instinct or neutralized aggressive energy. In addition, an inability to differentiate between destructive and self-gratifying oral and anal activities has inhibited valid research in the area of early childhood antecedents of the adult aggressive drive. Another consistent drawback has been the lack of a positive correlation among behavioral manifestations of the drive construct.

Research generated by social learning theorists, particularly those who found frustration-aggression, and stimulus-response models as providing inadequate accounts of aggression, contributed significantly to defining the nature of, and antecedents to aggressive behavior. Bandura, Ross, and Ross (1961, 1963) offer a core of research which suggested observation of live or film-mediated aggression affects the behavior of young children. The children in a study involving exposure to live aggressive adult models (Bandura, Ross & Ross, 1961) were 36 boys and 36 girls in the Stanford University Nursery School. The sex of the aggressive model and observing child were varied in eight experimental groups. An aggressive model pushed,
sat on, hit with a hammer, kicked and shouted at a five-foot inflated Bobo doll in a room where a child sat at a table designing "pastoral scenes" with animal, flower and western figure cut-outs. Boys and girls in a nonaggressive control group witnessed male or female models assemble tinker toys in a quiet manner totally ignoring the Bobo doll. At the end of 10 minutes each child was escorted to another game room where after two minutes of play, attractive toys were taken from the child to mildly induce frustration. A female experimenter stated that these particular toys were the best ones she had, and the experimenter preferred the child play with toys in the next room. The "arousal experience" was included since observation of aggressive behavior exhibited by others had tended to reduce the probability of aggression on the part of an observer in a study by Rosenbaum and deCharms (1960). The child was subsequently taken to the next room where he was encouraged to play with aggressive and nonaggressive toys. Aggressive toys included a three-foot Bobo doll, a mallet and peg board and two dart guns. Nonaggressive toys included crayons and coloring paper, a ball, and plastic farm animals. Each child spent 20 minutes in this experimental room, and the experimenter recorded the number of imitative nonaggressive verbal responses as well as imitative physical and verbal aggressive responses performed by the child. Results based on a Freidman analysis of variance of scores suggested exposure of children to aggressive models significantly influenced children's level of imitative physical ($\chi^2 = 27.17; p < .001$) and verbal ($\chi^2 = 9.07; p < .02$) aggression. T-tests computed for children in the aggressive condition revealed that boys reproduced
more imitative physical aggression than girls ($t = 2.50; p < .01$). Boys exhibited more physical ($t = 2.07; p < .05$) and verbal imitative aggression ($t = 2.51; p < .05$) following exposure to a male rather than a female model.

Bandura, Ross and Ross (1963) hypothesized that varying the exposure of 96 Stanford Nursery School children to film-mediated and real-life aggressive models would affect the probability of the children displaying aggressive behavior in a new situation. Children were divided into three experimental groups and one control group. The experimental groups observed real-life aggressive models, the same models portraying aggression on film, or a film depicting an aggressive cartoon character. The control group had no exposure to aggressive models. Data for children in the real-life aggression condition and control group were collected as part of the initial study (Bandura, Ross & Ross, 1961). Children in the human film-aggression condition were brought to a semi-darkened experimental room, introduced to art materials, and informed that a movie would be shown while they worked on their project. For children in the cartoon-filmed aggression group, a female experimenter turned on a color t.v. program of Herman the cat who displayed the same aggression toward a Bobo doll as his human counterparts. The method of eliciting mild frustration after the children viewed aggressive models, and the procedure for data collection were the same as in the original study of imitation of aggression models (Bandura et al., 1961). A Freidman analysis suggested that children who observed the real-life models and film-mediated models, relative to children in the control
group, performed significantly more imitative aggression ($X^2 = 23.88, p < .001$). A comparison of treatment conditions by the Wilcoxon test revealed that children who observed the real-life aggression models exhibited more imitative aggression than children who viewed the cartoon, but there were no differences between children in the film and live, and film and cartoon conditions. Previous findings concerning the influence of sex of model and sex of child (Bandura et al., 1961) were supported.

Hick's (1965) expanded on the exploratory research of Bandura et al. (1961, 1963) by investigating the relative effect of filmed peer and adult models as transmitters of novel aggressive responses. There were 30 boys and 30 girls attending nursery school assigned to four experimental groups and one control group. Children in the experimental groups observed an adult male model, a female adult model, a peer male model, or a female peer model behave aggressively toward a Bobo doll. The experimental groups and a control group, that did not observe an aggressive model, were scored for number of imitative aggressive responses. Approximately six months after their exposure to a film and the initial observation of behaviors, all children were observed again. At the second observation the children also were asked if they recalled the television show they had seen. Results indicated male peers had the most influence in shaping children's aggressive behavior ($t = 6.24, p < .001$). After six months, a greater number of a model's behavior was recalled than performed ($t = 4.30, p < .01$). The adult male model's behavior had the most lasting effect in shaping children's aggressive behavior ($t = 2.49, p < .05$).
The research continues to clarify factors contributing to the observational learning phenomena defined by Bandura (1969). For example, Cristy, Gelfand and Hartman (1971) investigated the effect of competition-induced frustration during children's games on the degree of aggressive behavior performed by first- and second-grade children. Children were placed in competitive game situations after observing real-life aggressive and nonaggressive models. The data offered support to Bandura's (1969) definition of frustration as exposure to stressful stimuli which elicit the dominant response pattern in an observer's response repertoire. The dominant response was determined by the individual's previous learning experience, including observations of models, and subsequent reinforcement of imitative behavior.

A recent study (Hapkiewicz & Stone, 1974) re-examined the influence of observing realistic and cartoon portrayals of aggression on children's behavior. Children (N = 180) in elementary school who viewed authentic television films depicting aggression realistically and children who viewed cartoons of aggression increased their aggressive behavior during play ($F = 10.9, p < .001$). A significant interaction effect ($F = 7.1, p < .01$) indicated that the realistic-aggression film acted selectively on boys. In general, boys were more aggressive than girls of the same age. These results (Hapkiewicz & Stone, 1974) were consistent with findings based on the presentation of aggression films created in the laboratory (Bandura et al., 1963).
Children's Understanding of Aggressive Behavior

Research in social cognition investigated the age-developmental pattern for a child's understanding of aggression. For example, cognitive ability as a basis for children's understanding the intentions and consequences of an aggressive act has been a relevant focus of research. According to Piaget's (1965) account of moral realism, young children will emphasize the consequences of an act rather than the intentions underlying it. Moral judgments will be based on the concrete use of immediately observable data. Rule and Duker (1973) therefore hypothesized young children would evaluate an aggressor more negatively when the act had more serious than less serious consequences, but would not evaluate the aggressor differentially on the basis of his good or bad intentions. Older children would evaluate the aggressor more negatively as a result of more serious intentions rather than the varying degree of consequences. There were 48 boys from the third grade and 48 boys from the sixth grade who participated in the experiment. Short stories that described one boy (A) transgressing against another boy (B) were presented. In response to the misdeed, B aggressed against A, either to teach him not to do it again (good intention) or to hurt him (bad intention). The consequence of B's aggression was either very serious (a negative consequence such as a broken leg) or not serious (a less negative consequence such as scratches on the leg). A significant age x consequence interaction ($F = 5.14, p < .05$) showed differences in evaluation due to severity of consequences were greater for younger
than for older children. However, regardless of age, aggressors who had good intentions were judged significantly less wrong than those whose intentions were bad ($F = 13.17, p < .01$).

Collins, Bendt and Hess (1974) studied children's knowledge of motive and consequence cues presented in a televised aggression program. A total of 60 boys and girls from each of grades kindergarten, second, fifth and eighth grade were selected for the study. The children viewed an 11-minute edited version of a popular action-adventure television program. The story portrays a Vietnam veteran who joins the police force and is assigned to find some guns stolen by young demonstrators. He kills one demonstrator while seeking information and later shoots into a crowd of demonstrators when angered by a city compromise with the demonstrators. After the film, children were questioned to ascertain their comprehension, recall, and evaluation of motive and consequence cues presented in the televised aggression program.

Contrary to the results reported by Rule and Duker (1973), the younger children did not demonstrate an understanding of the aggressor's intentions. A gamma statistic indicated a significant proportion of the younger children tended to only mention the aggressive scenes when recounting the plot, or associated aggression only with consequences ($z = 2.01, p < .01$). Proportionally more fifth- and eighth-grade children than younger children construed aggression in terms of motives and consequences ($z = 4.65, p < .001$).

An analysis of variance showed a main effect of age where older children were significantly more accurate at recalling motives in the
two aggressive scenes ($F = 8.61, p < .01$). The gamma statistic indicated more young children, compared to fifth- and eighth-grade children, tended not to offer an explanation for aggression or simply recounted the aggressive act to explain ($z = 3.18, p < .01$). At the same time, a higher proportion of older than younger children gave motive based explanations for their evaluations ($z = 5.11, p < .001$). The authors suggested age differences in recognition of the two types of cues may have been due to older children's ability to selectively attend to, and systematically organize relevant plot elements.

Rule et al. (1974) focused on children's understanding of different types of intentions (hostile, personal-instrumental and social-instrumental) underlying an aggressive act rather than the intentional versus consequence developmental relationship. There were 36 girls and 21 boys from each of three grade levels (kindergarten, second grade and fifth grade) participating in the study.

Each child was presented with three stories describing a same-sexed story character aggressing against another in three different situations. Information concerning the aggressor's intentions was manipulated within the context of the uncomplicated, short stories. At the conclusion of each story, a same-sexed experimenter checked the child's comprehension of the story, and then asked the child to indicate how bad the aggressor was for aggressing against the victim.

An analysis of variance revealed a significant effect for intentions on how bad the aggressor was rated for hitting the victim ($F = 3.46, p < .05$). Duncan's multiple-range test indicated that girls as young
as six judged hostile aggression as worse than social-instrumental aggression.

It is apparent that methodological differences in presentation of aggressive behavior for observation, and level of verbal report required as a comprehension measure exist. Variability in procedure may be contributing to the different accounts of when a child considers the significance of the aggressor's intentions and the consequences of the act as relevant to valid judgment of the act. Nevertheless, there is some evidence to suggest children as young as first grade understand the intentions and consequences of aggressive behavior to provide information as to the seriousness of the act (Rule & Duker, 1973; Rule et al., 1974). However, level of comprehension (the act of grasping with intellect) has not been found a sufficient factor for behavior to occur in studies reviewed by Enright (Note 3).

Cognitive and Affective Role-Taking: Methodological Considerations

There are studies of social role-taking which define a methodology for investigating an age-developmental pattern to a cognitive ability-aggressive behavior relationship. Research has focused on how well a child differentiates between his own thoughts or feelings and the thoughts and feelings of a story character. The emphasis has been to developmentally assess the ability of a child to anticipate what someone else might think or feel when those thoughts or feelings are different from his own.
Borke (1971) provided a multiple-choice procedure which permitted children to display their perspective regarding feelings of others without having to use words. According to Borke (1971), requiring extensive verbal reports, as in social judgment tasks in which perspective taking skills are inferred (Selman, 1971), was a biasing factor. The bias factor was in favor of the development of accurate understanding of another's point of view in middle rather than early childhood.

Included in Borke's (1971) study was a presentation of six incomplete stories depicting feelings of happiness, sadness and anger to children between the ages of three- and eight-years of age. The children were asked to express their understanding of the emotional consequences of the story events by selecting from a set of pictures the picture which best characterized the resulting affective state of the story character. Children as young as three-and-a-half years of age gave the correct response to the "happy" stories 60 percent of the time. Children between the ages of four-and-a-half and five-and-a-half years of age respectively, gave the correct response to "sad" and "angry" stories 76 percent and 50 percent of the time. Borke (1971) indicated the results demonstrated that very young children were capable of anticipating another person's feelings.

Chandler and Greenspan (1972) criticized Borke's (1971) results as reflecting a stereotype based on projection, instead of insight as a function of role-taking. In an attempt to differentiate between a more primitive ability to sometimes correctly anticipate the thoughts and feelings of others, and a role-taking skill based on decentration, Chandler and Greenspan (1972) made significant methodological improvements.
The first half of the procedure was patterned after Borke's (1971) approach, with children selected from first through seventh grade required to anticipate the emotional reaction of story characters' faces. A sequel to each story then had the central character shown to behave in a way consistent with the recently aroused affective state. The central character was now joined by a second child, who, as a late arriving bystander was a witness to behavior consistent with the hero's affect, but not consistent with what the bystander could know about the circumstances which gave rise to the emotion. The observing child was first required to relate the entire story from his point of view, and then was required to interpret the same events from the limited perspective of the late-arriving bystander. A child had to set aside his own understanding of a situation, and adopt the point of view of someone who had less information than himself.

Results indicated children performed virtually without flaws on Borke's (1971) test. However, the youngest children's performance was significantly below that of the older children on the perspective-taking task (Cochran's $Q = 12.3$, $p < .001$). Chandler and Greenspan (1972) therefore concluded young children were able to anticipate the affective responses of others, but to accurately assume perspectives different from one's own is a developmental accomplishment achieved in middle-childhood.

Chandler and Greenspan (1972) critiqued Borke's (1971) empathic measure, yet their test was specifically sensitive to the child's ability to differentiate between what he knew as the reason for the
story character's feelings and the limited information the bystander
had concerning antecedents of the central character's feelings.
Deutsch (1974), however, presented a decentering measure as an empathy
instrument to assess whether 48 female preschoolers were able to focus
on more than one stimulus element in making judgments of another's
affective state. To achieve this, there were two story episodes in-
volving positive interpersonal behavior followed by negative affect,
and two episodes of negative interpersonal behavior followed by positive
affect. The incongruous episodes were complemented by four congruous
episodes where positive and negative affect were matched to the ap-
propriate positive or negative interpersonal behavior. It was
hypothesized the congruous episodes would be easier to interpret than
incongruous episodes where contradictory cues had to be simultaneously
considered (decentration). For each of the eight episodes, the measures
included: a. the accurate verbal labels of the affect prior to and
after the interaction with the second actor, b. the accurate verbal
labels of a major actor's behavior prior to, and after the interaction
with the second actor, and c. an explanation of why an actor looked
or affectively responded in a certain way in light of the inter-
personal behavior. Related to Borke's study (1971), the first two
measures were concerned with the child's accurate descriptions of
affect and interpersonal behavior. To be able to explain the discrepancy
between affect and the nature of interpersonal behavior required a
child to decenter. Children's accurate perceptions of affect and
affective responses (F = 9.65, p < .01) and intrapersonal behavior
(F = 8.82, p < .01) were significantly more accurate for the congruous
episodes than the incongruous episodes. Children's scores on reasons for the story character's final affect also were significantly greater for congruous stories ($F = 16.94, p < .001$).

A recent study by Greenspan, Barenboim, and Chandler (1976) sought a developmental perspective of empathic ability as a cognitive skill for first- and third-grade children. Similar to previous studies (Kurdeck and Rodgon, 1975; Deutsch, 1974), the authors manipulated relative degree of congruence between the contextual cues provided by the thematic character of the stimulus situation, and the affective expression evidenced by a target character at the end of the story. The child was given instructions to pay special attention to the target character (boy wearing a hat). Empathic skill was defined as the ability to consider and integrate all available relevant information relating to the affective state of a target character.

First- and third-grade boys and girls ($N = 80$) were scored on:
a. their judgment of what the target character was feeling (happy or sad) at the end of the story, b. their description of the target character's facial expression at the end of the story, and c. the degree of certainty or uncertainty expressed about the accuracy of their judgment of the target character's feelings; to go beyond the initial affective judgment. For the unambiguous stories there was no difference in the performance of first and third graders ($\chi^2 = 1.03, p < .3$). Presented with an ambiguous situation, first graders made significantly more inaccurate judgments of facial expressions, and were more often certain of their judgment of affect where certainty was not possible ($\chi^2 = 6.47, p < .02$). Results suggested
first-grade children followed a more centered and univariate inference strategy which allowed them to make accurate judgments about feeling states of others only when all available cues pointed in the same direction. Greenspan et al. (1976) concluded more complex inference problems are not typically perceived as such by children who employ a centered strategy. These children are led in one direction or another depending on the available cue to which they attend.

Kurdeck and Rodgon (1975) emphasized the importance of not considering perspective-taking as a summary variable which obscures the possible multidimensional nature of the cognitive skill. There was no conclusive evidence that role-taking in various forms could be considered a single construct or process. Thus, included in the study of 167 kindergarten through sixth-grade boys and girls were measures of cognitive perspective taking or the ability to assess another person's knowledge, and affective perspective-taking or the ability to assess another person's emotional state.

The cognitive perspective-taking task required the child to tell a story based on a set of seven pictures. Level of role-taking was measured by comparing the first story to a tale the child was to predict a friend of his would tell if only supplied with four of the cards. The child would have to refrain from integrating into the second story the theme represented by the missing cards.

The affective-perspective taking task required the child to label a story character's emotions which were appropriate or inappropriate to the situation described. A child's inability to role-take was
evident where he predicted the character's affective response in accordance with cues provided by the narration even when the affect was inappropriate. The child was predicting the character's affective response on the basis of how he, himself, would feel in the situation.

Results of the study indicated cognitive perspective-taking increased between both second and third grades, and fourth and fifth grades. Affective perspective-taking in situations minimizing the likelihood of projection surprisingly decreased with grade level. Kurdeck and Rodgon (1975) suggested in the affective perspective-taking task, older children were attending more to verbal cues of the narrative than to pictoral cues of the illustrations. Another result was a failure to find intercorrelations among the perspective-taking tasks. While this could be interpreted as evidence for social perspective-taking appearing as a multidimensional cognitive skill, the authors cautioned against this conclusion. Where the tasks did not involve structurally related operations, the tasks did not necessarily require equal information processing.

There is research evidence (Chandler & Greenspan, 1972; Deutsch, 1974; Kurdeck et al., 1975; Greenspan et al., 1976) demonstrating the development of cognitive role-taking and affective role-taking abilities. These skills undergo the kind of qualitative structural reorganization which cognitive developmental theorists such as Piaget (1970) and Kohlberg (1969) have posited for cognition in general and for the area of social cognitive development. The above studies represent an improvement in previous research methodology
(Borke, 1971). Instead of monitoring summarial judgments which cannot distinguish between simple and complex thought processes, there are tests that measure sophisticated, decentered inference strategies. The most reliable data (Chandler & Greenspan, 1972; Greenspan et al., 1976) from tests sensitive to qualitatively different inferential strategies indicate children in elementary school have the capacity to differentiate between their knowledge and feelings, and the thoughts and emotions of another person.

Role-Taking in Relation to Aggressive Behavior

Where social role-taking has been assigned a central role in the normal socialization process, research has focused on the relationship between global measures of moral judgment of socio-moral dilemmas similar to real-life situations, and prosocial behavior (Selman, 1971; Selman & Byrne, 1974). There have been investigations (Chandler, Note 2, 1973) which use more precise measures of role-taking when exploring the relationship between perspective-taking and aggressive behavior. However, in these studies, story situations presented to a child for evaluation do not reflect real-life aggression provoking situations. In addition, the research (Anthony, 1959; Chandler, Note 2; Chandler, 1973) has centered on the developmental delays in the acquisition of role-taking abilities and the maintenance of chronic, anti-social behavior.
For example, Chandler (1973) compared the performance of 45 delinquent and 45 nondelinquent 11- and 13-year-old boys on a cognitive role-taking task.

The task required the subject to differentiate between the privileged knowledge he had concerning the cause for a story character's distress, and a late-arriving bystander's limited perspective. An exemplary cartoon sequence unrelated in theme to the context in which a person might behave aggressively was as follows:

A boy, who had been saddened by seeing his father off at the airport, began to cry when he later received as a gift a toy airplane similar to the one which had carried his father off.

The bystander would witness the crying after receiving the gift, but not the airport scene.

There was a significant deficit in the delinquent group's cognitive role-taking scores ($F = 80.4$, $p < .001$). Consequently, the delinquents were assigned to a remediation program. The intervention program required the boys to produce dramatic film episodes of person's their own age in real-life situations where each boy had the opportunity to act out each role. Some of the delinquent boys were assigned to a placebo group where role-playing was not experienced. The participants of the 10-week "film workshop" improved on the role-taking test ($F = 9.46$, $p < .01$), and an 18-month follow-up study indicated a reduction in delinquent behavior.

Chandler's (1973) results require qualifications which suggest further research. First, in the training situation it is probable
(although not specified) different feelings and reasons for aggression were analyzed, and therefore the ability to attend to, and evaluate this type of information was improved. Rather than relating a general cognitive role-taking skill to improved behavior, it is very possible the ability to differentiate between one's own thoughts about a given conflict situation, and the motives of an observed aggressor was more related to a decrease in aggressive behavior. In addition, the ability to distinguish between one's own feelings and the feelings of a victim to aggression may have contributed to improved behavior.

A second consideration was the fact that the majority of delinquent and nondelinquent boys differed substantially in socioeconomic status, and racial and ethnic backgrounds (delinquents from low income minority families). These factors may have contributed significantly to differences in performance in most testing situations, including the screening cognitive role-taking test. In addition, the range of stimulus situations eliciting an aggressive response, the intensity of aggressive affect modeled, and the attitudes reinforcing the expression of aggressive behavior are a few of the variables which may have represented more influential causes for differences between the delinquent and nondelinquent boy's behavior. Finally, there were so many deficiencies in the delinquent boys' life situations, it is difficult to sort out whether role-taking experiences or other qualities of the "film workshop" (for example, the attention and acceptance by the workshop leader) contributed to a decrease in aggressive behavior.
Chandler's (1973) research provides preliminary evidence for the relationship between role-taking and aggressive behavior. The cognitive role-taking test design overcomes some limitations of previous instruments (Borke, 1971; Selman, 1974). Nevertheless, Chandler's (1973) approach to identifying cognitive operations related to aggressive behavior also raises additional questions.

The purpose of the present study is to coordinate recent research methodology improvements in the area of social cognition in order to further investigate the relationship between cognition and social behavior. More precise measures of relevant role-taking skill are employed to discern whether level of role-taking ability is related to children's aggressive behavior. The present investigation provides a first attempt at defining an empirical relationship between role-taking and aggressive behavior within a normal developmental perspective.
METHOD

Subjects

Only first- and third-grade boys from the Ames, Iowa, public school system participated in the study. Therefore, control for variance in aggression as a sex-typed behavior was achieved. Teachers were asked to identify all boys who had not demonstrated emotional or learning difficulties requiring intervention from outside the classroom resources. There were 39 boys from four first-grade classrooms and 45 boys from six third-grade classrooms participating in the investigation.

Scale Development

Teacher rating

A Teacher's Rating Scale (see Appendix A) to identify children displaying aggressive behavior in the classroom was developed. The basis for developing the teacher ratings centers around descriptive statements of situations in which children are physically aggressive in school. The scale attempts to establish a child's level of aggressiveness through the teacher's responses to the following instructions:

For my dissertation research I am interested in your judgment of a child's level of physical aggressive behavior in the classroom. Will you respond to the following descriptive statements in the way which you feel best represents the behavior of each child
participating in the study. There are no "right" or "wrong" responses. In the space provided, place a number (1 to 99) that best describes how you see the behavior of each child compared to the average child you have taught at this grade level.

The technique for rating each child is based on the following certainty scale (Wolins & Dickinson, 1973):

Respond "99" if you think the child behaves in a similar way as described much more than the average child, and "1" if you think the child responds that way much less than the average child. Use numbers larger than "50" to show the child behaves that way more than the average child, and numbers smaller than "50" to show the child behaves that way less than the average child. Use "50" to show the child behaves that way no more or no less than the average child. Make use of the full range (1 to 99) whenever possible, and make your ratings as fine as you want.

The descriptive statements of situations and physically aggressive responses were constructed by Leifer and Roberts (1972) by asking 3- to 16-year-old children what made them angry, and what they did about the situations that made them angry. A composite of the responses most frequently given by 4- to 10-year-old children serves as a standard for the teacher ratings. The reliability and validity of the Teacher Rating Scale remain to be tested.
Peer rating

A Peer Rating Scale (see Appendix B) was constructed to measure aggressiveness in the classroom. The rating scale is based on the child selecting classmates most like the aggressive or submissive character described in a short story. Descriptive pictures that coincide with story content are presented simultaneously with the story narration.

Following the narration of each story, the child is asked:

Who among the boys in your class is most like ______
(name of aggressive or submissive character)? Who is your second choice?

The child also is asked for his first and second choice of children most like another character in the story who is a late-arriving bystander to the aggressive behavior. The selection of classmates as similar to the late-arriving bystander is requested to de-emphasize the importance of rating classmates only for aggressiveness or submissiveness.

The rater's choice of a classmate most like the aggressive character in the story is scored two points. The rater's choice of a classmate most like the submissive character in the story also is scored two points. Second choices for classmates most like the aggressive or submissive character in the story are scored one point. A rater's selection of classmates as comparable to the bystander in the story is not scored. The aggressiveness score for each child in the class is determined by totaling the points he earns as most like the aggressive character minus the total points he earns like the submissive
character, and dividing the sum total by the total number of boys in the classroom. The reliability and validity of the Peer Rating Scale are yet to be tested.

Tests

Cognitive role-taking test (see Appendix C)

A series of four stories was developed to assess the child's capacity to decenter. That is, the stories are designed to measure a child's ability to anticipate what another person is thinking precisely when those thoughts are different from his own. An evaluation of the child's role-taking skill focuses on how well the child verbalizes the fact that information concerning an aggressor's personal-instrumental reasons for an aggressive act is not available to one of the story characters. Every story is accompanied by five descriptive pictures which help to clarify actions taken in the story.

Each story is read to the child individually and he is asked:

Can you tell me the story you just heard and saw?

If the child has difficulty recalling a story character's name or a story character's behavior, the experimenter may supply the character's name or ask, "What happened here?" Then the child is asked to retell the story from the late-arriving bystander's point of view. The experimenter points to a picture of the bystander and asks:

What does _______ (bystander's name) know about what happened in the story?

If the child does not respond to the question, the child is asked:
Can you tell me the story ________ (bystander's name) would tell?

All the child's comments with respect to describing the bystander's point of view are recorded.

A five-point scoring system is used to measure level of role-taking ability reflected in the child's account of the story sequence from the bystander's perspective. Four points are assigned to story responses which clearly distinguish between privileged information known only to the child (statements made prior to introduction of bystander) and facts available to the story character whose role he is asked to assume. A score of three points is given to an egocentric attribution (a child attributes privileged information to the uninformed bystander) which the child spontaneously corrects. A score of two points is assigned to a response where the child does not specifically refer to information only available to him (statements made prior to introduction of bystander), but within his answer there is a reference to the aggressor's success at getting "back" what was originally his. One point is given to a child attributing privileged information to the uninformed bystander, if embedded in the attribution are one or more nonegocentric alternatives. That is, egocentric accounts are qualified by a conditional or probabilistic comment (i.e. the bystander should or would know what happen). When a child's account of the story attributes to the uninformed bystander knowledge legitimately available only to the child, himself, the score is zero. The child's cognitive role-taking score is the sum total of points from responses to the four stories.
The story design for the Cognitive Role-Taking Test is fashioned after Chandler and Greenspan's (1972) instrument where the child is provided with details of a story that are not made available to a late-arriving bystander. The incidents in which the aggressor reveals his intentions to the child are based on literature (Roeddell, Slaby, & Robinson, 1976; Leifer & Roberts, 1972) describing the physical aggression of school-aged children. The reliability and validity of the role-taking measure have not been tested.

Affective role-taking test (see Appendix D)

Once again, four stories were developed to evaluate the child's ability to decenter. In this case, stories are constructed to assess the child's ability to consider and integrate all available relevant information relating to the affective state of a victim of aggression. Affective role-taking skill is evaluated by measuring how accurately the child identifies the affective behavior of the story character who is a victim to aggression. The evaluation also is based on the child's ability to recognize when the victim's behavior is inconsistent with the thematic character of the story.

There are two unambiguous and two ambiguous stories presented during the test. Ambiguity is contingent on the appropriateness or inappropriateness of the target character's behavior (questions are asked about this character's feelings).

The unambiguous stories depict target characters who are appropriately feeling bad after falling victim to an aggressive act. Descriptive pictures for these stories show a target character who has
a sad facial expression and tense body posture after being victimized. Thus, a target character's affective behavior is congruent with the situational context in which he is operating.

The ambiguous stories describe target characters who are inappropriately happy and relaxed after being victimized. Descriptive pictures for these stories show a target character who has a happy facial expression and relaxed body posture after becoming the victim to aggression. A target character's affective behavior is incongruent with the situational context in which he is operating.

Following the presentation of each story, the child is asked to respond to the following questions:

How does _____ (name of target character) look at the end of the story? How does _____ (name of target character) feel at the end of the story? How sure are you that _____ (name of target character) is feeling _____ (repeat child's initial judgment of affect)?

A question is repeated once if the child does not respond.

The child's responses are scored plus one when he correctly reports what the target character's affective behavior is, regardless of what he may believe should be the target character's affective behavior. Incorrect responses, e.g. are scored minus one. A zero score is given any response of silence or an irrelevant response.

Judgment of the target character's facial expression in an unambiguous story is scored plus one (correct response) if given a negative label (i.e. sad, angry, etc.), and minus one (incorrect response) if given a positive label (i.e. happy, cheerful, etc.).
The child's judgment of the target character's feelings at the end of an unambiguous story is scored plus one for a negative response, and minus one for a positive response. On the other hand, judgment of the target character's facial expression in an ambiguous story is scored plus one if labeled positively, and minus one if labeled negatively. The child's judgment of the target character's feelings at the end of an ambiguous story is scored plus one for a positive response, and minus one for a negative response.

The child's responses are scored plus one where he correctly reports the certainty he has in his initial judgment of the target character's feelings in relation to story ambiguity. Incorrect responses are scored minus one. Once again, a zero score is given any response of silence or an irrelevant response.

If the child indicates he is certain of his initial affect judgment at the end of an unambiguous story (an appropriate response since the information available in the story is consistent), he receives a score of plus one. Uncertainty is scored minus one. At the end of an ambiguous episode, the child's response is scored plus one if he indicates he is uncertain about his judgment (an appropriate response since the information available in the story is inconsistent).

The affective role-taking measure is based on a design created by Greenspan et al. (1976). The story situations have their basis in the recent literature (Roedell et al., 1976; Leifer & Roberts, 1972) describing the physical aggression of school-aged children. Reliability and validity for this role-taking measure are yet to be tested.
Ames indicator of developmental skills

An estimate of general intelligence for first-grade boys is represented by their verbal expression scores on the Ames Indicator of Developmental Skills (Long, Note 4). The group test is administered at the end of the kindergarten year by the classroom teacher. The Verbal Expression score indicates a child's ability to identify objects, form classifications, make comparisons, interpret illustrations, recognize cause and effect, arrange a series, and dictate stories. According to Long (Note 4), the verbal expression measure has test-retest reliability ($r = .55, p < .05$) and verbal expression is significantly related to the Peabody Picture Vocabulary Test ($r = .57, p < .05$).

Stanford achievement test

Performance on the Stanford Achievement Test (Madden, Gardner, Rudman, Karlsen, & Merwin, 1973) provides an estimate of general intelligence for third-grade children. The group test is administered during the time a child is enrolled in the third grade by the classroom teacher. The achievement test includes measures of vocabulary level, reading ability, and mathematical skills. Results from a recent study (Madden et al., 1973) suggested that performance on the Otis Mental Ability Test is significantly related to performance on the Stanford Achievement Test ($r = .77, p < .05$).
Procedure

The experimenter received permission to conduct the study from the Assistant Superintendent for Curriculum and Instruction in the Ames public school system. Principals and teachers were introduced to the study, and a schedule for testing was arranged. Before the interviews with the children began, the experimenter introduced himself to all the children in each classroom by stating his interest in playing a story-telling game with the boys in the class. After the visit, the teachers were requested to send a parent consent letter (see Appendix E) home with all the boys.

Teachers were requested to identify the boys in their class who had been diagnosed as having learning or emotional difficulties requiring special professional care. The selection guidelines were imposed to control for unexamined characteristics of the child's disposition. The identified children were given a letter to take home to avoid a situation where they felt left out. The teachers were informed that these children were not required to work through the experimental tasks, but would be interviewed so as not to bring special attention to them as nonparticipants in the study.

Each child was interviewed individually in a quiet place outside the classroom to obtain a peer rating of aggression and to evaluate their role-taking ability. An interview was introduced as follows:

I understand that you're good at telling stories.

I have some here that I would like you to help me
with. They are some stories about boys your age. I'm going to read the stories to you, and then I want you to help me by answering some questions. There are no right or wrong answers. It is what you think is right that is important to me. Since this is not a test, I do not intend to tell your teacher or classmates what you have to say. Now, listen and look at the pictures of each story carefully.

The peer rating of aggressive behavior was obtained when one warm-up story accompanied by descriptive pictures (see Appendix B) was read before testing for cognitive role-taking. The story presentation was a warm-up in that the child was asked to recount what happened during the story as he was asked to do during the Cognitive Role-Taking Test (see Appendix C). Remembering the story content also was practice for responding to questions in the Affective Role-Taking Test (see Appendix D).

Order of presentation of the Cognitive Role-Taking Test (see Appendix C) and the Affective Role-Taking Test (see Appendix D) was counter-balanced, and stories within each test were randomly presented. Responses were not reinforced, but periodically a child was encouraged by a "you're doing fine" comment. After the role-taking tests were administered, the child was offered an opportunity to ask questions. He was then escorted back to his classroom.

Children with learning or emotional difficulties who received parental permission to participate in the study were seen by the experimenter for a brief, nondemanding interview. Instead of asking
questions of the child, he was shown some of the test pictures and encouraged to make-up his own story.

The experimenter met with each teacher to answer questions concerning the instructions for the teacher rating of aggression. Teachers returned the rating sheets after interviewing with children in their classes was complete.

The first-grade boys' verbal expression scores from the Ames Indicator of Developmental Skills (Long, Note 4), and third-grade boys' Stanford Achievement Test (Madden et al., 1973) scores were obtained at the Ames Community Schools central office.

Statistical Analysis

The data were collected, and prepared for statistical analysis without the use of children's names. Two raters independently coded the children's responses for the Cognitive Role-Taking Test (see Appendix C). To establish inter-rater reliability, the responses of 10 children were independently rated yielding 90 percent agreement. Pearson product-moment correlation coefficients were calculated to test the hypotheses involving the Teacher and Peer-Rating Scale scores, Cognitive and Affective Role-Taking Test scores, and Verbal Expression scores from the Ames Indicator of Developmental Skills, and the Stanford Achievement Test scores.

It is possible that individual teaching experiences at different grade levels may influence teacher ratings of aggression. To adjust
for a grade effect, the within-grade variances and covariances for teacher ratings were pooled across grades.

Children who did not take the Ames Indicator of Developmental Skills or the Stanford Achievement Test were not included in correlational tests involving estimates of intelligence. The remaining statistical analyses were applied to data from all the children in the study.

The Spearman-Brown formula using inter-item correlations served as an estimate of internal consistency within the Cognitive and Affective Role-Taking Tests.
RESULTS

The hypothesis that there is no relationship between grade level and role-taking test scores was not rejected ($p > .05$). There is also no significant relationship between ratings of aggression ($p > .05$) and grade level.

The hypotheses referring to role-taking scores in relation to estimates of intelligence were not rejected ($p > .05$). These results appear in Table 1.

Table 1. Correlations for ratings of aggression and role-taking scores with intelligence

<table>
<thead>
<tr>
<th></th>
<th>First grade$^\text{a}$ verbal expression</th>
<th>Third grade$^\text{a}$ achievement test</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT</td>
<td>.25</td>
<td>-.04</td>
</tr>
<tr>
<td>ART</td>
<td>.12</td>
<td>-.14</td>
</tr>
<tr>
<td>TR</td>
<td>-.22</td>
<td>-.35*</td>
</tr>
<tr>
<td>PR</td>
<td>.10</td>
<td>-.53**</td>
</tr>
</tbody>
</table>

Note: CRT = Cognitive Role-Taking Test; ART = Affective Role-Taking Test; TR = Teaching Rating Scale; PR = Peer Rating Scale.

$^\text{a}df = 31.$

$^*p < .05.$

$^{**}p < .01$

There is a significant relationship ($p < .05$) between teacher ratings of aggression and third-grade children's scores on the Stanford Achievement Test which indicates that more intelligent children were
rated as less aggressive. As with teacher ratings, peer ratings of aggression are inversely related to intelligence for third-grade children ($p < .01$). The possibility that first-grade children's Verbal Expression scores represented an inadequate measure of intelligence may have contributed to no significant relationship ($p < .05$) between ratings of aggression and estimates of intelligence for children in the first grade.

Hypotheses concerning the relationship between role-taking test scores and ratings of aggression were not rejected. As shown in Table 2 there are no significant relationships ($p > .05$) between Cognitive Role-Taking Test scores and ratings of aggression for children in the first or third grade. There are also no significant relationships ($p > .05$) between Affective Role-Taking Test scores and ratings of aggression for children in the first or third grade. In both grades there is a significant correlation between teacher and peer ratings of aggression ($p < .01$).

The lack of developmental differences in role-taking test scores and aggression ratings suggested an analysis of the relationship between all scores on each role-taking test and all ratings on each aggression rating score. There is a significant inverse relationship between scores on the Affective Role-Taking Test and teacher's ratings of aggression ($r = -.24$, df = 77, $p < .05$). Children rated high in classroom aggression by their teachers tended to perform poorly on the Affective Role-Taking Test.

Data were not adequate to reject the hypothesis stating there is no difference in the degree Cognitive and Affective Role-Taking Test
Table 2. Correlations for ratings of aggression with role-taking scores

<table>
<thead>
<tr>
<th></th>
<th>CRT</th>
<th>ART</th>
<th>TR</th>
<th>PR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT</td>
<td></td>
<td>.02</td>
<td>.02</td>
<td>-.23</td>
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<tr>
<td>ART</td>
<td>.15</td>
<td></td>
<td>-.21</td>
<td>-.14</td>
</tr>
<tr>
<td>TR</td>
<td>-.15</td>
<td>-.27</td>
<td></td>
<td>.41**</td>
</tr>
<tr>
<td>PR</td>
<td>.08</td>
<td>.02</td>
<td></td>
<td>.52**</td>
</tr>
</tbody>
</table>

Note: CRT = Cognitive Role-Taking Test; ART = Affective Role-Taking Test; TR = Teacher Rating Scale; PR = Peer Rating Scale.

aThird grade correlations above diagonal (df = 38); first grade correlations below diagonal (df = 34).

**P < .01.

scores relate to ratings of aggression for children in the first or third grade.

The means and standard deviations for children's scores on the role-taking tests may be found in Appendix F. However, when developmental differences were not considered, the significant relationship between combined Affective Role-Taking Test scores and combined teacher ratings (p < .05) offered support for performance on the Affective Role-Taking Test as most related to classroom aggression.

Spearman-Brown reliability coefficients indicate that Cognitive (r_crt = .60) and Affective (r_art = .45) Role-Taking Tests are unreliable measures of role-taking ability. A post hoc analysis relating individual stories within each role-taking test to ratings of aggression was not informative due to the small sampling size and the generally low correlations.
DISCUSSION

The objective of the present investigation was to explore the relationship between cognitive and/or affective role-taking abilities and children's aggressive behavior at different ages. The findings of this study do not lend support to the hypotheses. Developmental differences between first- and third-grade children's performances on the Cognitive and Affective Role-Taking Tests were not statistically significant. Relationships between role-taking tests and ratings of aggression for first- or third-grade children were not significant. The independence of role-taking scores from estimates of intelligence must be questioned given the unreliability of the role-taking tests.

Obstacles to the Assessment of Role-Taking Development

It is difficult to discern to what extent the absence of a developmental difference between first- and third-grade children's performance on the Cognitive Role-Taking Test refutes previous theoretical and research claims (Chandler & Greenspan, 1972; Selman, 1974). Selman (1974) describes a qualitative difference in the child's ability to differentiate between perspectives of self and others between the ages of 6 and 10. Nevertheless, Selman (1974) indicates while the sequence of development is invariant, the age at which each stage is reached tends to vary. Furthermore, Selman's (1974) theoretical statements are based on children's responses to open-ended clinical interviews rather than the testing procedure employed in the present study.
The Cognitive Role-Taking Test administered in this study is generally a replication of the procedure used by Chandler and Greenspan (1972). Chandler and Greenspan (1972) reported that frequency of errors made on their test systematically decreased between the first and seventh grade. However, specific reference was not made to developmental differences between each grade.

It is possible that there was no age-developmental pattern in the present study since as a group first- and third-grade children are at a transitional point in their cognitive role-taking ability. According to Selman (1974) children within this age group (6 to 10) are demonstrating role-taking ability for the first time. Thus, the lack of developmental differences may reflect the fact that role-taking ability is not as yet a cohesive skill for either first- or third-grade children.

The lack of developmental differences on the Cognitive Role-Taking Test may also cast doubt on the value of the test, itself. The development of this role-taking measure focused on the importance of tapping a child's ability to structure or put in perspective information concerning other person's thoughts. As Selman (1974) indicated, the concern is not with content or accuracy of perception of other, but with the form in which conceptions of others emerge.

For the present investigation, considerable care was given to replicating Chandler's (1973) test design while making changes in story content. Thus, the inability to replicate developmental differences described in the literature (Selman, 1974; Chandler, 1973) suggests story content may influence the quality of the child's
thinking. That is, it is possible characteristics of an aggressor or victim systematically influenced children's abilities to attend to relevant information in the story or the interviewer's questions. The nature of all story incidents used in this study also may have affected children's responses.

Previous research (Greenspan et al., 1976) specifically reports a developmental difference between first- and third-grade children's responses to ambiguous Affective Role-Taking Test stories. In the present study, once again test design was replicated, but story content was changed. Failure to reproduce Greenspan's et al. (1976) results further supports the possibility that story content in relation to perceptual or attentional accuracy may influence role-taking ability.

Role-Taking Ability in Relation to Aggressive Behavior

The relationship between role-taking and aggressive behavior is at best a difficult task for social scientists given the unaccounted for variables within role-taking tests. Testing procedure aside, there remain questions as to what extent the type of sample influenced the results of this study.

It has already been noted that an absence of developmental differences in role-taking ability may be related to first- and third-grade children not having firmly acquired role-taking skills. The children's lack of developmental readiness for role-taking may have interfered with exploring the relationship between role-taking and
aggression. On the other hand, when the responses of first- and third-grade children were considered together, affective role-taking was significantly related to teacher ratings of aggression. Perhaps within this more extensive sample, there was an adequate number of children to make the comparison between role-taking skill and aggressive behavior significant.

It also should be noted that significant cases of aggressive behavior may have been excluded from the study. That is, children receiving professional care for learning or emotional difficulties while remaining in the classroom were not included in the investigation. This sampling procedure may have unrealistically narrowed the sample intended to represent children from the public school system. Otherwise, Chandler's (1973) study of chronically delinquent and non-delinquent boys may suggest that only extreme differences in aggressive behavior are related to differences in role-taking ability.

Ancillary Findings

Significant peripheral results such as the relationship between peer and teacher ratings is consistent with moderately high relationships between ratings found by Eron, Walder, and Lefkowitz (1971). Apparently, the relationship between ratings of third-grade children's aggressive behavior and general intelligence has not previously been examined.

The fact that intelligence was related to aggression ought to be interpreted cautiously since the estimates of intelligence were actually measures of school performance. The distinction between
general intelligence and the Ames Indicator of Developmental Skills particularly should be considered. It is reasonable to believe that children who behave less aggressively in the classroom can better attend to their school work.

Theoretical Guidelines for Construction of Role-Taking Tests

Past researchers (Chandler, 1973; Greenspan, et al., 1976) have constructed role-taking tests whose operational and theoretical definitions of role-taking do not complement each other. For example, role-taking has been theoretically defined as the ability to simultaneously compare several dimensions of a situation; a definition first developed by Piaget (1970) for the child's ability to decenter. Within the present study, as in Chandler's research (1972), the child has the ability to decenter on the Cognitive Role-Taking Test if he can differentiate between his perspective and an aggressive story character's point of view. The Affective Role-Taking Test used in the study is based on Greenspan's et al. (1976) interpretation of decentering. In this case, the child is required to recognize the relationship between two aspects of a story (the victim's affective behavior in relation to the story situation). Both tests claim to measure a child's ability to "role-take"; the ability to decenter.

Selman's (1974) theory suggests an approach to coordinating the conceptual and operational definitions of role-taking. Selman (1974) makes reference to both the developmental principles of differentiation
and integration as components of role-taking. According to Selman (1974), the child expresses different degrees of role-taking skill as a function of how well he structures information provided in both cognitive and affective role-taking type testing designs. Further test development might therefore include story designs and questions which require the child to apply both differentiating and coordinating cognitive operations rather than one or the other.

Implications for Further Research

Considering the limitations of the present investigation, it is improbable that an adequate test of the hypotheses was made. Therefore, further research is indicated. Research must first be directed toward establishing a more reliable role-taking test. The face value of Chandler's (1973) and Greenspan's et al. (1976) role-taking tests loses appeal when there appears the possibility that story content influences test scores as much as the story design or structure.

The lack of inter-item consistency on the cognitive and affective role-taking tests supports the need for defining aspects of story content that influence the child's role-taking performance. For example, children's responses to "neutral" versus "highly emotional" stories might be investigated. In addition, the phrasing of stories, the number and type of characters, and story length are variables that might be experimentally manipulated. How these factors systematically affect the child's performance on role-taking tests will provide
guidance to the researcher as to the type and number of stories required to reliably assess role-taking ability.

With the availability of a more valid and reliable role-taking test, an investigation of the relationship between aggression and role-taking ability may be continued. Sampling from a wider age group of children may provide information as to the point at which role-taking ability is influential in inhibiting aggressive behavior. Since all studies to date have been cross-sectional, a longitudinal study of the developmental changes in role-taking ability would be a significant contribution.

The goal of much of the research in social cognition is to be able to develop screening and training programs which are sensitive to children's social needs. It is believed that if the child is offered experiences which enhance his ability to rationally understand others, the child will behave more rationally. Results from the present investigation would suggest more attention be given research methodology before moving further ahead with educational program development.
The present study was conducted to determine if a significant relationship existed between cognitive and/or affective role-taking and aggressive behavior in the classroom. A second objective was to determine if there was a developmental difference in children's role-taking skills. The relationship between general intelligence and role-taking also was investigated.

There were 39 first-grade boys and 45 third-grade boys involved in the study. Children with emotional or learning difficulties did not participate.

Teacher and Peer Rating Scales and the Cognitive and Affective Role-Taking Tests were developed. Children were interviewed individually to obtain the peer ratings of aggression and to administer the cognitive and affective role-taking tests. Teachers completed a classroom aggression rating form. Estimates of general intelligence were based on first-grade boys' performances on the verbal expression component of the Ames Indicator of Developmental Skills and third-grade boys' performances on the Stanford Achievement Test. These estimates of intelligence were acquired at the Ames School District central administration office.

Pearson product-moment correlations were calculated to test the relationships between role-taking scores and ratings of aggression, role-taking scores and grade level, and role-taking scores and the estimates of general intelligence. The Spearman-Brown formula was utilized to assess the reliability of the affective and cognitive
role-taking tests. Post hoc tests for the relationship between individual stories within each role-taking test and ratings of aggression were based on Pearson product-moment correlation coefficients.

None of the hypotheses were confirmed. Ancillary results suggested a significant relationship between affective role-taking and teachers' ratings of aggression when test scores from both grades were considered together. Furthermore, teacher and peer ratings of aggressive behavior were significantly related. There also existed a significant inverse relationship between estimates of intelligence and aggression for boys in the third grade.

The results were discussed and implications for further research considered.
REFERENCES


REFERENCE NOTES


PLEASE NOTE:

This page not included in material received from the Graduate School. Filmed as received.

UNIVERSITY MICROFILMS
APPENDIX A.

TEACHER RATING SCALE
Instructions for Teaching Rating Scale

For my dissertation I am interested in your judgment of a child's level of physical aggressive behavior in the classroom. Will you respond to the following descriptive statements in the way which you feel best represents the behavior of each child participating in the study. There are no "right" or "wrong" responses. In the space provided, place a number (1 to 99) that best describes how you see the behavior of each child compared to the average child you have taught at this grade level. Respond "99" if you think the child behaves in a similar way as described much more than the average child, and "1" if you think the child responds that way much less than the average child. Use numbers larger than "50" to show the child behaves that way more than the average child, and numbers smaller than "50" to show the child behaves that way less than the average child. Use "50" to show the child behaves that way no more or less than the average child. Make use of the full range (1 to 99) whenever possible, and make your ratings as fine as you want.
Descriptive Statements

A child is walking down the hall, is hit by a friend who is angry at him, and hits back. Or, the child is playing a game with friends, someone takes his turn, and he pushes the intruder. Or, the child is standing in line for a drink of water, is pushed out of line and resorts to pushing back. Another example would be the child who playing a game, throws something at classmates because they are making fun of mistakes he is making. And a child may hit someone who comes along and messes up a project right after it is completed. A final example is the child who throws something at his friend when the friend is seen walking home with someone else after promising to walk home with him.
### Teacher's Rating Record

In the space provided, place a number (1 to 99) that best describes how you see the behavior of each child compared to the average child you have taught at this grade level.

<table>
<thead>
<tr>
<th>Participating child's name</th>
<th>Rating (1 to 99)</th>
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</table>

Teacher's name: ___________________________ Grade level: ___________
APPENDIX B.

PEER RATING SCALE
Story for Peer Ratings of Classroom Aggression

1. Bill and George are in the library center during free time.
2. George has a book on dinosaurs. Bill wants to read the book.
3. Dave (bystander) walks by the reading center and sees Bill kick George in the leg.

1The statements in the story are numbered to coincide with their supplementary descriptive pictures.
Peer Rating

Child's name: _______________________

Grade level: _______________________

Teacher's name: ____________________

Most like aggressive story character

First choice name: __________________

Second choice name: ________________

Most like submissive story character

First choice name: __________________

Second choice name: ________________
Pictures for Peer Rating Story

Story pictures\(^1\) ................................. page

\(^1\)The pictures are in their proper sequence for an interview.
APPENDIX C.

COGNITIVE ROLE-TAKING TEST
Cognitive Role-Taking Stories

Story One
1. Bob and Joe are eating snacks at their table.
2. Bob grabs Joe's cookies and begins to eat one. Joe wants his cookies back.
3. Steve (bystander) walks into the room and sees Joe shake Bob.
4. Joe gets the cookies and leaves the table.

Story Two
1. Ken and Jim are doing arithmetic on the chalkboard.
3. Bill (bystander) turns around and sees Jim bite Ken.
4. Jim gets the chalk and starts doing the arithmetic.

Story Three
1. Jack and Sam are in line for a drink of water.
2. Jack gets in front of Sam. Sam wants his place back.
3. John (bystander) walks up to the drinking fountain and sees Sam push Jack out of line.
4. Sam gets to drink first.

Story Four
1. Phil and Kevin are working on art projects at their desks.
2. Kevin takes Phil's glue. Phil wants his glue back.

1 The statements within each story are numbered to coincide with their supplementary descriptive pictures.
3. Dan (bystander) turns around and sees Phil pinch Kevin's arm.

4. Kevin lets go of the glue and Phil takes it.
Pictures for Cognitive Role-Taking Stories

Story One\textsuperscript{1} ................................. page
Story Two\textsuperscript{1} ................................. page
Story Three\textsuperscript{1} ................................. page
Story Four\textsuperscript{1} ................................. page

\textsuperscript{1}The pictures are in their proper sequence for an interview.
Score Sheet for Cognitive Role-Taking Test

Child's name: _______________________

<table>
<thead>
<tr>
<th>Story #</th>
<th>Answer</th>
<th>Score</th>
</tr>
</thead>
</table>

Total
CRT score _____
APPENDIX D.

AFFECTIVE ROLE-TAKING TEST
Affective Role-Taking Stories

Ambiguous Story Themes

Story one:
1. Bob (target character, smiling) is painting a picture of his house and family during free time.
2. John pokes Bob in the stomach hard with a paint brush, and says, "I want to paint here."
3. Bob (smiling, relaxed) looks at the picture and says, "You can paint here."

Story two:
1. John (target character, smiling) runs to put his favorite record on during free time.
2. Bob pushes John down hard to the floor, and says, "I want to go first."
3. John (smiling, relaxed) watches and says, "You can go first."

Unambiguous Story Themes

Story one:
1. It's recess time and Ted and Jack (target character, smiling) are playing kickball in the playground.
2. Ted tackles Jack to the ground hard, and says, "I want to kick first."

---

1 The statements within each story are numbered to coincide with their supplementary descriptive pictures.
3. Jack (frowning, tense) watches Ted go to kick, and says, "You can kick first."

Story two:

1. Dan and Mike (target character, smiling) are going to pretend to be a doctor and patient for a school play.
2. Dan pulls Mike away from a white jacket hard and says, "I want to be the doctor."
3. Mike (frowning, tense) sees Dan put the white coat on, and says, "You can be the doctor."
Pictures for Affective Role-Taking Stories

Ambiguous Story One  \(^1\) ........................................... page
Ambiguous Story Two  \(^1\) ........................................... page
Unambiguous Story One  \(^1\) ........................................... page
Unambiguous Story Two  \(^1\) ........................................... page

\(^1\) The pictures are in their proper sequence for an interview.
Score Sheet for Affective Role-Taking Test

Child's name: _______________________

<table>
<thead>
<tr>
<th>Story type</th>
<th>Question #</th>
<th>Answer</th>
<th>Score</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>2.</td>
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<td>3.</td>
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</tbody>
</table>

Total
ART score _____
Dear Parent:

I am presently a doctoral candidate in child development with a formal minor in counseling psychology. My dissertation research requires that I work with first and third grade boys, and I have permission from the Ames school district and your principal to conduct my research with children at _______ school. The purpose of this letter is to describe my research to you, and to request permission to include your son in the study.

My study will look at how well a child understands the thoughts and feelings of his classmates, and how well this ability to understand another's point of view is related to a child's typical social behavior. It is my hypothesis that children who are capable of understanding another's point of view tend to behave less mischievously or aggressively when in a disagreement with a classmate.

Teachers will be asked to compare each child's classroom behavior to a one paragraph description of everyday types of conflict behavior in the classroom. The results of the teacher's individual evaluations will remain confidential, and a child's name will not appear on any statistical evaluations or in the discussion of results. Thus, teachers will only receive a general summary report of their ratings.

Each child will be interviewed individually once for approximately 15 minutes. The child will be presented with short stories (accompanied by descriptive pictures) depicting classroom disagreements, and simple questions will be asked to discern how well the child understands the story themes, the story characters' thoughts, and the story characters' feelings. The child will also be asked to select a classmate he believes behaves in a way similar to the story characters. This response will provide a rating of classroom behavior from the child's point of view. Once again, individual performances will remain confidential, and a child's name will not be required beyond the testing situation.

I believe the results of the study may suggest methods by which teachers can help children understand appropriate ways to resolve disagreements with classmates. That is, experiences might be developed which permit children to...
develop an awareness that their friends have feelings and thoughts which are just as important as their own.

The study is designed to offer children the opportunity to think about some of their daily social experiences at school. My meeting with your son will take the form of an informal discussion where his personal way of responding is valued. Thus, when introducing myself to him, I will assure him that there are no "right" or "wrong" answers. After our meeting, I will answer any questions he may have. If you have any questions about the study, please feel free to call me (292-5476). Thank you for your help.

Sincerely,

Bruce M. Gilberg

I plan to begin the study during the last two weeks in March. I would therefore appreciate your returning this consent form as soon as possible.

[Child's name] has my permission to participate in Mr. Gilberg's child development study.

Signed,

[Parent's signature]
APPENDIX F.
MEANS AND STANDARD DEVIATIONS FOR CHILDREN’S SCORES ON THE ROLE-TAKING TESTS
Table 3. Means and standard deviations for children's scores on the role-taking tests

<table>
<thead>
<tr>
<th>Grade</th>
<th>Test</th>
<th>( \bar{X} )</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
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<td>CRT</td>
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<td></td>
<td>ART</td>
<td>7.49</td>
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<tr>
<td>Third</td>
<td>CRT</td>
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<tr>
<td></td>
<td>ART</td>
<td>8.07</td>
<td>2.86</td>
</tr>
</tbody>
</table>

Note: CRT = Cognitive Role-Taking Test; ART = Affective Role-Taking Test.